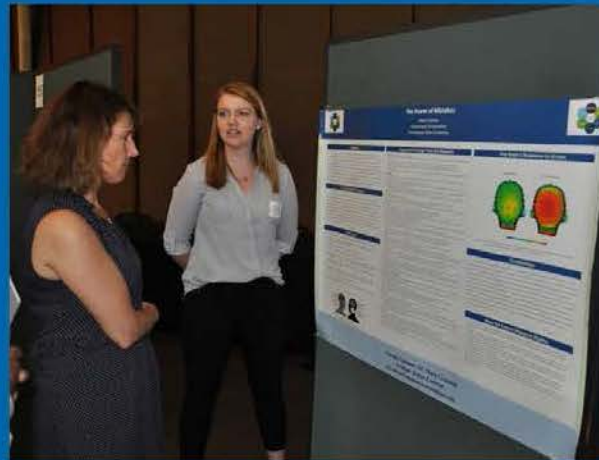**Framingham State University**

Thursday, May 9, 2019 Noon - 6 p.m.
Friday, May 10, 2019 10:30 a.m. - 3 p.m.
McCarthy Center, Forum

8ᵀᴴ ANNUAL CELTSS STUDENT CONFERENCE FOR RESEARCH AND CREATIVE PRACTICE

This event is sponsored by the Center for Excellence in Learning, Teaching, Scholarship and Service, the Office of Academic Affairs and the Department of Fashion Design and Retailing.

CELTSS Center for Excellence in Learning, Teaching, Scholarship, and Service

For more information, please contact CELTSS at celtss@framingham.edu.

Learn about disability accommodations for university events at: **www.framingham.edu/accessibility**

Welcome to Framingham State University's Eighth Annual Student Conference for Research and Creative Practice!

Today marks our eighth great celebration of student scholarly work and faculty support. As students, you have taken special initiative to understand something deeply, and you have worked by the side of your faculty who have spent their time sharing with you their academic fields and expertise. They have done so because they care about you and your success, and they are optimistic about the future they see in you. Today, the steps you have taken to understand your chosen field and how it makes progress will open many doors for you as you move into your professions and careers. Your work and future work, also, will improve life for others in multiple ways—improving healthcare; enlivening the arts; creating new strategies for people to understand their own behavior and that of others; enabling businesses to thrive; teaching people of all ages; caring for the planet; and making discoveries in the sciences that matter. Keep learning. Keep working. Thank your professors, and continue to expect a lot of yourselves. This is a significant moment. **We are proud of you. Congratulations!**

To Jon Huibregtse, Phoebe Lin, Virginia Noon, Sandra Rahman, Luis Rosero, Amanda Simons, and our faculty who serve the university through the Center for Excellence in Learning, Teaching, Scholarship and Service, thank you for your hard work and success in making this event happen. Great work! To our faculty who have mentored these students who are here today, what a community you have created! Clearly, it is something to celebrate. Thank you.

Linda Vaden-Goad, Ph.D.

Provost and Vice President for Academic Affairs

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Fashion Design and Retailing Portfolio Day
Friday May 10, 2019
10:30 – 12:00pm
McCarthy College Center Forum

Design Students presenting final senior design portfolio

FASH 487 Apparel Design Portfolio (Capstone course)
A capstone experience to organize and present design work created in the Apparel Design concentration and to produce a portfolio appropriate for obtaining a professional position in the apparel industry. Students develop a portfolio to demonstrate knowledge and skills in a variety of garment categories; hand and digital illustration; technical sketching techniques; and original full-scale garments. Ideas are assembled in a professional format by integrating the components of design, fabric, and end use.

<table>
<tr><th colspan="3">Student Design Portfolio Presentations
<i>Sponsor: Seunghye Cho</i></th></tr>
<tr><th>#</th><th>Designer's Name</th><th>Designer's Statement</th></tr>
<tr><td>1</td><td>Lauren Beaudoin</td><td>As a designer, I strive for a strong, avant-garde look. I am inspired by science fiction, gothic industrial art, and theatrical costume. This is showcased in my designs by defined style lines, angular shapes, and stark contrast. I favor structured fabrics that focus the eye to an exaggerated silhouette.</td></tr>
<tr><td>2</td><td>Alexis Berlinguet</td><td>As a designer, I want women to be bold and colorful. I want to inspire women to be creative and more confident in using a variety of texture, color and pattern to express themselves. My goal is to push the edge of what fabric can be used together.</td></tr>
<tr><td>3</td><td>Rebecca Parker</td><td>I design for all humans looking to express themselves in a not so systematic way that is also kind to our environment. Through abstract shapes and reused materials my designs relate emotion and create a statement that is unique to the wearer. Barriers to me are nonexistent; in today's world there is the "norm" and then there is everything else. As a designer my inspiration comes from anything that others would not categorize as the "norm." My designs allow individuals from all walks of life to dress and live unapologetically while feeling free to be their whole selves.</td></tr>
<tr><td>4</td><td>Katlyn Silva</td><td>Unique, passionate and determined are some of the words that are used to describe me. I am also a designer. Making stunning ensembles out of fabric is my passion. When you look good you feel good. I am here to take the fashion world by storm and make everyone a little more glamorous.</td></tr>
</table>

Merchandising Students presenting business and buying plans

FASH 464 Fashion Merchandising: Planning, Policies, and Implementation
(Capstone course)
An analysis of industry standards in a business plan for a model retail business. Concepts included are financial planning, store location, organizational structure, merchandise assortment, and financial structure of the apparel and home furnishings industries. The role of the buyers and managers in policy making is analyzed. Open-to-buy and pricing are calculated and evaluated. Procedures and techniques practiced in assortment, movement of goods, customer service, security, and store policies are reviewed.

<table>
<tr><td colspan="3">Student Business Plan Analyses by Groups
Sponsor: Virginia Noon</td></tr>
<tr><td>Table #</td><td>Group Members</td><td>Store Name and Description</td></tr>
<tr>
<td>2</td>
<td>Megan Hazelhurst

Jillian Morin

Rita Silvia

Nicole Stanton</td>
<td>Uncommon Treasures

Uncommon Treasures is a store that offers a unique, and individualized shopping experience to every customer, with a wide array of domestics and home furnishing products, all made with recycled materials.</td>
</tr>
<tr>
<td>4</td>
<td>Tayah DuBois

Lauren Paolini

Caeley Whalen</td>
<td>Renée

Renée is a sustainable women's business wear company on Newbury Street in Boston, Massachusetts. Renée sells work appropriate garments made of deadstock fabric. Deadstock is excess fabric left over after garment production that would otherwise be thrown away and end up in landfills. The owners of Renée share a goal of empowering and educating every woman that walks through the door by committing to social, economic, and environmental sustainability.</td>
</tr>
<tr>
<td>7</td>
<td>Natalia DeLucia

Amanda Martin

Jessica Patrick</td>
<td>Blushing Botanicals

Blushing Botanicals is a sustainable cosmetic retailer that plans to reach a large target market. The target customer is women aged 20-35 who have substantial discretionary income. The merchandise sold at Blushing Botanicals are beauty products and accessories made organically and produced sustainably. These products will have biodegradable packaging, reusable materials and be made with natural ingredients. The company will strive to serve the household market which continues to be the primary market for beauty and cosmetic retailers throughout the U.S.</td>
</tr>
</table>

9	Ronica Desruisseaux Brinsley Fonseca Paola Tello	**Little Luxuries** Little Luxuries is a children's clothing store that specializes in up cycled clothing along with other well-known clothing brands. Little Luxuries provides an inclusive shopping experience where specialty children's wear meets up cycled children's wear. The company believes in working with the community to create an environment where consumers understand that they can give back to the community while shopping for children's clothing. Little Luxuries offers its customers an environmental-friendly, upscale shopping experience.
10	Tatiana Baymon Thalia, Kelly Giovanni Norgil Kenia Tejeda	**Mezzanine** Mezzanine is a specialty store that carries apparel and accessories for men and women, located in the Natick Mall in the state of Massachusetts. The brand values environmentally sustainable production of apparel as well as sustainable furniture, featured in-store. Mezzanine will feature local, well-known, innovative brands that carry sustainable clothing to help promote sustainable clothing to the community. Mezzanine's mission is to provide a comfortable space for men and women where self-confidence and self-expression is encouraged through the styling and purchase of trendsetting, unique clothing pieces. Mezzanine offers an experiential retail environment and believes in the ultimate customer experience where the customers will shop and interact with like-minded individuals in connection to their lifestyle by shopping its in-house brand in addition to the exclusive sustainable third-party collections through hosted events dedicated to new collections.
12	Anthony Comeau Ivy Norman Marisa Parks Erin Watts	**Kinship** Kinship is a womenswear boutique located on Newbury Street in Boston, Massachusetts. The boutique is comprised of a range of casual and chic apparel, accessories, and gifts. Kinship practices sustainability through environmentally friendly services and operations. The company aims to present comfortable and stylish clothing while providing a quality experience through exceptional customer service and the harmonious atmosphere of the store.

| 13 | Kwandell Patterson
Briana Saint Pierre
Alison Pisciotta | **Terra BAK**

Terra BAK is a unisex clothing retailer located in Boston Massachusetts on Newbury Street. Terra BAK will sell unisex clothing, including tops, bottoms, and handbags, that both men and women would wear. Terra BAK's purpose is to provide high quality, environmentally friendly, and sustainable clothing all while being fashion forward and on trend. As a sustainable retailer, Terra BAK will sell merchandise made from 100% recycled and organic fabrics. Terra BAK will also offer customers with in-store recycling options, as well as the opportunity to either donate old denim or turn old denim into trendy recycled handbags. |

FASH 452 Fashion Promotion (Capstone course)
A study of promotional activities related to fashion merchandising. Theory and application of visual display, special events, publicity, and advertising are emphasized. Factors such as organizational philosophy, store image, and budgeting are considered.

Student Business Plan Analyses by Groups *Sponsor: Ruirui Zhang*		
Table #	**Group Members**	**Store Name and Description**
1	Alessandra Gallo Kerin McCarthy Jillian Morin Nicole Stanton	**The Becca Parker Collection** This collection was produced to establish Rebecca Parker as a designer and communicate her voice in the fashion industry.
3	Tayah DuBois Megan Hazelhurst Rita Silvia Nicole Valerio	**Blush** Blush is a contemporary brand for the modern woman that wishes to be simultaneously comfortable and chic. We equally prioritize being kind to our customers and the planet by being inclusive and empowering while encouraging sustainable lifestyles.

5	Tatiana Baymon Ronica Desruisseaux Thalia Kelly Rachel Noel Marisa Parks	**SunSet Blvd** SunSet Blvd is an exclusive women's clothing boutique aiming to provide unique yet comfortable clothing for women who are a fun and free spirited individual.
6	Amanda Martin Jessica Patrick Verenisse Veliz-mota Takida Wiggins	**Made in Manhattan** Made in Manhattan is a fashion brand that geres to women in professional job settings, who should not be limited within their dress code. We want our women to feel empowered, stylish, free yet all at an affordable price. With our brand display we wanted to create an image where you can feel the city vibes with a business twist. We wanted to personalize the business look by combining it with a street casual look. Women are usually forced to follow a guideline especially within the workplace. However, we wanted to really express how you can be both a woman of business and a woman ready for an occasion. Our brand competitors are places that have similar clothing styles, prices, and quality.
8	Brinsley Fonseca Anne Malloy Alexa Rodriguez Paola Tello	**Santiago Lopez Caicedo** A Boutique style designer store for an up and coming designer, Santiago Lopez Caicedo.
11	Anthony Comeau Giovanni Norgil Ivy Norman Erin Watts	**Bohemè** Bohemè is a men's and women's lifestyle apparel store that evokes confidence through individuality, self-expression, and creativity. The consumers of Bohemè live unbounded by convention, and they are drawn to the store because of the uniquely styled and effortless apparel that is provided. Bohemè is creating a trend of bohemian minimalism that thrives off of earth tone color palettes in order to create a chic baseline aesthetic.

Undergraduate Oral Presentations

1839 Room
Friday May 10, 2019

12:30 – 1:30pm		
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Shauna Singleton Psychology *Sponsor: Maggie Campbell Obaid*	Does "Body Count" Really Matter?: University Students' Perceptions of Sexual Behavior and Promiscuity	**88**
Stephen Donnelly and Monique Plante Communication Arts *Sponsor: Kate Caffrey*	Kennedy Center American College Theatre Festival	**34**
Marielle Sciore Communication Arts *Sponsor: Kate Caffrey*	Kennedy Center American college Theatre Festival Irene Ryan Scene Partner	**86**
Danielle Umanita and Samuel Wayson Communication Arts *Sponsor: Kate Caffrey*	KCACTF Irene Ryan Nominee Performance	**95**

Undergraduate Poster Presentations
Forum
Friday, May 10, 2019

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Undergraduate Poster Presentations
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UNDERGRADUATE ABSTRACTS

1. **Giohranah Abellard and Yamile Lugo Rodriguez**   *Sponsor: Amanda Simons*

Effects of long term exposure to low dose Resveratrol on cancer cells activation of AMPK

Resveratrol is a phytoalexin that has tumor-suppressing properties. Resveratrol is commonly found in nuts, grapes, and berries. Resveratrol has been found to affect the progression and proliferation of different cancer cells. Due to the rate of cancer progression and the side effects of current cancer treatments, resveratrol could prove to be a relevant form of treatment and further current understanding of cancer proliferation. In this study HeLa (cervical cancer) cells were cultured and treated with low dose resveratrol over time. This study looks at the effects of Resveratrol exposure on cancer cells activation of AMPK over time. An increase in the activation of AMPK could signal downstream and affect cancer cell growth and proliferation.

2. **Maico Rosado Abreu and Chase Gensler**   *Sponsor: Virginia Noon*

Kente Cloth

Formerly known as Nwentom, Kente Cloth is a type of interwoven silk and cotton fabric that is worn loosely and originates from Ghana mostly in the Ashanti region. The piece of cloth became prevalent in the United States after the Civil Rights movement, which lead to it being a symbol of pride for African Americans. Kente Cloth is a body supplement that is mostly worn as a wrapped enclosure, when referring to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). Kente Cloth was originally only worn by royalty and high-ranking officials. Kente is worn in many different designs and color patterns, which have different meanings. Kente Cloth, being the traditional dress of the Akhan Ashanti people of present-day Ghana, is a symbol of African pride, unity and power. Today, Kente Cloth colors and designs are often copied and printed on cotton fabric. Kente Cloth printed fabrics are used in a variety of ways to make garments and as trim on women's purses, hats, men's vests and even bow ties. It has been a worldwide hit with several countries in Asia making Kente Cloth. Kente Cloth in the U.S. is typically worn around the time of year when graduations are taking place, black history month, Kwanza celebrations, and even on Martin Luther King Day.

3. **Daniel Alexander, Jake Brown, Ryan Dupont, Zak Duval, David Iozzo, Christopher Mills, Jason Torres, and Jonathan (Jay) Wenzel**   *Sponsor: Sandra Rahman*

Greater Boston Urology

This is a project for an external marketing firm about influencer marketing and how to increase referrals for a Urology practice. We were able to reach out to different practices within the Greater Boston Area and gather the information we learned from them to come to our conclusions on referrals.

4. **Shante Algoo, Anthony Boulay, Gretchen Burgholzer, Casey Upton, Alex Walker**
       Sponsor: Sandra Rahman

Conversion Rate Optimization

With E commerce on the rise, more companies are looking towards their websites to create sales. How do successful companies convert visitors to paying customers just by the design of their website? The goal of this project is to set a foundation for individuals to build their company's revenue by assisting with some of the best practices that successful businesses use on their pages. Using examples from sites

across different industries; common themes like videos, call to actions, and simplicity are some of the more effective ways to drive in sales. Our initial thoughts were that major formatting changes would translate into an increase in customers.

5. **Joseph Ambrosino, Amanda Cardillo, Dillon Kurzontkowski, and Brett Sawtelle-McKenzie**
Sponsor: Sandra Rahman

Conversion Rate Optimization: What is it? How can it help you?

With E commerce on the rise, more companies are looking towards their websites to create sales. How do successful companies convert visitors to paying customers just by the design of their website? The goal of this project is to set a foundation for individuals to build their company's revenue by assisting with some of the best practices that successful businesses use on their pages. Using examples from sites across different industries; common themes like videos, call to actions, and simplicity are some of the more effective ways to drive in sales. Our initial thoughts were that major formatting changes would translate into an increase in customers.

6. **Abby Ames, Flavia Arcuri, Markha Baieva, Nathally Bastos, Kierstyn Brady, Elizabeth Bressoud, Renan De Oliveira, Ashley Fontes, Indigo Fox Tree McGrath, Mark Giurguis, Bianca Lopes, Ema Momtchilova, Rinat Natanel, Rose Therese Piz, Shannon Porter, Mason Prentiss, Dan Terrasi**
Sponsor: Erika Schneider

Because monetary value has been traditionally seen in established white-male artists, investors and collectors prize their work, which results in ever-higher prices. And because women artists and artists of color have generally had difficulty getting a foothold in the art market, their work continues to languish….Women artists, artists of color, and LGBTQ artists bump up against a "glass ceiling" in terms of monographs, solo shows, and museum acquisitions, and that depresses the perceived value of their work." Jeff Ignatius, "'Being Angry Is a Great Place to Start:' The Guerrilla Girls, January 18 at Augustana College," *River Cities' Reader*. January 5, 2017.

http://www.rcreader.com/art/guerrilla-girls-being-angry-is-a-great-place-to-start

This assignment seeks to correct the inequalities in the contemporary art history survey class.

7. **Leanid Astrakou**
Sponsor: David Keil

Artificial Intelligence Algorithms in Interactive Entertainment

Artificial intelligence algorithms can be used to expand the capabilities of interactive entertainment and give users the ability to engage with complex non-player controlled characters, adversaries, and environments. By employing different facets of machine learning, we can create media with challenging opponents or realistic virtual companions, even through a single user experience. Research focuses primarily on procedural content generation, Monte Carlo search trees, the Nemesis system, Finite State Machines, and other less defined algorithm prototypes. More specifically, works like Ensemble Studio's Age of Empires and Monolith Production's Shadow of War provide good avenues to explore these algorithms and how they contribute to a more polished product with smarter, more realistic gameplay. Finally, efforts to test these algorithms are explored via a personal start-up video game, University Dash, and this will provide a practical means to examine the utility and application of some of the discussed algorithms.

8. **Samuel Balagadde and Milan Nedeljkovic**   *Sponsor: Karen Druffel*

Factors of consumers' resistance to smartwatches

The Internet of Things (IOT) is an increasingly important concept in today's life. It describes the idea of everyday objects being connected to the internet and having the ability to identify themselves to other devices. This has brought about various challenges like new privacy concerns but at the same time offers many benefits like heart rate monitoring which has the potential to save lives. Wearable technology is becoming one of the main forms that IOT comes in. Looking at smartwatches in particular, our research aims to find out if the privacy concerns, price and the perceived usefulness of smartwatches effect people's resistance to buying them.

9. **Tyler Balzarini, Tyler Brown, Sean Haser, Jack O'Donovan, Christina Scott, and Luigi Tinoco**
Sponsor: Sandra Rahman

Baypath Humane Society Social Media

The focus of this project is to help Baypath Humane Society in Hopkinton, Massachusetts improve their presence throughout all of social media. The goal of this project was to grow the adoption rate of the many animals that come trough Baypaths doors.

10. **Matthew Banks**   *Sponsor: Lynn Parker*

"Oh! D—! … I Am Your Man": Representations of Masculinity through Male Relationships in Jane Austen's Novels

In the works of Jane Austen, men are a commodity to the women of their worlds. Indeed, they are sought by women so proactively that it is easy to look only upon the heteronormative relationships these characters enter into. Think only of who is Darcy without Elizabeth? Despite being so vital to the female plot, the men are largely ignored insofar as they relate with other men. What aspects make up the male relationship in these novels? How do we interpret the world the men of these novels create for themselves and what is the role of their relationship in the defining of their characters? Certainly, there is an element of mutual care, as the men look out for each other's best interests in love and life. Truly, the best male friends of Austen's worlds protect each other from the greatest danger of all: a poor marriage. However, there are darker elements to male relationships in her works that damage the reputations of certain men. Through their performance of masculinity within the novels, the men of Austen's novels define what a successful man is and what he is most decidedly not. In a world where social status and marriage are a matter of life and death, the insight into proper masculine performance dictates who survives and who is relegated to the farthest reaches of the novel.

11. **Stephanie Beaumont, Kit Chiu, Valerie Christian, Max Goody, and Jillian Sullivan**
Sponsor: Sandra Rahman

Precision Marketing Group Competitive Analysis

A competitive analysis of Precision Marketing Group to determine the strengths and weaknesses of the current and potential competitors within the market. Research competitors and provide recommendations in order to identify opportunities in the market for Precision Marketing Group.

12. **Molly Berard, Valerie Christian, Sabrina Eisner, Samantha Henderson, Mackenzie Lyons, Morgyn Slingerland, and Karen Zenteno**   *Sponsor: Sandra Rahman*

Precision Marketing Group Competitive Analysis

A competitive analysis of Precision Marketing Group to determine the strengths and weaknesses of the current and potential competitors within the market. Research competitors and provide recommendations in order to identify opportunities in the market for Precision Marketing Group.

13. **Cody Blair, Kayla Center, and Lindsey Cincotta**   *Sponsor: Amy Knapp*

Effects of Temperature on Skeletal Muscle Force and Fatigue in Mouse Soleus

Muscle fatigue is the progressive decline in power output in a muscle despite the muscle still being stimulated to contract. The purpose of this study was to investigate the effects of temperature on isolated muscles in vitro. We examined the force production and time to fatigue of the mouse soleus at 25°C and 35°C. The soleus muscles were dissected from the hindlimbs of female C57/BL mice at approximately 3-4 months old. Muscles were affixed to a force transducer and placed in an oxygenated Krebs-Henseleit buffer to recreate physiological conditions. The muscle was then stimulated to perform isometric contractions at 25°C and 35°C while being measured for maximal force production and time to fatigue. Maximal tetanic tension was determined with a force frequency curve. Time to fatigue was determined when the muscle, stimulated at 1.4 Hz, reached 60% of initial force. It is expected that the muscle will produce less force and fatigue more rapidly at the physiologically higher temperatures compared to 25°C. Such results could indicate several temperature sensitive mechanisms involved in muscle force generation and fatigue.

14. **Ian Blight, Maria Dos Santos, and Michaela Wright**   *Sponsor: Bridgett Galvin*

Gender Differences in Stand-Up Comedy

The present study explores the gender differences in stand-up comedy. Stand-up comedy is one of the oldest forms of humor expression beginning in the 18th century. Research suggests that men are perceived to be funnier than women and more prevalent and popular as stand-up comedians. Furthermore, men and women utilize different topics and display different humor styles in their stand-up routines. In this study, the humor styles of two male and two female stand-up comedians are analyzed relative to the humor theory that best explains them.

15. **Cate Bromery and Sarah Holdsworth**   *Sponsor: Virginia Noon*

The History of the Kimono

The kimono is a loose-fitting v neck robe which traces its origin from ancient Japan. It is a t-shaped garment and has wide sleeves. In Japan the kimono had different styles for different events. Historically it was only worn by married women however it has become more common and is now worn by many more people. The kimono is a body supplement, which can be described as both a pre-shaped and wrapped body enclosure according to Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The kimono first came to America in the late eighteenth and early nineteenth centuries. The kimono was first seen as a sign of wealth and privilege and was only worn by women of high-status. However, it grew to be a more common piece for women to own, and today is most commonly worn as a negligee, dressing gown, or robe. All around the world, kimonos are worn for both formal occasions and everyday activities. Many designers have been inspired by the kimono. Louboutin designed boots for his 2017

autumn and winter collection that were heavily inspired by the kimono textile design. The kimono continues to be a popular item of clothing and is currently used by many as a robe or a beach cover up.

16. **Meghan Bros, Marielle Masciore, and Megan McCarthy**   *Sponsor: Virginia Noon*

Bohemian dress

Bohemian dress is a style of dress worn by the Roma people from the 1800's. These nomadic people were referred to as gypsies. They originated from Czechoslovakia and moved throughout Western Europe. The term bohemian refers to the unconventional lifestyle of artists, writers, and other non-conformists. Bohemian dress is characterized by light, flowy and free fabrics. Women typically wore long skirts, kerchiefs, and or scarfs over their hair. Bohemian dress, depending on the garment can consist of different body supplements and body modifications according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). For example, a scarf that can be worn on a woman's hair and or neck can be made of cotton and feature bright colors such as blue, purple, and white. This scarf can also be flowy, thin and versatile in uses. A scarf creates a type of body modification because it is a transformation of hair. Bohemian dress symbolizes the resistance of societal norms by expressing yourself through clothing. Bohemian dress became popularized in the 1900's after a French writer, Henry Murger, made a series of literary sketches that immortalized bohemians. The free-flowing aesthetic of bohemian dress has continued to find its way into world fashion. Modernized versions of bohemian dress can be seen all around the world mostly during festival season. Big music festivals like Coachella, a music and arts festival in the Colorado Desert of California, encourages festival attendees to express themselves through bohemian dress. Overall bohemian dress, with its free-flowing lines and comfort, encourages people to express themselves and reject societal norms.

17. **Kelly Burman**   *Sponsor: Maria Bollettino*

The Experiences and Expectations of the Pilgrim's journey over to Plymouth Plantation 1620-1630s

Beginning in 1620, the Puritans from England heard about a boat named the Mayflower which was making her voyage to the New World. Those who heard about it, heard that this voyage to the New World could bring them a better life and they could prosper. The Puritans made their decisions and loaded on to the Mayflower and began their journey to the New World for a better life. When landing, they would soon call this new place, Plymouth Plantation. This poster questions the experiences and expectations the Puritans had when it came to the land of Plymouth Plantation, how their religion was going to help them in this new strange place they called home and how the voyage created either a good sight ahead of them or if leaving what they knew so well was a mistake.

18. **Bobby Burns, Kaitlyn Costello, and Kelsey Waitt**   *Sponsor: Bridgett Galvin*

Roles, Relationships and Rom-Coms: The Association Between Romantic Comedies and Gender

This study examined the history and development of romantic comedies. A review of the literature demonstrates how romantic comedies have changed over time, how gender roles within these films have changed, and how the humor in these films may best be explained. Research suggests that over time romantic comedies have evolved to represent modern gender roles. Historically, a gender difference existed in relationships among characters in romantic comedies. Relationships were presented as much more important to women than to men. Current research suggests that while in many areas of life gender roles have changed, there are still differences between how men and women are portrayed in romantic comedies. For example, women lead characters in romantic comedies continue to be underrepresented.

Romantic comedies may best be explained by the benign violation theory of humor. A subset of romantic comedies, Sixteen Candles and To All the Boys I Loved Before will be analyzed and discussed as they relate to the benign violation theory.

19. **Keighley Card and Yuna Yamaguchi**   *Sponsor: Virginia Noon*

The Abaya

The abaya is a long sleeved and floor length cloak that some Muslim women wear. It is very loose fitting and is fastened by a zipper or snaps in the front. The abaya is a body supplement and pre-shaped enclosure, according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The abaya is a combination type of garment which is a loose garment with minimum of shaping to exact body dimensions. The Islamic Faith requires that men and women dress modestly. The abaya is worn for religious purposes to cover the body except for the face, hands, and feet when Muslim women leave the home. It is the common dress of Saudi Arabia and the Arabian Peninsula. On the other hand, it is gradually getting popular all over the world and major fashion houses are showcasing updated versions of the traditional abaya appearing at New York Fashion Week in 2018 and the Dolce & Gabbana's recent Hijab and Abaya Collection.

20. **Lanna Castro-Bacheller**   *Sponsor: Sarah Pilkenton*

Kombucha: How Fermentation Changes the Phytochemical Content and Healthful Benefits of Tea

Kombucha is the beverage made by fermenting green or black tea using a symbiotic culture of bacteria and yeast (SCOBY). Teas naturally contain compounds known as phytochemicals which are produced by plants to help them thrive. The phytochemicals found in teas vary depending on the manufacturing process. The predominant phenolic phytochemicals found in green teas are catechins. In the manufacturing process used to make black teas, enzymatic oxidation of catechins generates another type of phenolic phytochemicals, theaflavins. In this study, HPLC is used to identify the phenolic phytochemicals in green and black teas and is used to monitor the changes in the phenolic phytochemical content during the Kombucha making process.

 The phenolic phytochemicals in green and black teas have been found to have healthful benefits. In particular, they have been found to have the potential to improve the health of prediabetic and type 2 diabetes patients by inhibiting carbohydrate-hydrolyzing enzymes that break disaccharides and polysaccharides into glucose. The α-glucosidase inhibitory properties of green and black tea and kombucha were also explored.

21. **Bobby Chan, Stephanie Rojas, and Yahaira Soto**   *Sponsor: Ruth Remington*

Workplace Violence In Nursing

Violence in the workplace is increasing. This review examines the literature related to workplace violence in the healthcare setting.

22. **Sydney Chase**   *Sponsor: Colleen Coyne*

Blogging Isn't Dead: The Evolution of Blogging in Digital Business Communications

This thesis argues against the notion that blogging is dead in the world of business communications. Blogging is distinguished in the digital sphere as an old and new media technology that has undergone an evolution within the communications world. In this paper I discuss "old media," referring to mass

communication technologies prior to the digital age, including the traditional form of blogging. "New media" refers to mass communications using digital technologies. Blogging has evolved so rapidly that the traditional form of blogging belongs in the category of old media, and the new, evolved form of blogging has been known as new media. This paper examines current research in the field, and uses primary data, personal experience, and interviews from business professionals which finds that blogging has great potential for business communications. After the rise of social media, the new, evolved form of blogging has taken on different styles but contains traditional elements. Evolved blogging can take place through social media or by adopting multimedia tools paired with the digital integration of social media. Blogging has unique benefits such as permanence on the web to increase search rankings, the ability to lead viewers to a product, and the power to create a company voice. Blogging is helpful to companies in marketing, advertising, and public relations. Businesses have the control to build their brand and relations with their customers. This paper argues that blogging is thriving and essential for business communications when it caters to the target audience and uses appropriate outlets and form.

23. **Neli Clementino, Marina Germain, and Olivia Pettengill**   *Sponsor: Bridgett Galvin*

Improvisational Comedy VS Stand-Up Comedy

The current study examines the similarities and differences between two forms of comedy: stand-up and improvisational theatre (commonly referred to as improv). Key components of the form and structure of the two types of comedy will be discussed. One noteworthy difference between the form and structure of the two types of comedy is stand-up humor consists of one comedian performing a rehearsed set, whereas improvisation humor is never rehearsed and varies in its delivery. This study also explores the different means in which stand-up comedy and improv comedy may impact society. Humor is often used as a powerful tool by comedians to question, criticize or emphasize inequalities and issues that are predominant in society. Additionally, humor promotes health benefits, aids learning, and is a valuable skill for successful leadership. Further, traditional theories of humor will be considered in an attempt to explain these two types of humor. Incongruity Theory may account for the unscripted nature of improv comedy, but does not address its' every aspect entirely. Similarly, the Benign Violation Theory often supports many examples of stand-up comedy, but not all. Finally, evidence of each style of humor includes the shows "Who's Line is it Anyways" as an example of improv and the comedian Louis CK as an example of stand-up.

24. **Kalyn Cochran, Katie Hagerty, and Laura Hebert**   *Sponsor: Bridgett Galvin*

Portrayal of Gender Roles in Sitcoms

This research examined female and male gender roles and stereotypes as presented in sitcoms. Furthermore, it demonstrates how these stereotypes have changed with time. Finally, it provides insights into a theory of humor that may best explain the humor in sitcoms. A review of the literature suggests that primetime comedies, specifically sitcoms, are nothing new to television. The years between 1947 and 1990, 85% of families were shown in a comedy format during primetime. Presenting common family problems in a humorous and a predictable format, attracted attention and created loyalty from viewers. The 1950s and 1960s portrayed benign domestic comedies, the late 1960s and early 1970s contained slightly more controversial content, and the 1980s exposed viewers to an array of family forms. Over the years, the portrayal of families on television has provided a historical record of gender roles. In many cases, sitcoms used satire and exaggerated social situations. The fictional sitcom families present examples of family interactions that can be used as an indicator of changing societal norms, roles within the family, and specifically gender roles. The gender roles and stereotypes, especially for females have shifted dramatically in the last 15 to 20 years. Much of the humor found in sitcoms can be explained using

two theories of humor: the incongruity theory and superiority theory. The application of these two theories as applied to specific episodes of the sitcoms, How I Met Your Mother, The Office, and Modern Family is presented.

25. **Kalyn Cochran**   *Sponsor: Mary Grassetti*

Teacher Candidates' Level of Math Anxiety and Confidence in Teaching Mathematics during a Teacher Preparation Program

For many teacher candidates, mathematics causes feelings of anxiety (Baspinar & Peker, 2016; Gonzalez-DeHass, Furner, Vázquez-Colina, & Morris, 2017; Looney, Perry, & Steck, 2017; Peker, 2009; Stoehr, 2017; Suinn & Winston 2003). This study is designed to assesse a teacher candidates' level of math anxiety and confidence in teaching mathematics during a teacher preparation program. In addition, it looks to determine if and when a turning point occurs during a teacher candidate's professional preparation program. Participants will be recruited from a small liberal arts university in the Northeast and enrolled in the University's teacher preparation program. Participants will complete the Revised Mathematics Anxiety Rating Scale (MARS-R), one open response question, as well as a demographic sheet after the competition of the questionnaire. The MARS-R is a five-point Likert scale that consists of 24-items. There are two factors in the scale; the first measures anxiety experienced during the learning of math and the second measures anxiety when being assessed in math. The open response question is intended to determine if and when during the licensure program students experience a shift in their attitude towards teaching math. Moving forward, the study could be updated by developing a longitudinal study where the same participants are surveyed numerous times over the course of the teacher preparation program.

26. **Jessa Daprato and Michael Domer**   *Sponsor: Karen Druffel*

Privacy and Internet of Things

According to Maple (2017), "The internet of things is a technology that has the capacity to revolutionize the way that we live, in sectors ranging from transport to health, from entertainment to our interactions with government" (p. 155). The applications of IoT technology are multiplying rapidly, taking over an ever-increasing role in our daily lives. With companies now able to connect and remotely monitor such a wide array of products, there are concerns to be raised about privacy and the vulnerability of our personal data. Data gathering technologies such as location tracking through the location services on mobile devices and voice recording through smartphone apps and virtual assistants like the Apple watch and Amazon Echo have become nearly unavoidable these days and most of us are not even fully aware of the extent of passive data collection that our various devices are now capable of. This research will explore the level of public awareness about passive data collection and attitudes towards IoT technology as it relates to personal privacy. Our results are based on surveying employees in the workplace about their use of IoT technology and level of concern for personal privacy. Our findings could inform companies about the factors affecting adoption or use of IoT technologies as they gain more and more access to our personal lives.

27. **Emily Dautel and Priyanka Patel**   *Sponsor: Karen Druffel*

Cyber Security Threats within Social Media

Playing an essential role in modern society, social media websites and applications have become increasingly prevalent in the world of communication and information sharing. Through user-created content, social media has been giving people a new way to interact with each other and connect with the

world. A cyber threat can be intentional or unintentional, targeted or non-targeted, and can come from a variety of different sources, therefore it is important to know how and where our personal information is used. This research project will measure college students attending Framingham State University, a four-year public college in Framingham, Massachusetts. The project will explore the extent to which these individuals feel their personal information may be at risk through their usage and habits regarding social media sites or networking applications.

28. **Ariane De Souza**   *Sponsor: Michael Krul*

An Investigation of the Robinson-Schensted-Knuth Algorithm as It Pertains to the Marked Hook Formula

Partitions and generating functions are widely researched subjects in mathematics. This research plans to investigate a conjecture of Guo-Niu Han regarding the Robinson-Schensted-Knuth (RSK) correspondence between permutations and Young Tableau with the goal in proving the Marked Hook Formula for integer partitions using an RSK type algorithm. This research makes extensive use of generating functions, combinatorial proofs, and exploratory computation, and poses questions that could be used for further research on the topic.

29. **Corrin Deleon**   *Sponsor: Bridgette Sheridan*

"The Porn Wars" 1970-1980

I am looking at the Porn Wars and how there was a split that occurred between radical Feminist groups due to the split views on pornography.

30. **Steven DeMeo, Bret Murphy, and Joshua Stiles**   *Sponsor: Karen Druffel*

How much trust do students put in AI assistants?

Voice technology is becoming a major technological advancement in our society and is being used more each day in every-day life. With all these developments in voice technology, are private companies properly addressing their customer's concerns with data privacy? This research paper attempts to answer this question through the lens of college students by asking, "Do students trust private companies with the data obtained from their AI Assistants?" If true, this could drastically alter the future of marketing campaigns across companies like Apple, and Amazon. We collected our data using a survey of more than 30 students and analyzed it to find a conclusive answer to our question.

31. **Karla Diaz and Christina Germino**   *Sponsor: Virginia Noon*

The Fedora

The fedora is a straw or felt hat that sits comfortably on the head. It is generally made of 100% wool for the breathability, comfort, and the aesthetics making it appealing to the eye. The fedora has a trimming detail which is often ribbon around the base of the crown which adds decoration. This special trim adds to the quality if made of leather or a different material. According to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992), the fedora can be classified ed as a pre-shaped supplement to the body. The play called Fedora, first written in France by a French playwright, and performed in the United States in 1882 popularized the style in women's fashion. Through popular culture it moved to men's fashion later. Around the 1920s in the United States, almost every male was seen with a felted hat and it became part of the man's wardrobe. Gangsters like El Capone wore the fedora with a signature

feather on the side. In Hollywood, the fedora was associated with detective movies which increased the hats' popularity. The fedora is an iconic classic American style. Michael Jackson wore the fedora in his popular music video called Billie Jean and when the actor Harrison Ford wore the fedora in the movie Indiana Jones, this type of hat started to increase rapidly its popularity not only in the U.S. but throughout the globe.

32. **Samantha DiMatteo** *Sponsor: Maria Bollettino*

Moral Mistresses: Cult of True Womanhood and Plantation Mistresses' and Slaves Interactions in the Antebellum South

The Cult of True Womanhood was a social norm that penetrated all aspects of women's lives during the nineteenth century, instructing their thoughts and behavior towards a strict maternal way of life. Often associated with the bustling urban cities of the northern United States, few historians have discussed this cultural norm's impact upon the lives of plantation mistresses and the slaves they controlled. This research seeks to demonstrate how the Cult of True Womanhood shaped mistresses' treatment of slaves as well as how these ideals impacted the ways in which slaves approached their mistresses. Within the antebellum South, plantation mistresses often treated their enslaved women worse than their enslaved men due to the perception that enslaved women posed a greater threat to the sanctity of the mistress's social identity within the Cult of True Womanhood. While men utilized mistresses' nurture and moral character to their advantage, enslaved women were more subject to punishment for immoral behavior based upon the concept that women were society's source of morality. Through a variety of sources from slave narratives to mistresses' correspondences, this research explores the inner workings of interactions on the plantation.

33. **Sara DiSalvo, Gerald O'Connor, and William Tulip** *Sponsor: Ruth Remington*

Hand Hygiene for Patient Safety: Adherence among Patients

Background: Hand washing is the backbone of standard precautions for health care workers and patients. Hand washing is also imperative for improved health care outcomes and reduction in nosocomial and community acquired infections. This study will assess both the Nurse and patient's effects on health care outcomes from hand washing.

Method: Literature review

Units of Study: Literature review of previous studies

Findings: Nurses and patients that diligently wash their hands have more positive health outcomes than those that do not.

Implications for practice: Applicable to all areas of nursing practice involving direct patient care and for all patients.

Hand washing is a foundation of overall patient safety inside and outside of health care facilities. Both Registered Nurses (RN) and patients are responsible for hand washing. It is the duty of the RN to not only to protect themselves, but to protect the patient; it is the job of the patient to protect themselves from illness. This literature review found that both RN's and patients can have a positive effect on reducing hospital acquired, also known as nosocomial, and community acquired infections simply by washing their hands. Studies reviewed show that hand washing is the number one intervention for reducing these infections; by both nurses and patients addressing this issue the patient benefits with improved health care outcomes.

34. **Stephen Donnelly and Monique Plante**   *Sponsor: Kate Caffrey*

Kennedy Center American College Theatre Festival

A monologue performance from Five Women Wearing the Same Dress by Alan Ball and a scene from The Automata Pieta by Constance Congdon.

35. **Alexander Drake**   *Sponsor: Emmanouil Apostolidis*

Evaluation Of Plant Extracts Alone and in Combination for Their Total Phenolic Content and Carbohydrate Hydrology Enzyme Inhibitor Activity

Phenolic compounds, natural antioxidants, are utilized in the food industry for their health benefits. This experiment explores four different powders: green tea, cranberries, cocoa, and blueberries. The first three powders are soluble in water and will be analyzed for their total phenolic contents and alpha-glucosidase inhibitory activities after being extracted at a concentration of 5 mg/ml in water. The blueberry powder is not water soluble and will be extracted using various solvents of decreasing polarity. After each extraction, it is centrifuged and the liquids are separated from the solids and the solids are re-extracted. The first extraction is in water at 95°C, for two hours, then in 50% ethanol for 20 hours. Followed by 100% methanol for 2 hours and then 70% acetone for 20 hours. This procedure is repeated one more time, but the 70% acetone will be extracted for 2 instead of 20 hours. All resulting extracts are combined and roto-evaporated to a final volume of 14 ml of water. The extracts will be evaluated for their total phenolic contents using the Folin Ciocalteau's method and for inhibitory effect of alpha-glucosidase. Inhibition of carbohydrate-hydrolyzing enzymes, such as alpha-glucosidase, is relevant to type 2 diabetes prevention, since being able to inhibit this enzyme the digestion of dietary carbohydrates is prevented, hence allowing carbohydrates to pass through the digestive system without being absorbed into the bloodstream. Successful completion of this project will result in production of healthier food products that allow the consumer to control blood glucose levels.

36. **Briana Ducharme**   *Sponsor: Maria Bollettino*

"Surrounded with Spies" American and British Intelligence Efforts during the American Revolution

To both sides of the American Revolution intelligence was a key necessity in being informed of movements and attacks as without any systems of espionage their army was blind to the enemy. Britain legacy of modern espionage networks and intelligence gathering has long been established in Europe by the 18th Century as they would have spies domestically and abroad to keep the crown aware of any threats.The same espionage network would be used less efficiently by the generals tasked with putting down the American Revolution as all the flaws that existed in Europe system of espionage were present on the American mainland to a higher degree, due to arrogance and how they underestimated American ability to construct their own system of espionage. Washington lacked this mentality as he knew what he was up against and immediately began establishing committees and networks of intelligence and counterintelligence both domestically and abroad.

37. **Rachael Duffy**   *Sponsor: Steven Cok*

Quantifying the effect of phytochemicals on Sirtuin-1 gene expression in C. elegans using a Green Fluorescent Protein (GFP) reporter gene

Type II Diabetes Mellitus is a metabolic disorder characterized by the inability to regulate blood sugar, resulting in high blood glucose. Studies indicate that phytochemicals isolated from plants may play a role in preventing the advancement of prediabetes to the diabetic state. Sirtuin-1 is a gene whose active expression is linked to the deacetylation of major metabolic components, playing a role in the regulation of oxidative stress, inflammation, and other pathways. It is known that there is a characteristic inflammation associated with the onset of diabetes, and that the Sirtuin-1 gene could potentially be regulated to modulate this inflammatory response. The regulation of this gene can be carried out through various mechanisms, including treatment by phytochemicals. In order to test this theory, strains of C. elegans containing the promoter of the Sirtuin-1 analog gene fused to green fluorescent protein (GFP) were treated with increasing concentrations of phytochemical extracts from palm fruit juice and green tea extract and measured for changes in fluorescence. Changes in the level of fluorescence are indicative of changes in the expression of the Sirtuin-1 gene. The experiment conducted determined that there is a dose-dependent increase in fluorescence, suggesting that phytochemicals in palm fruit juice can increase the expression of the Sirtuin gene. These findings may be projected to predict that the response in humans would include a decrease in inflammation leading to an increase in insulin sensitivity.

38. **Lauren Erickson**   *Sponsor: Catherine Wickham*

Gut Feelings: A Systematic Review on the Use of Probiotic Supplementation in the Treatment of Psychiatric Disorders in Adults

Nearly 1 in 5 Americans live with a psychiatric disorder (PD). PDs are clinically diagnosed mental illnesses that can have devastating effects on an individual's quality of life. Typically, PDs are treated with prescription medications which can have varying levels of effectiveness. However, emerging research is finding connections between gut health and mental health in what is known as the gut-brain axis. This model indicates improvements to gut health lead to improvements in mental health. In an effort to synthesize the research on the gut-brain connection, this review aims to systematically assess the existing literature on the use of probiotic supplementation in the treatment of PDs in adults (18-65 years old). To be included in this review, research articles had to be primary research published in peer-reviewed journals within the last 10 years. Additional criteria for inclusion consisted of populations between the ages of 18-65 with a clinical diagnosis of at least one of the following PDs: anxiety, bipolar disorder, depression, or schizophrenia, according to the DSM-IV definitions for each PD. Studies were included if they were randomized, double-blinded, and placebo-controlled designs using various strains of probiotics in the treatment group. Symptom improvement was the primary outcome while composition of gut microbiota was included for review as the secondary outcome. Preliminary results from these studies suggest that probiotic supplementation may lead to significant symptom improvement in each of the PDs studied.

39. **Reginald Felix and Mark Roberts**   *Sponsor: Karen Druffel*

Consumers Perception of IoT

Internet of things has taking over the technology industry by storm. Its numerous features and-limitless capabilities combined with the "potential to increase convenience and efficiency in daily life" (Hsu & Lin, 2016) have accelerated the implementation of technology in many industries, such as the car industry, consumer, healthcare, etc. As a result, in recent years, the use and availability of IoT devices have

increased dramatically. Today, IoT devices are everywhere, almost all new electronic devices are IoT capable. We live in an age of Internet of Things, whether we like it or not. Product like Nest thermostat, Amazon Alexa, smart TVs and appliances, to name a few, are taking over to the home. However, little is known on how consumers view these IoT devices. In this study, we look to understand consumers perception of IoT devices and the factors that influences their adoption of the technology. We researched and gathered information from multiple academic articles, as well as surveyed a random sample of people from our workplace and Framingham State University. We believe, this study will be of great use to the IoT industry. With the finding, they can appropriately change their strategy to improve consumers awareness of IoT and their willingness to adopt the technology.

40. **Brittany Firth**   *Sponsor: Ira Silver*

Mental Illness: A Criminalized and Stigmatized Population in Society

Somewhere in the history of the United States, society has changed their views about the mentally ill from the idea of rehabilitation and treatment to incarceration. The closing of mental institutions has caused an influx in inmates with mental disorders. In many ways, both the health system and criminal justice system have failed this population, essentially leading to the criminalization of the mentally ill. My research aims to show that the public often incorrectly associates mental illness with violent or criminal behavior. The goal of my research is to discover the extent of the public's negative perceptions of mental illness while also bringing to light the reasons behind these negative perceptions.

41. **Aysha Foreman and Matt Price**   *Sponsor: Virginia Noon*

The Beret: From the Front Line to Fashion

A beret is a simple, soft hat that gathers at the head and has a tip at its center. Berets are a pre-shaped enclosure according to the Classification System of Dress (Roach-Higgins & Eicher, 1992). The beret is thought to be from ancient Europe due to the many places that have had the hat since before records were kept. The beret was introduced to the military when French and Spanish militia wore their clothes to the battlefield instead of uniforms. It was then introduced to the US military in 1943, when the British awarded them to the US troops that served alongside them in WWII. Once in the US military, it became a symbol of honor and was worn in Vietnam by the Green Berets. Because of its popularity in the military, it was adopted into US fashion in the mid 20th century as well. In fashion, it's a symbol of creativity, uniqueness, and intellectualism. This is because of its association with Europe, and with art in general. The beret is commonplace with US celebrities, from Faye Dunaway (a popular actress in the 1960s) to Rihanna (a current US pop star), proving its timelessness and universality. For France, the beret is an item of national dress because of its stereotypical association with French culture. The simplicity of the beret allows it to be incorporated into many cultures. The most common version of a beret is a simple black, cotton beret, which is worn around the world. The beret can also be worn in a huge variety of styles, which means it's always relevant as a fashion object.

42. **Isabelle Furbino and Kalia Pfeiffer**   *Sponsor: Virginia Noon*

Norwegian Sweater

The Norwegian sweater is a pre-shaped enclosure and it is a body supplement according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The Norwegian sweater is the national dress of Norway, the sweater is worn everyday as an undergarment despite the season. The Norwegian sweaters patterns represent the regions of Norway, each region has a specific pattern. The wearer's sweater shows where they are from. The Norwegian sweater is made from wool, and is typically

hand knitted, and generally has two color tones. The Norwegian sweater was brought to the United States by Norwegian immigrants who wanted to continue their traditions. The Norwegian sweater is worn by most of the world during winter months for skiing and other winter sports. The sweater can be seen at the winter Olympics and is often worn by athletes. The Norwegian sweater has inspired mittens, scarfs and similar sweaters can be found that have similar patterns as the traditional Norwegian sweater. The traditional patterns can be made from other fibers such as cotton to mimic the wool sweater. The Norwegian sweater's popularity around the world is due to the warmth it gives off and the design it has.

43. **Vanessa Gaston, Cynthia Leveille, and Ann Wanyoike**   *Sponsor: Ruth Remington*

An Assessment of the Effects of Exercise on Women with Heart Disease

Although heart disease is the primary cause of death for females in the United States, research continues to favor males. Exercise is known to have multiple benefits on health and wellness and is particularly useful as a method of disease prevention. We desired to know the role of exercise in active disease, specifically heart disease. This study focuses on the effects of exercise on women with heart disease. We examined research, including quantitative and qualitative studies, dating within the past ten years. We concluded that exercise has a positive impact on heart disease progression in women.

44. **Allison Gath**   *Sponsor: Patricia Sanchez-Connally*

Family Ties: A Study on the Link Between Family Dysfunction and Juvenile Delinquency

There is consistent research that explains that child abuse is a serious predictor for an adolescent's involvement in juvenile delinquency (Gold et al. 2011; Watts 2017). An examination of social bonds theory, social learning theory, and cycle of violence theory shows that there are various explanations for why juveniles engage in delinquency. The current study draws from those theories and uses data from the National Longitudinal Study of Adolescent to Adult Health (AddHealth) to explore how other forms of familial dysfunction impact the occurrence of juvenile delinquency. Specifically, this study predicts that adolescence who experience maltreatment, as well as those who face instability in their home lives, are more likely to engage in crime as juveniles. The existing research generally looks at the links between family dysfunction and disruption and criminality later in life. This study adds to the existing research, by further investigating the multitude of factors that may lead juveniles down a path of delinquency.

45. **Nicole Gentilucci, Grace Keller, and Nicole Maher**   *Sponsor: Virginia Noon*

Hawai'ian Shirt

The Hawai'ian shirt, often referred to as the Aloha shirt, is casual, printed, mostly short sleeved, and buttons up front. Many aloha shirts have pockets on the chest but not all. Hawai'ian shirts are body supplements that are pre-shaped enclosures according to the Classification System of Dress (Roach-Higgins & Eicher, 1992). Although the Hawai'ian shirt is not a piece of national dress, it is a symbol of Hawai'i. The Hawai'ian shirt represents a segment of society in the United States through the surfer from California that began traveling to and from Hawai'i in the 1960s. Surfers brought the Hawai'ian shit back to California along with the laid-back lifestyle. Many of the 1960s surfers became tech entrepreneurs in the Silicon Valley in Northern California and brought the idea of aloha Friday to the workplace in California. Today it is called casual Friday. The earliest aloha shirts were made in small tailoring shops mostly in China or Japan. The scale of production increased in the late 1930s as the Hawai'ian garment industry began with its initial focus on the production of the aloha shirts for tourists and service men. Once World War II began the fabrics ordered from China and Japan were curtailed and the apparel companies found that they needed to create their own textiles designs in order to stay in business. To this

day, the Hawai'ian shirt is worn all over the world and continues to represent the ethnic expression of Hawai'i.

46. **Emily Giantonio**   *Sponsor: Shelli Waetzig*

Supplemental Instruction in Chemistry: Why Are Students Not Going and Are Incentive Programs Enough to Reel Them In?

This project will evaluate why Supplemental Instruction (SI) has such low attendance in chemistry courses at Framingham State University, and methods of improving this issue. Despite data continually proving the benefit of SI, there is only a small percentage of students who attend. Students will be surveyed about their opinions on the SI program, which will be used to analyze the relationship between class year and attendance, as well as how students perceive its effectiveness. As a method of improvement, this project will study the impact of incentive programs. The vocabulary used to promote the program will also be changed by discussing it as interpersonal and relational learning. These approaches to increasing attendance will be evaluated midway through the semester to determine whether the implemented programs have made a difference in attendance.

47. **Matthew Hak, Andrew Heyer and Samantha Anderson**   *Sponsor: Ishara Mills-Henry*

Determining the Effect of Deamidation on Human Gamma S – Crystallin, A Protein Involved in Cataract Formation

One of the world's leading cause of blindness is caused by age-related cataract, a disease of the eye lens. Age-related cataract is thought to be caused by an accumulation of modifications that occur to proteins as they age. These modifications can lead to a loss of protein stability resulting in protein aggregation which causes a cloudiness in the lens affecting vision. Crystallin proteins are the most predominant structural proteins in the lens. There are two main crystallin families: alpha-crystallins and beta/gamma crystallins. Since the cells in the lens are enucleated, there is very little protein turnover in these cells and these proteins must remain stable and soluble throughout a lifetime. One type of protein modification is deamidation, a non-enzymatic modification that occurs to proteins over time. Deamidation occurs to asparagine and glutamine amino acids. One possible outcome of a deamidation is modification to these amino acids resulting in aspartic acid and glutamatic acid amino acids, respectively. This modification leads to a negative charge which could affect the protein's stability. For this project, site-directed mutagenesis will mimic deamidation at the 143th site between the interfaces of the two domains on human γ-S crystallin protein. This will change the asparagine at that position to aspartic acid (N143D). The protein stability of both the normal protein and the deamidated mimetic (N149D) will be compared using unfolding/refolding experiments to determine the ΔG of each protein. These studies will help us understand the effects of deamidation on the protein stability of a γS-crystallin.

48. **Andrew Heyer**   *Sponsor: Ishara Mills-Henry*

Protein stability and aggregation of normal human γD crystallin and V75D human γD crystallin, a protein found to cause congenital cataract

There are three main types of vertebrate protein crystallins in the eye lens, α, β and γ and human γ crystallin has three subtypes (D, C, S). Human γD and γC crystallin are in high concentration in the core region of the eye lens. γD crystallin is a two-domain primarily   β sheet protein that provides a structural role for lens cells. Congenital cataract is often caused by mutations in the crystallin genes leading to a loss in stability of the protein and subsequent aggregation. Previously, a single point mutation in γD crystallin was shown to cause congenital cataract in mice. This point mutation substitutes a valine (V)

amino acid for an aspartic acid (D) amino acid at amino acid 75, which is located in the hydrophobic core of the protein. The goal of this project is to determine how this mutation affects the stability of this protein and if V75D γD crystallin demonstrates an increase in aggregation when exposed to UV light. Site-directed mutagenesis was utilized to create a mutation in wild-type γD crystallin to produce the V75D amino acid substitution. Both wild-type and V75D γD crystallin were transformed and expressed in component E. coli cells. Both proteins were isolated from E. coli by affinity chromatography. The relative stability of each protein will be analyzed by utilizing thermal denaturation and fluorescence spectroscopy to determine the Tm (melting temperature) of each protein. The effects of UV light on the aggregation of both proteins will be analyzed via UV spectroscopy. These studies will assist in understanding how this mutation can lead to cataract formation.

49. **Christopher Jean Louis**   *Sponsor: Amanda Simons*

Effect of Biologically Relevant Doses of Resveratrol on Glucose Transporter Expression in HeLa Cells

Resveratrol is a molecule produced by plants commonly found in grapes and red wine. Resveratrol has anti-carcinogenic properties, antioxidative properties, is beneficial to cardiovascular health and has been shown to alter biological pathways such as the DNA damage response. Resveratrol studies in cells often use excess amounts that would be impossible to replicate physiologically. Due to these restrictions in vitro results are not a good predictor for the results in vivo. Resveratrol has low bioavailability which is another challenge for in vivo studies.

To mimic use of resveratrol in vivo we aim to culture human cells in the presence of resveratrol with physiologically appropriate doses over a span of weeks. Comparing GLUT1 transporter expression between treated cells and non-treated cells via reverse transcriptase PCR to examine changes in glucose metabolism .

50. **Eve Johnston, Jennifer Moore, and Guerline Simon**   *Sponsor: Ruth Remington*

Nursing Fatigue and Medical Errors: A Literature Review

Oftentimes, nurses work beyond eight or 12 hours at the bedside, providing patient care. In other industries, a correlation has been determined between length of a work shift and the potential for injury, accidents, or errors. In reviewing the literature, it was determined there is a correlation between the length of a bedside nurse's shift and the likelihood of a medical error occurring. Seven articles were reviewed, and a common theme of long shifts contributed to a rise in errors by bedside nurses. In conclusion, themes of better staffing, decreased reliance of mandatory overtime contributed to a decrease in errors made by bedside nurses, thus contributing to increased patient safety and better patient outcomes.

51. **Freddy Kakpo and John Michael Kimani**   *Sponsor: Ruth Remington*

Hand Hygiene for Patient Safety

Background: Hand washing is the backbone of standard precautions for health care workers and patients. Hand washing is also imperative for improved health care outcomes and reduction in nosocomial and community acquired infections. This study will assess both the Nurse and patient's effects on health care outcomes from hand washing.

Method: Literature review

Units of Study: Literature review of previous studies

Findings: Nurses and patients that diligently wash their hands have more positive health outcomes than those that do not.

Implications for practice: Applicable to all areas of nursing practice involving direct patient care and for all patients.

Hand washing is a foundation of overall patient safety inside and outside of health care facilities. Both Registered Nurses (RN) and patients are responsible for hand washing. It is the duty of the RN to not only to protect themselves, but to protect the patient; it is the job of the patient to protect themselves from illness. This literature review found that both RN's and patients can have a positive effect on reducing hospital acquired, also known as nosocomial, and community acquired infections simply by washing their hands. Studies reviewed show that hand washing is the number one intervention for reducing these infections; by both nurses and patients addressing this issue the patient benefits with improved health care outcomes.

52. **Edgar Kalinda**   *Sponsor: Steven Cok*

Measuring the effect of phenolic compounds in green tea on Sirtuin-1 gene expression in C. elegans using a Green Fluorescent Protein (GFP) reporter gene

Type II diabetes mellitus is the most common type of diabetes that is characterized by chronic hyperglycemia. The catechins found within green tea have been associated with various biological activities that improve cellular lipid, protein break down and antioxidation. Long term consumption has been found to be beneficial for the reduction of inflammation in various diseases, including type II diabetes. Sirtuin-1 is a gene that is associated with changes in the rate of metabolic functions and regulation of insulin secretion. Regulating the Sirtuin-1 gene may lead to decreases in the inflammatory signaling pathways attributed to consumption of catechins found in green tea. This study uses C. elegans as a model organism to test whether pheholic compounds isolated from green tea can regulate the expression of the Sirtuin-1 gene. Strains of C. elegans containing green fluorescent protein (GFP) under the control of the Sirtiun-1 promoter were fed varying concentration of green tea extracts and measured for total fluorescence. Changes in fluorescence are correlated to changes in Sirtuin-1 expression. Observed changes in the level of fluorescence suggest that catechins within green tea can increase the expression of Sirtuin-1. Further research is needed to fully understand how Sirtuin-1 expression can be included in the prediction of gene expression in humans.

53. **Ryan Keane**   *Sponsor: Maria Bollettino*

Das Überlegene Unterseeboot: An examination of why the U-boats of WWI were superior to their counterparts in WWII

During WWI & WWII, the German military used its U-boat fleet to try and starve the Allies by sinking vital supply ships. However, despite having a more infamous reputation as a weapon, the U-boat of WWII was actually less effective than its counterpart from WWI. How could this be? Some research has suggested that the U-boats of WWI more effective because at the start of the war, the Allies lacked a proper anti-submarine strategy, while others point to the presence of detection technologies such as radar to explain the higher rate of U-boat causalities during WWII. Alternatively, some research has suggested that the relationship between Kaiser Wilhelm II and President Wilson helped convince the latter that American involvement was unnecessary, while Hitler's inability to cooperate with other world leaders convince Roosevelt that America had to be made ready for a naval conflict with Germany. However, this presentation will argue that it was these factors, as well as differences in German military strategy and

several other key differences, working together that allowed the U-boats of WWI to be more effective than their more infamous counterparts in WWII.

54. **Jason Kopp**   *Sponsor: Bridgette Sheridan*

Sexual Revolution Impact on the Gender Roles

How the masculine norms shifted as a result of the sexual revolution.

55. **Cody Lamke and Itamanah Mourao**   *Sponsor: Karen Druffel*

Deep Learning of Society

In today's society, data can be collected in many forms. Organizations can amass this data and use it to learn more about not only society, but also about individuals. With the introduction of Internet of Things (IoT) devices, virtual assistants and an increased reliance on technology, there are many discussions on how data collected from users can be used. This study will analyse the growing field of deep learning by surveying 35-40 college age students to assess how much they know about the subject and if they will modify, or have modified, their behavior when using technology because of it. This study will also discuss how consumers weigh the benefits of new technological gadgets, virtual assistants, and beneficial research versus the cost to their privacy.

56. **Jaimie Leahy**   *Sponsor: Maria Bollettino*

Sex, Reputation, and Politics: The Affairs of Thomas Jefferson and Alexander Hamilton

When thinking about the founding fathers and the Early Republic, the topic of sex and sexual relationships is not something that comes to mind. The sex "scandals" that have plagued contemporary politicians have often worked to benefit their political opposition. Interestingly, this was the same with Thomas Jefferson and Alexander Hamilton. These two political rivals had a strong hatred for each other and made use of each other's infidelities to harm their rivals' reputation. This research paper examines sex, reputation, and politics in the early Republic through an analysis of the adulterous affairs of Thomas Jefferson and Alexander Hamilton.

57. **Hallie Livengood**   *Sponsor: Kate Caffrey*

Costume Assistant: What you do and why you should do it

A backstage look at what an assistant to a costume designer does and the skills that can be learned/strengthen through the course of the job and theater production. Also includes some of the stage make-up techniques and suggestions that were taught at the KCATF back in January.

58. **Zuzu Luetje and Nachel Maynard**   *Sponsor: Virginia Noon*

Denim

Garments made from denim fabric are a common staple in both "western wear" fashion in the United States as well as in other parts of the world. Denim is both fashionable and durable which makes it common in many wardrobes. Denim is a coarse, firm, durable, twilled, usually cotton fabric woven with colored warp and white filling threads. Traditional denim fabric is usually blue or indigo and is most commonly used to make jeans. Denim is used for multiple styles of clothing including overalls, jackets, pants, corsets and more. Denim is also the material that defines what is know as, "western wear".

Western wear became popular in the United States during the nineteenth century pioneer movement, or more commonly known as, "the wild west." Western wear and denim emerged as an iconic style of dress and the national dress of the United States of America. In present day, "western wear" is continually evolving, along with multiple other elements and accessories. Brands such as Ralph Lauren, commonly known for their logo which is a rider on a horse, have been impacted in their collections and advertisements. The "western wear" movement has sparked many trends for art, interior design, film, theater, festivals, TV, dance, cheerleader outfits, and even wedding deserts. Denim has been a staple item throughout history because of the many different styles throughout the eras and the functionality and durability of denim fabric itself. Denim has proven to stand the test of time.

59. **Megan Machado-Maitoza**   *Sponsor: Xavier Guadalupe-Diaz*

Race, Armed Status, and Police Use of Deadly Force

Researchers estimate that approximately 1,000 civilians become victims of police use of deadly force every year in the U.S. Contemporary social movements and research in sociological criminology highlight the role of race in police-civilian interactions. This research examines the effect of race on police use of deadly force, focusing specifically on the disproportionate victimization of Blacks in America. Further, the current study examines whether or not there is a significant association between race, unarmed status, and becoming a victim of police use of deadly force. The conflict theoretical perspective and critical race theory are applied to analyze the racist structures that exist within the criminal legal system and throughout American society, of which, facilitate the disproportionate killings of Blacks by police. This study utilizes a dataset which identifies and counts the number of individuals killed by law enforcement in the U.S. in 2015. The results indicate a relationship between race and victim's armed status. More specifically, findings demonstrate a statistically significant association between Black victims and unarmed status.

60. **Michelle Mair and Jannat Sheikh**   *Sponsor: Virginia Noon*

The Indian Sari

The sari would be a body supplement which is cotton or silk wrapped and draped onto the body according to the Classification System for Dress (Roach-Higgins & Eicher, 1992). The sari is the national and traditional dress of India. The style of draping utilizes all three parts of the sari. The longitudinal borders or Kinara, these borders usually extend the full length of the sari. The end piece or the Pallu, is the part of the Sari that is draped over the shoulder and left to hang over the back or front of the body. The field or the Jamin, occupies most of the area usually this part of the sari is in contrast with the border or the end piece. Creatively it enhances the fit on the wearer and attracts the gaze of the viewer to the aesthetically refining details of the garment which makes it a timeless classic. The sari will continue to be part of world fashion and dress because of India's charm and undying culture.

61. **Taylor Malott and Joe Raschi**   *Sponsor: Karen Druffel*

Is IoT education a priority?

The Internet of Things (IoT) is rapidly growing in many different business sectors as we develop new technologies and move towards an automated society. Smart cities, smart metering,, logistics, home security, and education are just some of the industries that will see significant IoT growth. The rise of these connected 'smart' technologies provides a growing opportunity in IT professions such as data specialists, data scientists, and operations managers. Even with the emergence of these technologies, many still lack the knowledge about the imminent state and scope of the Internet of Things. In this study

we surveyed two groups of college students, those with a concentration in computer science and those from other disciplines to gauge their current knowledge and understanding of IoT and its impact on the world around them. For our concluding results, we will offer insight to the question of should institutions of higher education integrate IoT courses into undergraduate curriculum?

62. **Tracy Marino**   *Sponsor: Karen Druffel*

Child Care Benefits

In order to retain and attract talent, Employer's are doing their part to offer child care benefits that are desirable to working parents.

63. **Amanda Martin**   *Sponsor: Steven Cok*

The effect of palm fruit juice on pmk-1 gene expression in stress-induced C. elegans as related to the development of type 2 diabetes

Type 2 diabetes is a chronic illness from which millions of people suffer due to developed insulin resistance or the inability to produce insulin. Altering gene expression is an under-researched concept that holds a significant potential for treatment of this condition. The current research set out to alter the expression of the human p38 gene, whose elevated expression is associated with the oxidative stress and inflammation that is characteristic in the body of someone who is transitioning from a pre-diabetic state to a type 2 diabetic state. This research was conducted using the analogous p38 promoter called pmk-1 in C. elegans nematodes along with a GFP reporter construct. The nematodes were treated with increasing doses of glucose to induce stress while simultaneously being treated with palm fruit juice, a substance known for its anti-diabetogenic qualities. The expression of the pmk-1 gene was then subsequently measured in terms of its fluorescence and analyzed to see if palm fruit juice holds any promise in altering gene expression and ultimately preventing the transition from pre-diabetes to type 2 diabetes.

64. **Amanda Martin**   *Sponsor: Haewon Ju*

The "A" Word

Project: Creating a blog in the context of social aspects of dress

What are the major topics about dress? EX "Appearance Measurement". For this independent study, I will create a blog site and regularly update posts about the topics in the context of social aspects of dress (e.g., appearance management, media influence in dress, self-image, etc.). I will select ten major topics that I will study in-depth and create a post on how I see the way this topic has an effect in a social form for each topic. My posts will be written reflecting my personal experience, research, interaction with others, and so on.

Description of How Progress of the Project will be Assessed and Final Grade Determined:

The supervisor and the student will select 10 major topics that the student will further study at the beginning of the semester. The student will research each topic, read relevant readings, and write a post. The supervisor will meet the student regularly (approximately every two weeks) to review the students' blog posts and discuss the topics and issues the student can write about in the context of social aspects of dress.

65. **Amanda Martin and Anh Tran**   *Sponsor: Virginia Noon*

The History of the Corset

The corset is a fitted garment which extends from below the chest to the hips. It is worn to hold and train the torso into a desired shape or for the style. Traditionally the corset shapes the body to create a smaller waist or a larger bottom. The corset is worn for both medical and aesthetic reasons. The corset helps to improve one's posture or support the breasts. Corsets are a pre-shaped body enclosure that temporarily reshapes the body to temporarily modify the muscular and skeletal system according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The corset is one piece of the national dress of Switzerland where it identifies one's marital status. and the clanship of the wearer. Corsets were a standard undergarment and worn by most women when they first came out in the 1500's. Women wanted to achieve the ideal body shape and the corset stayed very popular for years. The corset first worn as an undergarment transformed the shape of the body creating a very small waist. Today, the corset has been reclaimed by the modern fashion industry. Givenchy, Stella McCartney, and Alexander Wang revived the undergarment as outerwear in their 2015 collections. The corset continues to be worn today as outerwear in several stylish ways.

66. **Lavar Matthews**   *Sponsor: Aline Davis*

Influence of Heat Acclimation on Core Temperature and Heart Rate

Unacclimatized Warfighters that rapidly deploy to hot environments experience an increase in cardiovascular strain (increased core temperature and heart rate) which compromises physical performance. Previous research has shown that repeated exercise-heat exposure (~10-14 days) results in heat acclimation (decreased heart rate and core temperature) and improved tolerance. However, it is unclear whether fewer days (8 days) of exercise-heat exposure will result in heat acclimation.

PURPOSE & HYPOTHESIS: To evaluate whether 8 consecutive days of walking in the heat would result in heat acclimation. We hypothesized that 8 days of exercise-heat exposure will reduce core temperature and heart rate.

METHODS: Nine men (Age: 21 ± 3 yrs; Weight: 75.5 ± 13.4 kg; Height: 174 ± 8 cm; % Fat 21.7 ± 5.2%; cycling VO2peak: 41.1 ± 3.8 ml•kg-1•min-1, mean ± SD) completed 120 minutes of treadmill walking (5 km•hr-1, 2% incline) for 8 consecutive days in 40°C at 40% relative humidity. Heart rate and core temperature (via telemetry pill) were measured at baseline, every 5 minutes, and at the end of exercise. End heart rate and end core temperature of days 1 & 8 were compared using a paired t-test. Significance was set at an alpha level of $p < 0.05$).

RESULTS: Heart rate was significantly lower at the end of exercise on day 8 (118 ± 8 bpm) of heat acclimation compared to day 1 (131 ± 17 bpm; $p < 0.01$). Similarly, core temperature was significantly lower at the end of exercise on day 8 (37.8 ± 0.2 °C) compared to day 1 (38.0 ± 0.3 °C; $p < 0.01$).

CONCLUSION: Our results suggest that 8 consecutive days of exercise-heat exposure will induce heat acclimation. These results indicate that the Warfighter requires fewer days to achieve heat acclimation prior to deployment to hot conditions than previously suggested.

Disclaimer: The views expressed are those of the authors and do not reflect the official policy of the U.S. Government or DoD Policy.

67. **Malarie McGillivray**   *Sponsor: Aviva Liebert*

Comparing native and non-native common reed (Phragmites) species in the salt marsh ecosystem

During my internship at Mass Audubon Endicott in Wenham, MA, I worked on "The Salt Marsh Science Project", a project that started over 20 years ago and is still ongoing. The project collects important scientific data for scientists while also engaging students in grades (5-12) on the North Shore in Salt Marsh Science. The data collected contributes to a better understanding of salt marshes, primarily the effect of the plant species common reed (Phragmites australis) on the marsh ecosystem. Common reed, native to Eurasia, is an invasive plant species that grows rapidly and tall, ultimately taking over the marsh ecosystem and reducing salt-marsh vegetation and wildlife biodiversity. During my time as an intern, I learned that there are two sub-species of Phragmites: non-native (P. australis) and native (P. americanus). The two sub-species were confirmed as such through genetic testing just 20 years ago. This short time frame has left little room for protection and research of the native plant. Currently, the conservation status of native (P. americanus) in NH is endangered and of special concern in CT. However, it is still un-protected in MA. My goal was to gather information on the distribution of native (P. americanus) in MA and identify whether native (P. americanus) supports a more diverse salt marsh ecosystem than non-native (P. australis) through analyzing and comparing prior data. This project is ongoing as part of an independent research study and through continuing the internship. I will begin field research in April at the start of the growing season and anticipate finding locations of native P. americanus and will conduct biodiversity surveys of the whole marsh community. If native P. americanus supports a more diverse salt marsh ecosystem then certain regulations should be put in place such as identifying the reed as native or non-native prior to management practices.

68. **Erin McGrath, Lucile Rezil, and Christopher Slocum**   *Sponsor: Ruth Remington*

Stress reduction for healthcare professionals

This research topic is presented to understand, assess and address the topic of stress of healthcare professionals in the industry. Healthcare providers, including nurses, may experience an elevated level of distress with their professions and personal life. The goal of this research is to determine if mindfulness-based interventions can be appropriate and effective towards their mental well-being. It's hypothesized that stress reduction through mindfulness may improve the well-being of a healthcare professional, lower stress and improve the care provided to patients.

69. **David McKenna and Dajana Stankovic**   *Sponsor: Bridgett Galvin*

Examining the Differences in Humor Between Chinese and North American Cultures

This research examined the differences in humor styles and comedy between Chinese and North American cultures. Prior studies have suggested that fundamental differences in the two cultures may impact humor preferences and comedic styles. China is defined by a collectivist culture, which places value on the cohesive group of individuals in society. North American cultures such as the United States and Canada are more individualistic and place a higher value on individuality. Comedy or humor in China is also influenced by religions such as Confucianism. All forms of humor are discouraged as it may disrupt one of the five virtues of Confucianism (Bond, 1996). While Chinese culture may not present an overly positive view of humor, people certainly do enjoy humor, as research on humor preferences in China is prevalent. Studies suggest that the strong collectivist a culture perspective is associated with more affiliative and self-enhancing the humor (Chen et al., 2013). Chinese comedy has often been explained exclusively by the incongruity theory or the benign violation theory of humor, more so than North

American comedy. To further investigate the different theories applied to Chinese and North American comedy, popular comedians from each culture will be analyzed.

70. **Carmen Mclaughlin and Cristian Gramanjo Rodriguez**   *Sponsor: Virginia Noon*

The African Caftan

A caftan, or kaftan, is a loose-fitting garment, made of silk, wool, or cotton. It is a torso covering garment that is slipped on over the head.The caftan can be seen in a large range of styles including knee-length, floor length, long sleeves, short sleeves, button up, and many more. According to the Classification System of Dress (Roach-Higgins & Eicher, 1992), caftans are pre-shaped, suspended enclosures that rest on the shoulder. The caftan was designed with comfort and cooling in mind. Caftans go as far back as the Ottoman empire and were worn by sultans. Although originating in ancient Mesopotamia, the caftan has spread its simple design all over the world. In North Africa, the younger males wear shorter caftans while the older generation sticks to a more traditional style. The traditional caftan is reflective of the North African style. Nowadays, it can be seen from red carpets to beaches. It is usually beachwear in the United States, used as a coverup. Cultures have adapted and modified the caftan to fit their tastes and the styles of the time, however, it is forever changing.

71. **Anasemon Meshreky**   *Sponsor: Bryan Connolly*

The effects of historical and current precipitation conditions on soil fertility and crop performance

With a rapidly changing climate patterns of precipitation are projected to change. It IT follows that the ability of crops to acquire soil nutrients will also change. We are examining the impact of soil conditions by leveraging the availability of soils which have been historically exposed to different precipitation treatments from the Boston-Area Climate Experiment (BACE), as well as the opportunity to test current precipitation patterns on these soils. BACE was designed in early 2007 by the Dukes lab at Purdue University and the University of Massachusetts Boston. BACE is an open greenhouse which is designed for mesocosm experiments involving ecosystem responses to climate change.In our study, we are examining the growth patterns and nutrient composition of crops from 3 general agricultural categories: oats, beans, kale grown in soils from one of 3 historical precipitation conditions: wet (100% rainfall plus 50% precipitation added by sprinklers), ambient (100%), and dry (-50%) precipitation conditions. Soils were tested for nutrient composition and, using a reciprocal soil transplant experiment, we tested the effects of how the three current precipitation regimes - wet (100%), ambient (-50%), and dry (-25%) - Interact with soil quality to affect plant responses. We found that the three species differed in their response to these treatments.

72. **Devonish Micaela, Cl énord Samentha, and Seleah Sterling**   *Sponsor: Bridgett Galvin*

How Does Racial Humor Impact the United States?

This research investigated the impact of racial humor and the extent to which it is accepted among the diverse culture in American society. An analysis research suggests ways in which racial humor can foster a solidarity environment among audience members which may include members of various cultures and races. Ethnic jokes have the ability to develop unity rather than complicate racial-behavioral issues. Historically, racial jokes have been beneficial in bringing people of different races together by normalizing cultural stereotypes through the process of humor and comedy. Racial humor has educated people from different backgrounds through communication of laughter and amusement. Although racial humor often touches on uncomfortable topics, the purpose of offensive jokes may serve to shine a light on racial issues and to narrate the life story of a minority to audience members from the comedians point of

view. This paper analyzes the humor of race and comedy through the lens of inferiority and superiority theories of humor.

73. **Jennie O'Leary**   *Sponsor: Evelyn Perry*

"What else is possible?" Adult Agendas in Children's Trauma Fiction

As a body of work for children written by adults, children's literature often represents adults' idealized versions of childhood. Generally, childhood is viewed as a sacred time during which children remain innocent. However, children rarely emerge from their formative years "untainted," a reality increasingly explored in fiction for children. My research explores how tensions between the reality of trauma and adult notions of childhood innocence materialize in children's literature. Drawing on trauma theory, I will analyze how adult writers represent trauma in four middle-grade historical fiction novels: The War That Saved My Life and The War I Finally Won by Kimberly Brubaker Bradley, The Watsons Go to Birmingham by Christopher Paul Curtis, and The Red Pencil by Andrea Davis Pinkney.

After reviewing scholarship to date on trauma theory, children's literature, and historical trauma in children's literature, I will explore representations of trauma in each novel. I will draw on Laurie Vickroy's theory that trauma is given meaning by the context in which it occurs to pinpoint what constructs in the novels are violated to make events so traumatic for young protagonists. Specifically, I am interested in how the traumatic nature of key events is related to a violation of childhood as constructed in the world of the novel. I will conclude by analyzing what the novels are saying about trauma and childhood, the implications of these messages, and how teachers might address these messages about trauma and childhood in the classroom.

74. **Elena Oliveira and Diana Welch**   *Sponsor: Amy Knapp*

Temperature Affects Force Generation but not Time-to-Fatigue of the Mouse Extensor Digitorum (EDL)

The extensor digitorum longus (EDL) is a fast-twitch hindlimb muscle in the mouse. In-vitro muscle testing allows for the elucidation of mechanisms involved in muscle contraction and the effects of different substances on contraction. However, is important that physiological conditions, including temperature, are established during the testing so the results may be applicable to in-vivo systems. The purpose of this study was to examine the effect of physiological temperature on the force generation and time-to-fatigue of the mouse EDL. Whole EDL muscles were dissected from C57BL female mice and subjected to a force-frequency test and a fatigue test at either 25˚C or 37˚C. Maximal tetanic contraction and time-to-fatigue were recorded. Cross-sectional area (CSA) was also taken to normalize force production. It was hypothesized that the EDL would produce ~275-300 mN of force at 25˚C and ~180-210 mN of force at 37˚C. In regard to time-to-fatigue, it was expected that the EDL would fatigue after three minutes of constant stimulation at 25˚C, and after two minutes at 37˚C.

75. **Sydney Ortiz**   *Sponsor: Virginia Noon*

The Hijab

The hijab is a headscarf worn as a veil covering the head and chest. The hijab would be a body supplement, combination type of both pre-shaped and wrapped enclosures according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). A hijab is not considered to be a national dress. Instead, a hijab is a type of religious dress that is worn around the world by Muslim women. The hijab is an important religious identifier to those who wear it. The Hijab's continued popularity around the globe is due to its religious intent and the different ways it can be styled.

76. **Sherley Pagan Figueroa**   *Sponsor: Aline Davis*

Conspectus of Alzheimer's Disease: Literature Review

Alzheimer's Disease is one of the leading causes of death in the United States. This disease causes death in patients at a faster rate than breast cancer and prostate cancer combined. This literature review aims to inform the general public about the history of the disease, the cellular pathology associated with it, the symptoms, diagnostic process, treatments available, and the genetics involved. The risk factors, mortality rates and costs associated with the disease are also discussed. Ways in which patients may be able to prevent Alzheimer's Disease is also analyzed and these include changes in lifestyle such as exercising and abstaining from tobacco use.

77. **Chamyra Parker**   *Sponsor: Virginia Noon*

Taking Back the Wrap

The African head wrap is a rectangular piece of fabric that is wrapped from the back of the head and tied or tucked on the top of the head. The African head wrap is a body supplement and a wrapped enclosure according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The African head wrap was originally used as a means for West African women to accessorize their hair when cloth became a more accessible material to the women after the European expansion into Africa during the 18th century. The African head wrap came to the United States during the slave trade era. The white American slave masters tried to associate the African head wrap as a symbol of inferiority for the African women and required that the enslaved women wore the head wraps. Over time, they became a symbol of courage for black women once the women began to simply chose to wear the headwrap for a style and to protect their hair. The African head wrap is a symbol of courage for black women because by choosing to wear them they are showing that they are proud to wear and be able to wear them despite women who wore them in the past being told that wearing them made them inferior.

78. **Jessica Patrick**   *Sponsor: Haewon Ju*

Bakpoka

For my Independent Study project, I plan to develop an online fashion business that is socially responsible and sustainable. The business will be a backpack company that sources the fabrics from the countries producing their traditional fabrics. Implementing the triple bottom line approach considering people, product and planet, I will develop a business plan for this company that includes sustainable strategy, business concepts, industry segment and analysis, competitive analysis, target customer, sourcing structure, market strategy, and financial strategy.

79. **Andrew Petry**   *Sponsor: Maria Bollettino*

Written and Cultural Works: Conveyance of Emotions during the French Reign of Terror

This presentation argues how perspectives in written and cultural works among peoples' living in France during the Reign of Terror (1793-1794) demonstrated how people expressed their thoughts while living under a regime centered around terror and violence. In his presentation, Andrew Petry will explain the similarities and differences among how prisoners, Committee of Public Safety politicians, citizens, and foreigners (in particular, the works of Helen Maria Williams and James Gillray) conveyed their thoughts through written documents, art, and political cartoons. The presentation will indicate specific differences

between the usage of written documents and cultural works to demonstrate how emotions towards French society were portrayed.

80. **Mariah Prosansky** *Sponsor: Mary-Ann Stadtler-Chester*

Abandoning Grammar-Centric Instruction: A More Effective Way to Teach Spanish

Is the way we teach Spanish effective? Different textbooks use different approaches – some use a natural approach, in which learning occurs primarily through listening and speaking; others use an approach with greater emphasis on reading and writing and grammatical correctness – but all Spanish textbooks inherently focus on grammar and structured language-based activities. In the U.S., English Language Learners are not taught English through sentence structure and verb conjugation exercises; they learn about math, science, and history in English. Should we teach Spanish, then, with a more interdisciplinary approach? Teaching fun, non-traditional subjects in Spanish (such as astronomy, art history, climate change, etc.) could enhance student interest in Spanish and other subjects while making the learning of the language more natural and fluid. This paper will begin with the history of foreign language teaching in the U.S., then will explore ESL strategies and pedagogy used in the U.S. today, and will conclude with a proposal for how Spanish could be taught more effectively in the U.S. public school classroom.

81. **Mikaela Ranahan** *Sponsor: Amy Knapp*

Detection of the Metabolite Amphetamine Through LC/MS in a Clinical Toxicology Lab

The use of Liquid Chromatography/Mass Spectroscopy (LC/MS) provides a quick and efficient method to aid in the detection of the metabolite Amphetamine. Therapeutically, Amphetamine is mainly used to treat hyperactivity disorders or assist in weight loss, however, it is also a substance that is commonly abused. The most common types of toxicological effects consist of hypertension, arrhythmia, excitability, aggressiveness, psychosis, and death. This paper will examine the common methods seen in a clinical toxicology lab and how we are able to determine if Amphetamine is detected in urine-based samples through LC/MS analysis. We observed the common differences of positive and negative urine seen in chromatograms from the LC/MS. We determined that the use of analytical methods like LC/MS provides high quality testing and fast turnover time to help aid medical professionals in determining if Amphetamine is being used properly or as a substance of abuse.

82. **Joshua Rumple** *Sponsor: Shelli Waetzig*

Palladium Catalyzed N-Allylation of 2-Benzoxazolinone through a Pi Allyl Intermediate

In the world of synthetic organic chemistry, the development of new reaction methods is useful in expanding the toolbox of the synthetic chemist, especially where current methods are lacking or insufficient. Alkylation of heterocyclic molecules is particularly interesting because of their prevalence in many natural products and medicinal chemistry targets. My honors thesis will build on the research I did in the fall, focusing on using palladium as a catalyst for the allylation of benzoxazolinone.Specifically, my advisor and I look to optimize the reaction conditions for addition of allyl and cinnamyl groups to benzoxazolinone.

83. **Andrea Santoro and Nicole Valerio**   *Sponsor: Virginia Noon*

The Bikini

The bikini is a two-piece bathing suit which generally leaves 85-90% of the wearer's body bare. It is a pre-shaped body supplement enclosure, according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). Bikinis are typically made from materials like nylon, polyester, or spandex. The bikini's origin can be traced back to ancient Greece, where images of women wearing scant pieces of fabric were included in mosaics. Originally banned from beauty pageants in the 1940s because of their revealing nature, bikinis gradually gained more public acceptance throughout the 1950s and '60s, and had reached mainstream status in the United States by the mid-1970s. The bikini represents U.S. national dress as it embodies the laid-back vibe of California beach culture that many people tend to associate with the United States. Different styles of bikinis have come in and out of fashion over the years; recently, the high-waisted bikini that first became popular in the mid-1980s has made a comeback. Today, there is greater availability of inclusive swimwear lines that provide options for a wider variety of body types, making the bikini more accessible to a larger demographic than ever before.

84. **Kylie Schiloski**   *Sponsor: Michael Greenstein*

The Perceived Effects of Altruism on Decision-Making

A series of experiments investigated factors that impact altruistic decision-making using a modified version of the Asian Disease Problem (Tversky & Kahneman, 1981). The Asian Disease Problem was modified to include the decision-maker as one of the people affected by choices made in the scenario. In Experiments 1-3, participants presented with the loss frame were more likely to risk their lives for others than those presented with the gain frame. In Experiment 4, participants were given an additional option to do nothing, allowing everyone to be killed. It was found that they were more likely to adopt this option in the loss frame than the gain frame. That is, participants were more likely to act risk-averse when presented with the gain frame than the loss frame. Furthermore, Experiment 3 presented participants with different likelihoods that they would be killed to see how it would affect participants' responses patterns. It was found that participants were more willing to risk their lives for others when there was a lower likelihood of death. Additionally, the following experiments also sought to examine the underlying thinking behind the choices made using the Behavioral Inhibition/Activation System (BIS/BAS) scale (Carver & White, 1994). Participants that scored lower on the BAS-Drive scale were more likely to act risk-averse than those who scored higher (Experiment 2). Additionally, participants that scored higher on the BIS scale were less likely to act risk-averse than those who scored lower (Experiment 4).

85. **Zachary Schofield**   *Sponsor: Maria Bollettino*

Fort Caroline : A Pilot Voyage for Differential Religious Thought

The gaps within the historiography surrounding the attempted French Huguenot settlement of Fort Caroline leaves contextual analysis lacking. In examining the implications of the religious narrative surrounding the destruction of the Fort, it offers historians a different look into how the French public was relayed information about the Huguenots. Using analysis of these religious relations, those studying the time period may find an ability to learn from the time period and apply it to modern religious conflicts.

86. **Marielle Sciore**   *Sponsor: Kate Caffrey*

Kennedy Center American college Theatre Festival Irene Ryan Scene Partner

A monologue performance from the Diary of Anne Frank by Frances Goodrich and Albert Hackett and newly adapted by Wendy Kesselman

87. **Nada Shaaban and Brittany Yates**   *Sponsor: Kate Caffrey*

The Kennedy Center American College Theatre Festival

A reflection on the week-long theatre conference held in Cape Cod this past January. I attended as a Stage Management nominee after my role in the Communication Arts department fall production of Mother's Bliss, Mother's Woe. Attending the conference was even more educational and career helpful the second time around and represents the importance of opportunities outside the classroom for both personal and disciplinary growth and learning.

88. **Shauna Singleton**   *Sponsor: Maggie Campbell Obaid*

Does "Body Count" Really Matter?: University Students' Perceptions of Sexual Behavior and Promiscuity

Research on sexual behavior and promiscuity is not a new research field. While much of the past research on sexual behavior and promiscuity focuses on gender as related to attitudes and perceptions of sexual behavior, other past research focuses on the prevalence of the Western "hookup culture". Some studies found that, when centered on hookup culture, there is still a gender double standard that is evident. A large part of the hookup culture and casual sexual relationships rely on sexual scripts that are socially learned throughout time. There is an evident gap in past literature, as there is not that much research that focuses on analyzing both gender and race and the influence that they can have on the perceptions of sexual behavior and promiscuity. The aim of this non-experimental study is to learn more about how race and gender take part in building attitudes and perceptions surrounding the idea of sexual behavior and promiscuity with university students. The current study will utilize a questionnaire to assess a participant's current number of sexual partners ("body count"), their sexual behaviors and communication, their attitudes about potential sexual partners' sexual behavior and body count, as well as their benevolent sexism levels and morality beliefs. It is expected that men will set stricter limits for their potential partners compared to women. In other words, men will present lower numbers that they consider "appropriate" for a woman's body count. It is also expected that non-White participants will be less accepting of higher numbers of sexual partners compared to White participants. The result of this study will help to expand the understanding of perceptions of sexual behavior as it relates to a person's race and gender in their daily life.

89. **Ryan Sullivan and Christopher Lamar Reid**   *Sponsor: Karen Druffel*

Public Acceptance of Artificial Intelligence

Artificial Intelligence includes the capability of a machine to imitate intelligent human behavior. In recent years, Artificial Intelligence has become more prevalent in everyday technology, like personal assistants in smart phones, self-driving cars, and services like Netflix or Pandora. These advanced technologies allow for more productivity, while cutting out the potential human error. With AI growing at such a rapid pace, and becoming more involved in consumer products, privacy is more of a concern. This paper explores consumers' perceptions of Artificial Intelligence and the different levels of willingness people have for AI integration in everyday life. By gathering surveyed public opinions on different aspects of AI (AI in our phones/personal devices, and AI with its increasing presence in our medical lives), the research tries to determine the point where people's trust of technology turns to distrust.

90. **Jillian Sullivan**   *Sponsor: Zahra Tohidinia*

The Affect of Packaging on Modern Day Brand Image and Consumers

The modern-day consumer possesses a wealth of information about every product in their consideration set, thanks to the rise of technology, online reviews and digital marketing. With the intense market competition and empowered consumers, brands are being held to higher standards and must work harder on all fronts to capture the attention of their audience and convert them into customers. As a result of this movement, product packaging, which is also known as the 'silent salesperson', has become undeniably crucial towards every consumer's purchasing decision and the overall success of a brand. This paper examines the significance of branding and in particular looks at the different components that come together and make packaging an important brand element. This paper also includes a qualitative study that studies consumer generated comments that opine on their attitudes towards desirable packaging style. This qualitative examination identifies and highlights the themes that emerge from online comments as important determinants of an appealing product packaging.

91. **Ryan Sullivan**   *Sponsor: David Keil*

Virtual and Augmented Reality: Changes to How People Learn in a Digitally Altered Environment

Virtual Reality (VR) is a virtual environment which is experienced through the senses and where the user's actions determine what happens in the environment, and Augment Reality (AR) is computer generated content overlaid on a real-world environment. In recent years, both technologies have made advancements, not only in the entertainment sector, but also in the medical, commercial, and educational sectors. This research explores how people learn in a digitally altered environment, the beneficial changes VR and AR can make to established practices, like increasing effectiveness and scope, and tries to discover people's perceptions and acceptance of an artificial reality.

92. **Alicia Thomas**   *Sponsor: Kelly Kolodny*

The Influence of Stress and Anxiety on the Learning and Behavior of Students in the Classroom

Stress and anxiety affect students' schooling experiences in a profound way. As educators, parents, and members of society, we must pay attention to how these factors influence students' performance in school, through their learning and behavior. It is important for people working with children to understand what causes stress and anxiety found in children and ways to help them work through it and make for a better schooling experience. This thesis delves into the reasons why students are affected by stress and anxiety and the ways in which their learning and behavior in school are affected. This thesis draws from scholarly and peer-reviewed articles, as well as interviews from eight teachers. It also examines the ways in which both research and personal accounts from teachers suggest that stress and anxiety create negative classroom environments. The discussion focuses on how issues affect students' learning and behavior, as well as their interest in learning, motivation, attention spans, and behavior patterns. These elements are analyzed to show the ways that stress and anxiety affect students' academic performance, as well as their personal interests and behaviors. This thesis sheds light on the obstacles students face in school due to stress and anxiety and highlights the causes of these issues. It offers advice of scholars, researchers, and classroom teachers, regarding the ways to best prevent and help students cope with stress and anxiety, especially in teachers who could start using different methods and techniques to help their students thrive and have more positive school experiences.

93. **Rebecca Tosti**   *Sponsor: Maria Bollettino*

The German Immigrant Experience Through the Lens of German Language Instruction in Public Schools 1848-1900

Beginning in 1848, an influx of German immigration to the United States influenced a change in language policy and instruction in several United States public schools. Several models of German language instruction were implemented throughout the Mid-West, including bilingual instruction and German as a foreign language. This poster questions the connections between language pedagogy and the German immigrant experience, relating both pedagogical and historical research to explore the impact of public education on German-Americans. An analysis of public and popular opinions on German language instruction are considered, and this project assesses the significance of language trends and educational controversy for the German immigrant experience.

94. **Corey Tulloch**   *Sponsor: Maria Bollettino*

Puritan Thought in the English Civil War

An overview and explanation of the theological and philosophical tenets of Puritan thought (before, during, and shortly after) the English Civil War.

95. **Danielle Umanita and Samuel Wayson**   *Sponsor: Kate Caffrey*

KCACTF Irene Ryan Nominee Performance

A monologue performance from 'Night Mother by Marsha Norman and a scene from Lysistrata by Aristophanes

96. **Daphne-Ann Vessiropoulos**   *Sponsor: Argyroula Stamatopoulou*

Computational analysis of human γD-crystallin and mutants; effects on protein structure and stability

Human γD-crystallin (HγD-Crys) is a monomeric protein found within the lens of the eyes. The protein is composed of two β-sheet domains, connected by a central hydrophobic cluster. The cluster itself consists of Met43, Phe56, and Ile81 at the N-terminal domain and Val132, Leu145, and Val170 at the C-terminal domain. Peripheral interactions with the cluster occur between Gln54/Gln143 and Arg79/Met147 respectively. Mutations that occur within HγD-Crys induce protein aggregation and insolubility, specifically with regards to the single mutation of Arg58 to His58. A mutation occurring at this position destabilizes the N-terminal domain by reducing phase transition barriers and results in a greater population of a single folded, domain intermediate. Covalent damages result in a partially unfolded crystallin species that does not polymerize through loop-sheet insertion or domain swapping. The purpose of this experiment is to investigate the thermodynamic parameters that surround the mutation of HγD-Crys. Because experimental alanine scanning is expensive and time consuming, theoretical methods are necessary. Bond affinities are generated by Schrödinger BioLuminate, and prime energies and solvent accessible surface areas are therein calculated. These values are then compared to experimental values in an effort to understand the limitations and accuracy of computational analysis.

97. **Sarah Wenzel** *Sponsor: Bridgette Sheridan*

The Divide between Lesbians and the Women's Liberation Movement during the Sexual Revolution

This presentation will look at why the divide occurred between these two groups and what the outcomes of this divide were.

98. **Alexandra Yershov** *Sponsor: Karen Druffel*

IoT and monitoring health

IoT is a computing concept that describes the idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices. With devices having sensors and sending out "warnings", are consumers relying on IoT to keep them safe? One great example of IoT is "wearable technology". Wearable technology includes things like activity trackers, smartwatches and devices for eldercare. When looking at smartwatches specifically one can gain insight into sleep cycles, heart rate and blood pressure. Are we as a society starting to replace or rely on our electronics to keep us healthy rather than listening to our bodies? We will survey people to gain quantitative data on if people put off scheduling an appointment with their healthcare provider if their smartwatches did not show any signs of trouble.

133. **Jeneba Aruna and Zhanet Marinova** *Sponsor: Eugene Miller*

Inefficient Antibodies In Dogs Against The Fight Of Staphylococcus Pseudinermedius Bacterium

Staphylococcus pseudintermedius is a bacteria that is responsible for causing infectious diseases in both humans and dogs. S.pseudintermedius causes pyoderma in dogs when there is disturbance in equilibrium of the cutaneous layers of dog's skin. When dogs have pyoderma their skins develop pus-filled centers, flaky patches, dry skin, itchiness and hair loss. The treatments currently available for pyoderma in dogs are typical therapy, shampooing therapy, and systemic therapy. In all these treatments antibiotics is the main source of administration. The purpose of our study was to identify surface proteins of S.pseudintermedius that can be used to make vaccine for pyoderma hotspots. Bacterias was obtained orally from pyoderma and normal dogs, and then cultured on triticale soy agar. The bacteria proteins were then separated by molecular size using electrophysiology methods. Gels were stained and western blotted to visualize the protein's presence. The dog's antibodies did recognize almost all of the proteins of the bacteria, but, nothing could be concluded because too much proteins were recognized. This is due to the dogs making antibodies for most S.pseudintermedius strains that are not effective at fighting the bacteria; instead, they allow it to flourish.

134. **Kayla Chan, Maleeha Mansoor and Andrew Ramirez** Sponsor: Eugene Miller

Preliminary Identification of Conserved Surface Proteins in Staphylococcus *pseudintermedius* for a Vaccine to Prevent Canine Pyoderma Canine pyoderma, "hot spots" is a pyogenic skin infection that is caused by *Staphylococcus pseudintermedius. S. pseudintermedius* has been identified as the primary bacteria that causes canine pyoderma. Canine pyoderma is commonly treated with antibiotics, which has caused an increased resistance to drug treatments. Protein analysis was done through the western blotting procedure, which is used to identify conserved proteins across 14 strains of the *S. pseudintermedius* bacteria. The proteins were identified using two antisera probes derived from mice that had exhibited a protection against *S. pseudintermedius* in previous experiments. A surface protein is recognized by an antiserum that is conserved in each of the S. *pseudintermedius* bacteria strains.

Common surface proteins that were identified in strains 10 and 23 were recognized by antisera Protected Mouse 1 and 2 can be potential candidates for developing a vaccination against *S. pseudintermedius*.

GRADUATE ABSTRACTS

99. **Karissa Burnham**   *Sponsor: Nancy Bittner*

Identifying Factors that Affect Nursing Faculty Satisfaction: An Integrative Review

Objective: The purpose of this integrative review is to discover factors that affect nursing faculty satisfaction.

Background: The shortage of nursing faculty is one of the main reasons why thousands of eligible student candidates are being turned away from nursing programs. Identifying what the factors are provides an opportunity to implement change and modification and ultimately, increase satisfaction and retention rates of nursing faculty.

Evaluation: The present integrative review searched electronic databases including the Cumulative Index to Nursing Allied Health Literature Plus with Full Text (CINAHL), OVID, Google Scholar, and ScienceDirect for articles published between the years 2008-2018. Keywords utilized were nurse faculty, nurse instructor, nurse educator, nurse teacher, satisfaction, dissatisfaction, and factors. Of the 258 articles extracted, only 12 remained for the final analysis and underwent a quality assessment with Hawker and Payne's Quality Assessment tool.

Key Issue: The articles included in the analysis investigated factors affecting nursing faculty job satisfaction. Although there was a cumbersome number of factors recognized, three common key concepts surfaced repeatedly. The concepts were support, teaching experience, and compensation that were shown to contribute most with nursing faculty satisfaction.

Conclusion: The findings display there are obvious factors altering the satisfaction of nursing faculty. With acknowledgment of these findings, nursing programs can begin formulating plans to improvise and thus improve and maintain the satisfaction of nursing faculty. Those satisfied with their jobs have a higher intent to stay and a more willingness to train and assist others.

100.   **Moira Carroll**   *Sponsor: Nancy Bittner*

Strategies to Promote Psychological Safety During Interprofessional Simulation

Psychological safety is the belief that team members are safe to take risks and that they can make mistakes without consequences. Despite the well documented need to create a psychologically safe environment for learning and the success of teams, it is unclear as to what strategies best foster this important psychological state in nursing education platforms. The purpose of this integrative review was to synthesize current research on strategies that nurse educators can use to foster psychological safety during interprofessional simulation. Seven articles were deemed appropriate for this integrative review and assessed with an appraisal tool. Three major themes arose, including the importance of assuring learner readiness, the required qualities of the facilitator, and the internal factors of the learner. Hierarchical barriers, lack of time for reflection during debriefing, and the need for formative versus summative evaluations were identified as obstructers to psychological safety. Best practices to promote psychological safety were identified. Implications of these finding can promote learning and teamwork during interprofessional simulations. All studies recognized a need for more research on the topic. Many studies called for a universal tool to measure psychological safety in interprofessional simulations.

Keywords: psychological safety, nurse educator, interprofessional simulation, integrative review, teamwork

101. **Amy Chiasson** *Sponsor: Lisa Thomas*

Effective Strategies Nurse Leaders can Implement to Reduce Workplace Violence

BACKGROUND: Workplace violence (WPV) has become all too common in the healthcare setting. Nurses are exposed to verbal and physical violence which can have emotional and physical effects, impacting the nurse, organization, and patient care. Nurse leaders play a significant role in promoting a safe milieu. AIM(S): The purpose of this integrative review is to examine the evidence for effective strategies nurse leaders can implement to reduce workplace violence. METHOD: An integrative review was conducted utilizing the Whittemore and Knafl framework. A comprehensive search was completed through the search engines Cumulative Index to Nursing Allied Health Literature (CINAHL) and PubMed with a hand search through Nurse Education Today. Nine articles were selected that addressed effective strategies nurse leaders can implement to reduce workplace violence and identified meeting the inclusion and exclusion criteria. RESULTS: Four themes emerged from the research: Environment, Organization, Teamwork, and Internal are areas where nurse leaders can have an impact. Research shows that positive changes in the environment can help reduce WPV. CONCLUSIONS: Nurse leaders have an opportunity to implement effective methods that will provide a safe milieu for patients and staff. Nurse leaders can be at the forefront by taking an active role at organizational and unit levels.

102. **Sara Cobb** *Sponsor: Lisa Thomas*

Unit Restructuring and Nurse Retention

Objective: To identify strategies for staff nurse retention when an acute care unit is restructured.

Background: Hospitals undergo organizational change to meet the needs of the population and institution or mergers between healthcare systems. Restructuring acute care units creates upheaval to the staff leading to increased job dissatisfaction and emotional stress. Some nurses will leave the unit increasing financial costs and the loss of valuable expert staff.

Methods: The Whittemore and Knafl process for conducting an integrative review was used. The literature search spanned January 2000 – November 2018. Eleven research articles met the criteria established.

Results: Decreased satisfaction, job insecurity, poor communication, and social disruption are implicated in reduced nurse retention. Resilience, education, leadership style and Magnet status contribute to nurse retention.

Conclusion: Nurse leaders can improve nurse retention with leadership style and providing a vision. Empowering staff and facilitating staff integration will improve nurse retention.

103. **Emily Crossen** *Sponsor: Nancy Bittner*

The Impact of Using Simulation to Prepare Nurses to Care for Rapidly Deteriorating Patients: An Integrative Review

The acuity of patients on inpatient floors is increasing, therefore nurses on the floors must be prepared to care for rapidly deteriorating patients. Simulation is an education method that can be used to prepare nurses for this complex role. Simulation is widely accepted as a valuable teaching tool for health care

professionals. An integrative review was completed to determine the impact of using high-fidelity simulation to prepare inpatient floor nurses to care for rapidly deteriorating patients. The integrative review consisted of 12 articles published between 2009 and 2018, which were evaluated using a validated tool. Once articles were selected, data was synthesized thematically. It was determined that using simulation of rapidly deteriorating patients with licensed nurses usually results in increased confidence, knowledge, and skills. The effect of simulation on patient outcomes is difficult to determine as there is limited literature which examines how patient outcomes are affected by nurses' participation in simulation. Simulation can be used to prepare nurses for care for rapidly deteriorating patients, but further research must be done to determine how teaching nurses using simulation effects patient outcomes.

104.   **Asheley Davis**   *Sponsor: Lisa Thomas*

Strategies to Support the Future Nurse Leaders: An Integrative Review

Objective: To examine leadership strategies that can promote effective communication among multigenerational nursing staff.

Background: Generational differences are linked with ineffective communication leading to decreased quality patient care.

Methods: Integrative review utilizing Whittemore and Knafl's framework, eight articles were analyzed for overall quality. Seven studies were quantitative and one was qualitative. Study samples included nurses working in hospitals in the United States and Canada; one study surveyed graduating nurses.

Results: Three themes emerged: understanding differences, embracing similarities, and common concerns. Three articles highlighted differences, five emphasized similarities, and three discussed common concerns.

Conclusions: This review provides information on multigenerational nursing staff. It revealed that the generational cohorts are more similar than different and that each cohort has strengths that need to be recognized and utilized to their full potential. Leadership should strive to understand the different cohorts, involve representatives in group decisions, and promote cross-generational values to improve intergenerational communication and ultimately patient care.

105.   **Jacqueline Dow**   *Sponsor: Nancy Bittner*

Best Practices for Including Health Literacy Education in Nursing Education: An Integrative Review

Patients' health literacy levels are directly associated with health outcomes. Only 12 percent of adults in the United States have adequate health literacy, indicating the scope of the importance of health literacy education in nursing education. Since nurses are on the frontline of patient care and are the main provider of patient education, health literacy education must be included in nursing curriculum. To date, there are no concrete guidelines that direct the inclusion of health literacy education in nursing education, meaning that nursing students may not be receiving adequate health literacy education to care for patients. This integrative review investigated the best practices for including health literacy education in nursing education. Specifically, important health literacy concepts and effective teaching methods were explored. Ten articles were evaluated for quality and strength of the research using a critical appraisal tool. The articles were reviewed for emerging themes regarding health literacy concepts and effective teaching methods. Five common themes emerged from the research. Important health literacy concepts to include in nursing education are health literacy assessment tools, communication techniques, and

patient education techniques. Effective teaching methods include early and frequent health literacy education and active teaching methods. This review provides information about important health literacy concepts and teaching methods to include in nursing education so that nurses have the tools to educate patients of all health literacy levels.

106.   **Susanne Forest Beatty**   *Sponsor: Nancy Bittner*

Does incivility in nursing education affect faculty retention?

Incivility in nursing education is a phenomenon that threatens the future of nursing education and the recruitment and retention of qualified nursing faculty. The far-reaching impact of incivility, if not addressed and eliminated, will burden academic nursing programs and contribute greatly to current and future nursing shortages. The purpose of this integrative review is to examine the incidence and occurrence of incivility in nursing education and the impact it can have on the retention of nursing faculty. To examine the current state of incivility in nursing education and its effect on faculty retention, a comprehensive review of the literature was carried out. After eliminating literature that did not meet inclusion criteria, ten articles that demonstrated the current state of incivility in nursing education were included in the review. Academic incivility leads to an atmosphere of stress and uncertainty. Uncivil behaviors can range from verbal abuse escalating all the way to physical acts of aggression or violence. Four themes emerged from this review including the importance of leadership skills and role modeling, implementation of strategies to combat the effects incivility can have in the academic environment, the characterization of actual or perceived uncivil behaviors, and ways to successfully address incivility when it occurs allowing for safe and effective nursing practice. All nurses must be held accountable for promoting a collegial environment where there is mutual respect for each person's individual thoughts, feelings, and opinions. This is the only way to ensure the retention of qualified nursing faculty.

107. **Dawn Garrity-Woods** *Sponsor: Nancy Bittner*

Factors That Influence the Diverse Student's Decision to Pursue Nursing School

The diverse student's decision to pursue nursing school is influenced by a combination of strategies and barriers. By 2060, 56% of the U.S. population will be minorities. Currently, only 24% of nurses are minorities. Identifying what impacts the diverse student's decision to pursue nursing school is crucial to promoting diversity in the nursing profession. The purpose of this integrative review was to examine factors that influence the minority student to pursue a nursing education. Whittemore and Knafl's methodology for literature review was utilized. Hawker and Payne's tool was employed for critical appraisal of selected articles. The literature search yielded 11 articles. Three themes emerged- perception, recruitment, and holistic admissions. The public's perception of nursing is often inaccurate. The issues of intellectual capability, academic requirements, role autonomy, use of technology, and leadership opportunities in nursing requires clarification. High school guidance counselors are frequently confused about nursing educational tracks, required GPAs and rigorous academic prerequisites. Recruitment strategies of minorities is complex but pipeline programs and an institution's supportive measures at application time provide some success. Holistic admissions that incorporate personal interviews, an applicant's attributes and service history, along with the GPA, have been shown to increase diversity. Implementation of holistic admissions is lacking. Three areas were identified as influencing the diverse student's decision to pursue nursing school- perceptions of the nursing profession, recruitment strategies, and holistic admissions.

108. **Zinta Gulens-Grava** *Sponsor: Lisa Thomas*

Leadership Strategies To Promote Effective Communication Among Multigenerational Nursing Staff

Objective: To examine leadership strategies that can promote effective communication among multigenerational nursing staff.

Background: Generational differences are linked with ineffective communication leading to decreased quality patient care.

Methods: Integrative review utilizing Whittemore and Knafl's framework, eight articles were analyzed for overall quality. Seven studies were quantitative and one was qualitative. Study samples included nurses working in hospitals in the United States and Canada; one study surveyed graduating nurses.

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Conclusions: This review provides information on multigenerational nursing staff. It revealed that the generational cohorts are more similar than different and that each cohort has strengths that need to be recognized and utilized to their full potential. Leadership should strive to understand the different cohorts, involve representatives in group decisions, and promote cross-generational values to improve intergenerational communication and ultimately patient care.

109. **Danielle Gulizia** *Sponsor: Nancy Bittner*

Strategies that can Effectively Promote Critical Thinking in Novice Nurses: An Integrative Review

An increasingly complex health care system, high patient acuity, and advanced technology demand the use of critical thinking and decision-making skills in the nursing profession. The novice nurse, however, lacks the development of those skills. The purpose of this integrative review was to examine the current state of knowledge on critical thinking in novice nurses. Particularly, this author aimed to identify the most effective teaching strategies to promote critical thinking in novice nurses. A literature review was performed using CINAHL (Cumulative Index to Nursing and Allied Health Literature) Plus with Full Text and MEDLINE to search for publications between 2008 and 2018. Search terms utilized were critical thinking, novice nurse, teaching strategies, critical thinking skills, new graduate nurse, and newly licensed nurse. Whittemore and Knafl's (2005) approach was used as a guide for the methodological review. 13 articles were selected for inclusion in the review- four qualitative studies and nine quantitative studies. Each article was evaluated using the appraisal tool by Hawker, Payne, Kerr, Hardey, and Powell (2002). Several concepts emerged that can be influential to novice nurses' critical thinking. These include orientation, simulation, reflective learning, problem-based learning, case study, and concept mapping. This review supports the importance of implementing one of or a combination of these teaching strategies to enhance the critical thinking ability of novice nurses.

110. **Cody Hedglin** *Sponsor: Nancy Bittner*

The Impact of Mentorship on New Nurse Faculty

In 2017, there was a total of 1,567 vacant nurse faculty positions across the United States. The need is not only to recruit, but also to retain nurses entering this field. New faculty note that it is difficult transitioning from a clinical setting into a role as an educator in academia. Mentorship has often been one popular intervention used to help alleviate these growing calls for proliferation. The purpose of this integrative review is to inspect what is the impact of mentorship on new nurse faculty. A comprehensive literature search was performed using three databases (CINAHL, Ovid, and Pubmed) dating back 10 years to identify current research about how mentorship affects new nurse faculty. A total of 14 articles were identified that met inclusion criteria. There were three main common findings that threaded themselves throughout multiple articles: increased rate of faculty skill acquisition and development, increased self-confidence and feelings of inclusion, and increased likelihood of job retention. Upon reflection of the current state of the research regarding mentorship and new nurse faculty, it is vital for academia to further embrace the importance of formalized mentorship programs. These institutions play a vital role in the confidence, collegiality, and retention rate of new nurse faculty. These formalized programs should be the cornerstone of the solution to create a dynamic next generation of nurse faculty.

111. **Shelby Hickox** *Sponsor: Nancy Bittner*

The Impact of Telehealth Education on Pre-licensure Nursing Students: An Integrative Review

Telehealth is the use of technology to provide education, clinical care, and public health services in a long-distance format. Healthcare is shifting towards preventative care, requiring nurses to become adept in telehealth communications starting at the pre-licensure nursing level. The purpose of this integrative review was to examine the impact of telehealth education on pre-licensure nursing students. Eight articles met the inclusion criteria for this integrative review. Three topics emerged related to the impact of telehealth education on pre-licensure nursing students. Increased knowledge was described in four of the eight articles with simulation experiences and an online learning module as examples of teaching methods. Confidence levels of nursing students related to telehealth usage were varied and only

mentioned in two articles. Attitude and perceptions were addressed in seven out of the eight articles with both positive and negative attitudes related to telehealth. Although four articles mentioned teaching methods regarding telehealth, the body of literature showed inconsistent and unclear incorporation of telehealth into pre-licensure nursing education. Nurse educators must examine how they are preparing pre-licensure nursing students to utilize telehealth in future nursing practice and incorporate more telehealth into curricula. Further research is needed in the best methods to teach telehealth concepts, how telehealth inclusion affects student confidence in telehealth usage, and how attitudes/perceptions regarding telehealth are developed after exposure to telehealth education.

112.   **Karen Hylan**   *Sponsor: Nancy Bittner*

Impacting Moral Distress in Nurses Providing End-of-Life Care

Moral distress among nurses is common in acute care settings where ethically difficult situations may be encountered caring for patients at end-of-life. An integrative review methodology was used to examine moral distress in nurses providing end-of-life care (EoLC) in acute care settings and identify strategies to mitigate the frequency and intensity of moral distress. The results showed five predominant concepts impacting moral distress among nurses: EoLC conflicts, empowerment, EoLC education, communication, and organizational support. Decisions and actions made by physicians or family regarding aggressive or futile care emerged as a major source of moral distress in nurses. The results also revealed that as empowerment increased, the prevalence of moral distress decreased. Strategies to mitigate moral distress in nurses included: creation of multidisciplinary ethics-discussion groups with debriefing sessions, EoLC education, empowerment programs, reflective practice, and greater organizational support. Nurse educators can play a role to mitigate the impact of moral distress by active involvement in the development and ongoing support of these programs. Further research is needed to measure the effect of these interventions on the intensity and frequency of moral distress in nurses.

113.   **Lore Innamorati**   *Sponsor: Lisa Thomas*

Strategies to Improve Staff Retention Among Millennials

Objective: Identify strategies to improve Millennial staff retention

Background: The high turnover rates from an aging workforce and inability to retain Millennial nurses has the potential to impact patient outcomes and contribute to the added nursing shortage.

Methods: An integrative review was conducted applying the Whittemore and Knafl framework, resulting in 10 articles which were evaluated for quality and themes.

Results: The themes that emerged were: (a) leadership support; (b) relationships; (c) recognition and value; (d) Opportunities and mentorship; and (e) control of work-life and practice.

Conclusions: Understanding generation-specific incentives to remain can impact the development of personalized strategies to promote retention. Ensuring nurses are engaged, valued, supported by leadership, peers and other disciplines, as well as having control over their practice are some strategies to improve Millennial staff retention. Applying these strategies will provide a stage for organizational success as well as long-term sustainability of the nursing workforce.

114.   **Lynne Johnston**   *Sponsor: Nancy Bittner*

Educational Strategies to Assist Newly Licensed Registered Nurses Transition to Professional Practice

Newly licensed nurses are leaving their first work experiences within the first year of employment. The purpose of this study was to find the common reasons for leaving and how nursing educators can use that information to build better support programs for transition into practice and promote retention. This integrative review design was used to search for nursing literature. The use of PubMed (MEDLINE) and the Cumulative Index to Nursing and Allied Health (CINAHL) helped identify relevant information. Common themes emerged, fear of failure, job stress, feeling unprepared for workload, incivility, and communication skills. Identification of the most used orientation models was achieved and comparisons made to their effectiveness. The results showed that nurses benefit from new graduate training programs and the use of formally trained preceptors help with the first months of anxiety-producing transition into nursing practice. Nursing is considered one of the fields with the greatest growth potential it is imperative that the new nurse is afforded a structured, precepted orientation to assist with a smooth transition into practice and promote retention. Nursing educators both academic and clinical agree this is a problem that needs attention and collaboration is needed to truly affect change.

115.   **Jennifer Jorgensen**   *Sponsor: Lisa Thomas*

Quantifiable Outcomes of Phased Orientation for Nurses in Healthcare Organizations: Integrative Review

This integrative review synthesizes the literature delineating the quantifiable outcomes of phased orientation program designs for nurses in healthcare organizations. Fostering new graduate nurses and experienced nurses during role transition is imperative. Four major themes materialized: independent practice, job satisfaction, retention rate, and financial significance. Hospital administrators and nursing professional development practitioners need insight into the beneficial outcomes of phased orientation for new graduate nurses and experienced nurses on-boarding to preserve maximum operational success.

116.   **Marci Kling**   *Sponsor: Nancy Bittner*

Inter-Professional Simulation in the Operating Room

Aim: The purpose of this integrative review is to examine the impact inter-professional simulation has on OR staff and team dynamics. Background: The operating room (OR) remains a high risk area for sentinel events, with breakdown in communication identified as a root cause. Inter-professional simulation training is one educational approach to teaching nontechnical skills (NTS), such as communication and teamwork to OR teams. Method: A thorough search was conducted in CINAHL, MEDLINE, ERIC, and PubMED from January 2008 to December 2018 for keywords: communication, team training, operating room, and simulation. Inclusion criteria focused on NTS training amongst OR teams, with nurses actively participating in simulation. Filters included full text, English, and peer reviewed articles. A total of 12 research articles were reviewed, 8 quantitative and 4 mixed methods studies. Each article was appraised with the Hawker, Payne, Kerr, Hardey, and Powell (2002) critical appraisal tool. Results: Four themes emerged with improvements in: communication, role clarification, team cohesion, and changes in personal behaviors. Conclusions: Inter-professional simulation has a positive impact and improves NTS amongst OR teams. Formal debriefings are essential for effective communication. Team cohesion continues post-training. Reinforcement training is recommended to maintain speaking up behaviors. Simulation can break down hierarchal barriers in the OR. Interactive training increases confidence in handling crisis situations and inspires staff to change personal behaviors to provide safer patient care.

Training enhances staff's perception of the safety culture of their institution. These improvements lend themselves towards improving patient outcomes, yet further research is needed.

117.   **Kathleen O'Donoghue**   *Sponsor: Nancy Bittner*

The Barriers to Evidence-Based Practice in Clinical Nursing

Aim- The purpose of this integrative review is to identify the barriers to Evidence-Based Practice as related to the clinical nurses. The implementation for Evidence-Bases Practice (EBP) has been advocated for many years to bridge the gap between science and practice. The integrative review identifies three common areas for consideration; time commitments and challenges with staffing, limited experience in identifying evidence, and organizational factors.

Background- Evidence-Based Practice (EBP) is defined as the care that is delivered to patients that integrate best scientific evidence with clinical expertise, and the decision making preferences of the patient.

Methods- The methodology is an integrative review.

Results- Researchers reported that the lack of time is the most common barrier. Clinical staff nurses are task driven and cope with heavy workloads. Nurses may limit their information searches to obtaining patient-specific data. The research shows the next barrier statistically in line is the ability to understand the technical verbiage used in research articles. The implementation of EBP is imperative in today's healthcare climate of healthcare reform. While managing escalating costs, hospitals are standardizing practices based on EBP. Significant facilitators report nurses utilize EBP when the dedicated time is provided to learn and practice EBP. Leadership support, promotion, and integration of EBP into all disciplines, communication, and role modeling, and quickly accessible sources increase utilization. Organizational readiness is a barrier to EBP. There is a reported difference in EBP and the staff nurse in Magnet versus non-Magnet hospitals.

Conclusion- Many programs have been developed to aid in fostering EBP. Educators, nurse directors, and the organizations will need to encourage and evaluate methods that are currently in place. The researchers suggest more evidence is required in the area.

118.   **Denise Palmer**   *Sponsor: Nancy Bittner*

Using Simulation to Teach Nursing Students about End-of-Life Care

Out of the 80% of patients in America who wish to die at home, only 20% will. Most will die in a hospital or long-term care facility. Many nursing school curricula are not meeting national end-of-life (EOL) care teaching guidelines, and nursing students feel unprepared to take care of these patients. Simulation has been shown to be an effective teaching strategy when dealing with emotionally charged issues like EOL care. An integrative review was conducted to analyze 15 published research articles, utilizing various methodologies, and evaluated using a quality appraisal tool. The outcomes from this review support that students gained confidence, knowledge, and skills, and were more satisfied using simulation to teach EOL care compared to traditional didactic teaching methods. Simulation is considered a strong and viable pedagogical approach to effective learning. Further research needs to be done to determine whether exposure to EOL care simulation during undergraduate studies have made any changes in future patient outcomes and nursing practice.

119. **Sabrina Raymond**   *Sponsor: Nancy Bittner*

What teaching strategies enhance clinical judgment skills in nursing students?

Introduction: Existing research shows new graduate nurses lack adequate clinical judgment skills to safely perform their daily duties. Clinical judgment involves noticing changes in the patient's clinical status, correctly interpreting them, responding with evidenced based practice as necessary and then evaluating those decisions. The National Council of State Board of Nursing (NCSBN) is making changes to the licensing exam to address the practice gap. It is important to understand how educators can better prepare students for these changes in testing and the demands of practice. The purpose of this integrative review is to investigate what teaching strategies enhance clinical judgment skills in nursing students.

Method: A search of eight scholarly databases was conducted to locate relevant research articles published between 2008-2018. The Hawker-Payne tool was utilized to appraise the articles.

Results: The search resulted in a total of 12 articles suitable for this review. Through the analysis process, simulation was the major reoccurring strategy. Within the simulation strategy; expert-role modeling, pre-briefing and de-briefing were effective in enhancing clinical judgment.

Conclusion: Specific teaching strategies that enhance clinical judgment in nursing students were identified. The current science supports further investigation into the integration of these strategies to current curriculum.

120. **Jennifer Riley**   *Sponsor: Nancy Bittner*

Nurses' Perceptions of the Implementation of the Baby-Friendly Hospital Initiative on Nursing Practice: An Integrative Review

Background: Perinatal nurses play a meaningful role in the implementation of the Baby Friendly Hospital Initiative (BFHI), yet to date there has been no integrative review focusing specifically on the nurse's experience with the adoption of the initiative's Ten Steps to Successful Breastfeeding.

Purpose: The goal of this integrative review is to examine what obstacles and facilitators nurses encountered during their journey in the adoption of the BFHI and how these perceptions framed their BFHI implementation experience.

Methods: A total of 12 articles were examined using a validated appraisal tool to assess for quality and strength of the research. Findings relating to nurses' experience adopting the BFHI were categorized into identified barriers, positive influences and perceptions of the pathway. These findings were then synthesized, and concepts were compared and analyzed to identify common experiences among nurses.

Results: Inadequate nursing knowledge, institutional barriers, and maternal unfamiliarity with BFHI were identified as obstacles to nurses' adoption of BFHI principles. Optimal nurse staffing, lactation and administrative support, and improved unit workflow were identified as facilitators to BFHI implementation. Nurses identified experiences of commitment, community buy in and pride as part of the journey to BFHI adoption.

Conclusion: While adoption of the BFHI is a complex change process, nurses need backing from both stakeholders and families in order to fully implement the initiative. Staff and family education, provider support and knowledge, and overall cultural shifts towards the adoption of breastfeeding as normative feeding practice are all facilitators in BFHI acceptance.

121. **Julie Rosato**   *Sponsor: Lisa Thomas*

Nurse Leader Barriers to Implementing Joy in Practice

Aim: To understand barriers nurse managers face in implementing joy in practice.

Background: Nursing turnover is on the rise and is linked to poor patient outcomes and high costs to replace and retrain staff. Nursing leaders have an opportunity to increase joy in practice to retain staff.

Design: A systematic integrative review.

Data sources: CINAHL, PubMed, ancestry and hand searches were conducted from September 2018 through November 2018.

Review methods: Whittemore and Knafl (2005) framework and mixed methodology to include both qualitative and quantitative studies and 9 studies were chosen based inclusion criteria that addressed the aim.

Results: Three themes emerged once the data was synthesized, and they include, education and mentoring, lack of resources, and a disconnect between front line nurse managers and their executive leadership.

Conclusion: Joy in practice is necessary for staff retentions and nurse managers are instrumental in creating a joyful practice environment. Barriers exist that preclude nurse mangers from this work and if not addressed nurse turn over will increase and patient outcomes will decline.

122. **Michelle Schuster**   *Sponsor: Nancy Bittner*

Strategies Nurse Educators Can Utilize to Promote Resilience in Nurses Caring for High-Acuity Patients: An Integrative Review

Resilience is the ability to transcend adversity and reframe stressful situations into opportunities for growth. Resilience can have positive impacts on nurses caring for high-acuity patients. Resiliency training, if properly supported and implemented, has been shown to reduce burnout, compassion fatigue, and post-traumatic stress disorder (PTSD) in nurses. This integrative review focuses on strategies the nurse educator can use to enhance resiliency in nurses caring for high-acuity patients. The databases PubMed and the Cumulative Index of Nursing and Allied Health Literature (CINAHL) were searched for peer-reviewed articles published between 2008-2018. Thirteen articles met criteria for review and were critically appraised using the Hawker, Payne, Kerr, Hardey, and Powell (2002) tool. Emergent themes for promoting resilience included utilizing electronic resources, providing trainable skills, adapting the environment, and organizing clinical on-site support. Further research is needed to determine and define the nurse educator's role in building resilience in staff nurses.

123. **Hannah Simons**   *Sponsor: Nancy Bittner*

Approaching Health Equity in Nursing Education: An Integrative Review

Background: Health equity plays a major role in the healthcare system. Nurses and nurse educators are on the frontlines in healthcare and therefore have an opportunity to address health equity. his leads to the question how nursing education and curriculum can address health equity. Method: For this integrative review, ten research articles were found via various search engines and were analyzed and appraised via the Hawker, Payne, Kerr, Hardey, & Powell (2002) critical appraisal tool. These articles

were chosen based on their quality and substance, all discussing nursing education and health equity. A data matrix was created to summarize the articles. Results: The ten research articles resulted in three ways nursing education and curriculum can address health equity. These three themes are discussion and critical reflection, cultural experience, and other creative teaching modalities beyond the didactic lecture. Conclusion: Nursing education has an opportunity to play a vital role in addressing and improving health equity. Nurse educators address and incorporate health equity into the curriculum through various teaching strategies. More research needs to be done on how this impacts nursing students, nurses, and overall health equity and patient health.

124. **Jill Sullivan** *Sponsor: Nancy Bittner*

Moral Resilience as a Strategy to Alleviate Moral Distress in Nursing: An Integrative Review

The purpose of this integrative review was to identify if factors that contribute to moral resilience have a positive effect on moral distress in nursing. Strategies to promote resilience and outcomes from nursing research were also examined. The search resulted in 13 articles for inclusion. Emerging themes: Status of having moral distress and variables that are influential on moral distress, state of resilience and variables that are influential on resilience, and resilience strategies which impact moral distress. Continued research to support moral resilience as a strategy is needed to validate whether building moral resilience will lead to a positive method for mitigating the negative consequences of moral distress in nursing. Special consideration needs to focus on highly impactful resources with low utilization which could be areas for improving resilience and aid in sustaining resilience efforts.

Search terms included moral resilience, moral distress, research, nursing, moral residue, and education.

125. **Michael Tady** *Sponsor: Lisa Thomas*

Shared Governance Impact on Patient Outcomes

Objective To identify the impact of shared governance on patient outcomes.

Background Shared governance is a part of many organization's professional practice model, and has shown to benefit nurses in multiple ways. Understanding how shared governance impacts patients could be valuable when deciding upon a shared governance structure.

Method An integrated review method was utilized, resulting in nine research articles for evaluation. The evidence was assessed and resulted in themes.

Results When examining the relationship between shared governance and patient outcomes, impact was identified through four interrelated themes. The emerging themes included care environment, Magnet, patient impact, and impact on nursing. The evidence was examined through these themes.

Conclusion The evidence suggest that shared governance positively impacts patient outcomes. Therefore, involvement in shared governance should be embraced by nurses and supported by nursing leadership. Further research is recommended to identify the nuances of shared governance that influences patient outcomes.

126. **Suzanne Taylor** *Sponsor: Nancy Bittner*

School Nurse Strategies to Identify and Support Victims of Child Sexual Exploitation and Abuse

Sexual Abuse (SA) and Commercial sexual exploitation of children (CSEC) have been associated with numerous adverse health effects affecting both physical and mental health. School nurses, as non-judgmental, trusted primary care providers, are in an ideal position to identify and support these children. This integrative literature review seeks to determine the state of the evidence regarding CSEC, SA and school nurses. Twelve research articles were critically appraised to determine quality and strength of the research. Selected articles were reviewed and then assessed for themes. Five major themes emerged to include role confusion, need for training, trust creating process, avoidance by the school nurse and the need for tested and approved screening tools. Further research is needed to account for the perspective of the child in relation to the school nurse's role, strategies to assist with identification, assessment and support for these students, and development of screening tools.

127.   **Mariama Tejan-Siesay**   *Sponsor: Lisa Thomas*

Qualities Acquired by a Nurse Leader through the Development of Higher Level of Emotional Intelligence

OBJECTIVE: This study examines the qualities acquired by a nurse leader through the development of higher level of emotional intelligence (EI).

BACKGROUND: EI has emerged as an important concept in healthcare that is vital for nurses in leadership positions to engage in relationships that ensure success. Limited resources, more acutely ill patients, and organizational demands have caused the need for emotionally intelligent leaders.

METHODS: A systematic review was conducted using a PRISMA flow diagram and a Matrix system to identify studies with data that relates to a nurse leader with high EI.

RESULTS: Leaders with higher level of EI acquired personal, professional, and leadership qualities. High level of EI was positively correlated with better health and work performance, effective stress management, and positive relationship with staff.

CONCLUSION: Developing higher level of EI is essential to acquiring the personal, professional, and leadership qualities needed to ensure a successful leadership experience.

128.   **Mary Tenney**   *Sponsor: Lisa Thomas*

Mentoring and the New Nurse Leader

Objective: To critically appraise and synthesize studies which focused on the role mentoring played during the transition from staff nurse to nurse leader.

Background: Nursing leadership requires an additional and complex skillset from that of the direct care nurse and yet there is an unequal distribution of support provided during transition.

Methods: A systematic search using Whittemore and Knafl's integrative review method was conducted.

Results: Study results promote the use of mentoring to advance the professional growth, and to boost the competency of emerging nurse leaders provided there is organizational support. Further findings revealed this was not a widely accepted practice, contributing to unintended consequences and missed opportunities.

Conclusions: This review provides evidence that further exploration of incorporating the use of mentoring into the transition process of a nurse leader is warranted. Given the complex role of the nurse manager, this has direct relevance to nursing practice.

129. **Donna Terry**   *Sponsor: Nancy Bittner*

Preferred Orientation Methods of Newly Licensed Nurses

Retention of newly licensed nurses (NLN) is a problem concerning healthcare institutions resulting in the loss of nurses within their first year of practice. Transition into practice programs, which include orientation and mentoring have been identified or included in the literature for many years to mitigate the loss of NLNs. An integrative review was conducted with the purpose of identifying the preferred orientation methods of NLNs resulting in 13 articles. Some of the major themes identified in the literature included a strong preceptor-orientee relationship, support from colleagues, and communication skills training. A strong preceptor was identified as an experienced nurse that was able to give positive constructive feedback, and supervision. Support took multiple forms from informal acceptance from colleagues to formal mentoring. Based on these findings recommendations include having a strong consistent preceptor throughout orientation who has undergone formal training, an ongoing mentoring program to support NLNs throughout the first year of practice, and communication skills training for speaking with patients, families, colleagues, and other disciplines.

130. **Bree Toland**   *Sponsor: Lisa Thomas*

What Impact do Nurse Navigators have Outcomes of Cancer Patients?

Background Cancer continues to be a leading health problem worldwide. Cancer treatment care plans can be complex, consisting of an interprofessional healthcare team. Communication between the interprofessional team and patient and family is priority, but can be fragmented. Research suggests that this challenge will only continue to grow with the advancement of treatment options. Therefore, implementing strategies to enhance coordination of care for cancer patients is essential.

Objectives The objective is to determine the impact of nurse navigators on outcomes of cancer patients through an integrative review of current research.

Methods An integrative review was conducted utilizing the Whittemore and Knafl framework, resulting in 10 articles which were evaluated for quality and themes.

Findings Three themes were identified; impact on distress and coping, patient satisfaction, and financial impact on an organization. The literature review revealed positive impacts of nurse navigators on decreasing patient distress and improving coping skills, increasing patient satisfaction, and decreasing financial burden on an organization through improving length of stay and readmission rates.

131. **Pauline Trenholm**   *Sponsor: Lisa Thomas*

How do Nursing-Sensitive Indicators Improve Patient Care in the Ambulatory Setting? How does the Nurse Leader Influence the Development of Nursing-Sensitive Indicators?

OBJECTIVE: The aim of this integrative review (IR) is to explore how the nurse leader (NL) influences the development and utilization of Nursing-Sensitive indicators (NSI). BACKGROUND: The ambulatory setting has been lagging behind the acute care setting in developing NSI, there is a gap in literature that addresses this problem. NL's are at the forefront of developing, gathering data and using this information to deliver high quality, cost effective nursing care. METHODS: An integrative review methodology was

used, articles that investigated ambulatory NSI and acute care limited to nursing leadership involved in NSI were obtained. RESULTS: Five themes emerged from the research including, nursing satisfaction, improved patient outcomes, nursing leadership, changing practice to improve care, and quantifying nursing care. CONCLUSION: This research suggests that when NL's influence the development and utilization of NSI in their care areas patient outcomes are improved.

132.   Jeanne Marie Worthington   *Sponsor: Nancy Bittner*

The Impact of Nursing Students' Self-Care and Coping Practices on the Ability to Care for Patients

Self-care is crucial to personal health and wellness. Nursing programs focus on patient-care, however the focus does not center upon caring for oneself. The aim of this integrative review is to examine nursing students' perceptions of self-care behavior and coping skills and how these affect their role in patient care. Faculty support and strategies are researched to validate the importance of self-care education within nursing curricula. Five qualitative, three quantitative, and three mixed-method articles were obtained following a rigorous critical appraisal process using the Hawker et al. scoring tool. Exercise, relaxation practices, healthy dietary consumption, family, friend and pet support were found to be the predominant factors impacting nursing student self-care and coping practices. Strategies promoting student reflection, motivation, and capacity to learn within nursing curricula included a combination of student survey and interviews. This provided faculty with the teaching concepts necessary for the integration of self-care practices and adaptive coping skills into nursing education.The one common finding acknowledged in this review of the literature were results indicating that health perceptions and practices among nursing students improved with faculty support. They felt more accepted, included and valued. Moreover, faculty acknowledged the importance of reinforcing and strengthening self-care education. By incorporating health promotion and self-care strategies within nursing curricula, students gain a stronger perspective of the importance of personal well-being to promote healthier lifestyles.

Keywords: Nursing students, Self-care Practices, Patient care, Nursing curricula, Coping skills