



Framingham
State University

Friday, May 5, 2017
McCarthy Center, Forum
10 A.M. to 7 P.M.

6TH ANNUAL
**STUDENT POSTER &
PRESENTATION DAY**



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

CELTSS

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

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

Welcome to Framingham State University's Sixth Annual Student Poster and Presentation Day!



Today marks our sixth 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, Imranul Islam, Phoebe Lin, Suzanne Meunier, Annmarie Samar, Virginia Noon 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

Framingham State University Student Poster and Presentation Day

TABLE OF CONTENTS

PRESENTATIONS IN THE FORUM (10:00 – 11:30AM)

FASHION DESIGN AND RETAILING PORTFOLIO DAY	4
--	---

ORAL PRESENTATIONS IN ALUMNI ROOM (11:30 – 1:30PM)

ACCOUNTING, ENGLISH, FOOD AND NUTRITION, HISTORY, POLITICAL SCIENCE	14
---	----

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (1:00 – 1:45PM)

ART HISTORY, BUSINESS AND INFORMATION TECHNOLOGY, CHEMISTRY	15
COMPUTER SCIENCE, FASHION DESIGN, HISTORY	15
POLITICAL SCIENCE, PSYCHOLOGY	16
SOCIOLOGY, SPANISH	17

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (2:00 – 2:45PM)

COMMUNICATION ARTS, ENGLISH, ENVIRONMENTAL SCIENCE	18
FASHION DESIGN AND RETAILING	18
FASHION MERCHANDISING	19
HISTORY, STUDIO ART, CHEMISTRY	20

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (3:00 – 3:45PM)

BIOLOGY	21
FASHION DESIGN AND RETAILING	22
FASHION MERCHANDISING, NURSING	23

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (4:00 – 4:45PM)

BIOLOGY	25
---------	----

GRADUATE POSTER PRESENTATIONS IN THE FORUM (4:00 – 4:45PM)

NURSING	27
NURSING EDUCATION	27
NURSING LEADERSHIP	28

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (5:00 – 5:45PM)

BUSINESS AND INFORMATION TECHNOLOGY, CHEMISTRY, COMMUNICATION ARTS	28
COMPUTER SCIENCE	29

GRADUATE POSTER PRESENTATIONS IN THE FORUM (5:00 – 5:45PM)

NURSING, NURSING EDUCATION	29
NURSING LEADERSHIP	30

UNDERGRADUATE POSTER PRESENTATIONS IN THE FORUM (6:00 – 6:45PM)

BUSINESS AND INFORMATION TECHNOLOGY, COMPUTER SCIENCE, STUDIO ART	32
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ABSTRACTS

UNDERGRADUATE ABSTRACTS BY DEPARTMENT	33
GRADUATE ABSTRACTS BY DEPARTMENTS	70

Fashion Design and Retailing Portfolio Day

Friday May 5, 2017

10:00 – 11:30am

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 Fashion Design and Retailing program and to produce a portfolio required to obtain a professional position in the apparel industry. Students develop a portfolio to demonstrate knowledge and skills in: a variety of garment categories; hand and computer illustration; flat sketching techniques; and original full scale garments. Ideas are assembled in an aesthetic and professional format by integrating the components of design, fabric, and end use. A portfolio presentation is required.

Student Design Portfolio Presentations <i>Sponsor: Seunghye Cho</i>		
#	Designer's Name	Designer's Statement
1	Emily LaRosa	My design inspiration comes from the personal experiences of my life. I convert my experiences into simple, romantic designs with a strong focus on exceptional fabrics and embellishments. Each garment has a unique story that is reflected through detailed craftsmanship. I incorporating traditional tailoring with free flowing draping to create elegant garments with attention-grabbing movement that leave a lasting impression.
2	Gabriella Bono	I am inspired by my younger cousins and choose to design for children. I choose to design with clean and simple lines because it gives off a feminine and classy look. I'm mostly inspired by interior design and how simple patterns and colors can go a long way. My goal is to make little girls feel confident and strong.

Framingham State University Student Poster and Presentation Day

#	Designer's Name	Designer's Statement
3	Brianna Peter	Unexpected: one word that describes my design aesthetic and my concert performance wear inspired collection. As a designer, I like to create ready-to-wear and performance wear women's wear that is wearable, but that is still very unique from everyday attire. Music and concerts are my muse and is incorporated into the designs. My emphasis is to create structured pieces that focus on creating lines and the way that they can form to the body. All garments are constructed with a mixture of hard leather and mesh with lightweight elaborate fabrics and trims.
4	Hetyene Monteiro da Costa	Observing, embracing, and respecting the "unique shape and nature everywhere is the motive of my creations. Every design that I make is unique as is every client. My work always celebrates the woman's silhouette. As in nature, I feel as a designer that every woman is beautiful just the way they were born, and it's my job to make my client feel empowered by my design.
5	Holly Fallon	The concept of my designs is to capture human emotions within each design I create by using color. Mixing of colors is what drives my designs because I find that colors are what really spark emotion from people and I want people to feel a certain way when they look at my designs. Seeing color from the environment around me, especially things with more than one color tend to be the main influence of my designs because when I look at something and it makes me feel a certain way I wanted to use it to influence my collection.
6	Kanza Mansoor	In my design work, I am especially drawn to fabric patterns, motifs, and decorative design to add the visual interests. I create looks that reflect these interests. As a designer, I attain this by taking inspiration from different cultures. I am able to capture different styles from different cultures into my designs to make them feminine, chic and yet interesting to look at.

Framingham State University Student Poster and Presentation Day

#	Designer's Name	Designer's Statement
7	Dana Hernandez	I aspire to create unity with individuality. I am inspired by all of the strong, beautiful, and confident women in my life and I design for their preferences, body types, and personal styles while still making looks that are cohesive with one another. I look to create bridal and formal wear without making any type of woman feel excluded. I want to create clothing that invites women of any size, any ethnicity, and with any kind of style, while making each of these unique women feel powerful and beautiful.
8	Asha Suleiman	My challenge is to create designs that break barriers which can be worn by many people without compromising personal style and still very fashionable. While designing I envision my customer which leads to creation of timeless pieces specific to each individual. My goal as a designer is to create elegant designs that are remembered as fashionable. I draw inspiration from my culture, religion, heritage, buildings and my surroundings. Design is a way to free your thoughts bringing to reality the dreams within your mind and that's the reason I love designing.
9	Micaela Beando	As a designer, I have always enjoyed designing with a specific person in mind. This is important to me because it makes me happy knowing that my designs will come to life and weren't just made for a mannequin. I believe that clothes are the way someone sees himself or herself or who they want to be. My design style reflects feminine and simple silhouettes with intricate details.
10	Stephanie Savoie	Confidence and comfort are what I aim for in my designs. I create street wear for men and women and evening wear for women. I enjoy recreating simple designs by adding a twist, whether it is with pops of color, using different fabric types, or playing with seam lines. With street wear, everyone tends to wear the same garment types, so by adding my twists of design concepts, it creates something completely original.

Framingham State University Student Poster and Presentation Day

#	Designer's Name	Designer's Statement
11	Lindsay Walsh	The idea of creating a character, an entire personality, a new person, has always driven my creativity. For my portfolio, I used today's most popular trends to create a fashionable, modern version of Sweeney Todd. I used the contrast; light and dark, love and hate in order to inspire characters that would fit in on Newbury Street in Boston today. I challenged myself by using luxury fabrics, couture techniques, and experimenting with tailored menswear.
12	Meagan Freeman	I am a costume designer, first and foremost, inspired by the media I consume and absorb. Turning characters from video games, animation, and plays into real-life works of art is my passion. Designing for the characters that teach me, entertain me, and stir up emotions in me, is the reason I create. That's why I've chosen to bring to life some of my favorite card art in these Yu-Gi-Oh! inspired ballgowns.
13	Bailey Moylan	The concept of this collection is modern, chic, and functional. As a designer I was inspired by always being on the go but still wanting to make a statement. My passion for designing reflects in every garment I make.
14	Fiona Russo	As a designer I focus on mixing contrasting concepts and designs in a pleasing way. When mixing contrasting concepts a designer is able to create something entirely fresh and new. I often mix dark monotone fabrics and laces with fluorescent or pastel colors to create an energetic balance.
15	Olivia Spadafore	I design for the confident woman in all aspects of her life. She builds her confidence like the structure that goes into my designs builds up my garments. My inspiration can come from anywhere. I will take something and run with it but always coming back to that woman that I want to design for. This line had inspiration from Adele's newest album '25' where I found the inspiration for simple yet elegant designs.

Framingham State University Student Poster and Presentation Day

#	Designer's Name	Designer's Statement
16	Sharinna Mendez	The foundation of my design process is built on the credence that fashion is a language that is used to communicate who we are or who we want to be in this world. It is a simultaneous form of communication between passing individuals, meant to reflect the beauty within us and to bring the undiscovered soul onto the surface. It is a form of art that often provokes emotions and makes ordinary spaces and bodies more delightfully satisfying to look at. This mindset is the reason why my design choices so often involve highly saturated colors and provocative cuts, since they are meant to communicate a lasting message on the viewer, no matter the occasion.
17	Gennessis Raymundo	Today in the world of fashion people can easily tell who a designer is because of their own style and aesthetic. The concept of my design is for people who are of high class and are sophisticated with an outgoing and fashionable personality. I take my style into consideration in ways that is very simple yet wanting to have those statement pieces that people will fall in love with. To differentiate my design style I would use the sophisticating modern day customer who will provide me with new ideas each day by using the inspiration of everyday objects I see around me. This will challenge me as a designer to come up with designs based on our everyday lifestyle but not losing my own style in each piece.

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.

Student Business Plan Analyses by Groups Fall 2016 <i>Sponsor: Ruirui Zhang</i>		
#	Group Members	Store Name and Description
1	Bridget Chaffe Erina DaSilva Josephine Nazzaro Maureen Riordan	Alexandrite Under the careful thinking, and creativity of four Framingham State University Students, the fictional company, Alexandrite, was born. Alexandrite is an accessory boutique for women who need a one stop accessory stop. The purpose of Alexandrite was for the students to write a business plan and a buying plan for a fictional store. The students got exposed to sourcing, buying, accounting, budgeting, and many other key business aspects. After completing a buying plan and a business plan the students have been exposed to what it takes to start a business.

Framingham State University Student Poster and Presentation Day

#	Group Members	Store Name and Description
2	Haley Alexson Michaela Froio Maggie Looney India Rose Ward	BLOOM-An Inclusive Activewear Platform BLOOM is an active wear destination unlike any other in the market today. We pride ourselves on being an inclusive retailer that offers two distinct clothing lines- high performance and athleisure apparel that will appeal to a wide range of customers who live different types of active lifestyles. In addition to our two inclusive product lines we strive to create a store environment that is welcoming and not intimidating. Services offered such as classes and childcare help differentiate us from our competitors and make us a true platform that offers products and services as part of our growing brand. Providing our customers with a comfortable shopping experience through our welcoming environment, inclusive products, and wide range of services will ensure BLOOM will be a pillar in the active wear community for years to come.
3	Anne Curley Emma Doherty Isabella Eastman Jenna Willard	On Track On Track will provide athletes with state of the art wearable technology that will change the way one looks and feels and will ultimately enhance sport performance and health. We will create a line of sports apparel and accessories that are made from smart textiles. These textiles will regulate body temperature, reduce sweat build up, and have breathability to ensure comfort. On Track will also use smart textiles to create light and change color to the garment. These will be used for aesthetics and safety. Many of our products will as well have state of the art technology that will regulate heart rate, check blood pressure, among other things. This new form of technology is what sets us apart from any other company.
4	Lauren Abbott Justine Dorsi Jaime Gartman Carly Rettig	Ultra Athletics Ultra Athletic's is an woman's athletic apparel and accessories store located in Newton Massachusetts

Framingham State University Student Poster and Presentation Day

#	Group Members	Store Name and Description
5	Jessica Fiers Alyssa Lee Mariane Santos Lucy White	Terra Terra is an upscale women's boutique that combines the latest fashion with environmental sustainability. Though at times the words "sustainable" and "fashion" can seem like antonyms, Terra plans to combine the two in a way unlike any other retailer. Located in Newburyport, MA, Terra meets consumers' desire for fashionable yet ethical products by partnering with local and international vendors who share Terra's same perspective when it comes to the fashion industry.

Student Business Plan Analyses by Groups Spring 2017 <i>Sponsor: Virginia Noon</i>		
#	Group Members	Store Name and Description
6	Felicia Lauture Joy Rhinehart Patricia Romelus Lanaeya Spencer	Blurred Lines A Genderless Fashion Boutique Blurred Lines is a genderless fashion boutique that is described as taking a step forward to a gender-neutral future with fashion that fits both men's and women's needs. The mission at Blurred Lines is to extend fashion apparel that defies gender labels and offer fashion that fits the individual purpose and needs. Located on Newbury Street in Boston, Blurred Lines is a small specialty boutique that showcases on-trend classic pieces for adults ages eighteen to thirty-five. Blurred Lines is a company that not only believes in finding confidence in the individual through a genderless wardrobe which can be described as fashion without male or female stereotypical label; but also by using sustainable materials that aid in the protection of the environment.

Framingham State University Student Poster and Presentation Day

#	Group Members	Store Name and Description
7	Tresja Belton Colton Madore Nicole Modig Athena Venetsanakos	STEAM STEAM is a specialty retailer that strives to provide comfortable, appealing athleisure wear to the stylish city women of many sizes. It is a retailer where women can go to feel sensuous yet motivated to achieve their fitness and fashion goals. With a compelling store atmosphere, STEAM aims to encourage all who enter by providing a one of kind retail experience. Clients who shop at STEAM have the opportunity to purchase athliesure wear and participate in exercise classes that are offered in the store's yoga studio. Steam's customers are women ages eighteen to thirty-five, who are health conscious and want to live an active lifestyle.
8	Olivia Aldrich Caitlin Frias Sarah Svensen Erika Viens	Unbreakable Unbreakable is a men and women's tee-shirt company based in Cambridge, Massachusetts. Its goal is to bring awareness to domestic violence through positive messaging on graphic tee-shirts. Unbreakable will seek to bring awareness to domestic violence by building a community and provide a healthy shopping environment for all consumers. Unlike other tee-shirt companies, Unbreakable is mindful of social issues and will make a conscious effort to bring awareness of difficult problems through a simple product, graphic tee-shirts. If Unbreakable is able to help at least one individual, then the company is successful.

Framingham State University Student Poster and Presentation Day

#	Group Members	Store Name and Description
9	Sabine Adrasse Elise Arsenault Diana Marinero Camila Pesantez	<p>Unity</p> <p>Unity, A Fair Trade Fashion Boutique is a women's apparel and accessories specialty store embracing fair trade practices. These practices include ethnically and sustainably sourcing all of the products sold at Unity, as well as paying fair wages to the company's suppliers, and selling fair trade responsibly sourced products from all over the world; Unity has the hope of bringing global awareness to its customers by educating about the countries where products are sourced. In the future, Unity intends to establish an effective and influential business model for other fair trade and non-fair trade stores and to encourage more socially responsible fashion retailers.</p>
10	Andrea DeMeo Caroline DiGirolamo Amanda Rivera Cassandra Tedeschi	<p>Vitality</p> <p>Vitality, a specialty store, sells women's athleisure apparel and accessories, and is located at 164 Newbury Street in Boston, Massachusetts. The company will utilize current textile technologies in its products and implement sustainable practices to reduce the carbon footprint of Vitality. In the upcoming years, Vitality strives to have a place in the global market by refurnishing stores, rather than building new ones, throughout cities across the globe, as well as having an online market. Vitality's customers live an active lifestyle and care deeply about the environment. Vitality will carry tops, bottoms, outerwear, and accessories priced from \$15 to \$300 made from sustainably produced textiles.</p>

Undergraduate Oral Presentations Alumni Room

11:30 – 1:30pm		
Presenter Name	Title	Abstract Number
Accounting		
Nicholas Dubuque <i>Sponsor: Mark Hardie</i>	The Entrepreneur Innovation Center at Framingham State University: The financial foundation and business evolution of a State University hybrid co-working space	1
English		
Jackie Carlson <i>Sponsor: Evelyn Perry</i>	Bridges and Boundaries: Choice in young adult	41
Food and Nutrition		
Stephen Kheboian <i>Sponsor: Jerusha Nelson-Peterman</i>	The Paleolithic Diet: A systematic review of its applications and most suitable implementations	74
History		
Kieran Shakeshaft <i>Sponsor: Jon Huibregtse</i>	A Eulogy for the Old America: The America First Committee, The Great War, and the Final Struggle for a Traditional Conservative United States	82
Political Science		
Seth Signa <i>Sponsor: Joseph Coelho</i>	Admittance into the United Nations is the GOOOOOOOOOOOOAL: How Kosovo is gaining international recognition through FIFA and global sport	92

Undergraduate Poster Presentations Forum

Poster Session 1: 1:00 – 1:45pm			
Poster Number	Authors	Title	Abstract Number
Art History			
1	Elizabeth Goodreau <i>Sponsor: Virginia Noon</i>	Amazing Anoraks and Pretty Parkas	2
2	Rebecca Moffatt <i>Sponsor: Virginia Noon</i>	Jumping Jelly (Shoes)!	3
Business and Information Technology			
3	Joshua Crowder, Daniel Trigg <i>Sponsor: Karen Druffel</i>	General Knowledge Levels and Behaviors of College Students Related to Two-Factor Authentication with Personal Accounts	24
Chemistry			
4	Letycia Pereira <i>Sponsor: Sarah Pilkenton</i>	Sorption of Pyrene by Commercially Available Water Filters	28
Computer Science			
5	Brendan Burdick, Derek Nadeau <i>Sponsor: Andrew Jung</i>	Software Development Helps Develop 4th Grade Students Math Skills	36
Fashion Design			
6	Rachel Mullins <i>Sponsor: Seunghye Cho</i>	When Fashion Meets Cultures	53
History			
7	Victoria Anderson <i>Sponsor: Jon Huibregtse</i>	The Bias of the Lytton Commission	75
8	Madeline Billiel <i>Sponsor: Jon Huibregtse</i>	War destroyed their Youth: Women's literary reflections of World War One	76

Framingham State University Student Poster and Presentation Day

Poster Session 1: 1:00 – 1:45pm			
Poster Number	Authors	Title	Abstract Number
History			
9	Kylie Boyle <i>Sponsor: Jon Huibregtse</i>	Berlin 1936: When Sports Duped the World	77
9	Alexandra Waithe <i>Sponsor: Jon Huibregtse</i>	Together We Can Make Magic: The Effects of Growing American Materialism and Progressive Education on American College Female Culture	146
10	Jen Fortin <i>Sponsor: Jon Huibregtse</i>	The Art of Persuasion: A Comparison of WWI Propaganda and Circus Advertisements	78
11	Margaret Nee <i>Sponsor: Jon Huibregtse</i>	World War I and Shellshock: A New Hope	80
12	Craig Reynolds <i>Sponsor: Maria Bollettino</i>	Revolutionary Legacy: The Politics of Western Massachusetts and Shays' Rebellion	81
13	Andrew Turbesi <i>Sponsor: Jon Huibregtse</i>	The CCC and its Practices of Discrimination	83
14	Matthew Woodward <i>Sponsor: Jon Huibregtse</i>	An Alcohol-free "Melting Pot": How Prohibition changed American Immigration Legislation	84
Political Science			
15	Estefania Mangué <i>Sponsor: Virginia Noon</i>	These Boots were made for Riding	91
Psychology			
16	Montana Burke <i>Sponsor: Bridgett Galvin</i>	Research Assistant at a Clinical Setting: An Internship Explored	93
17	Alexa Fantoni <i>Sponsor: Bridgett Galvin</i>	The Opposite Side of the Spectrum: An Internship Experience	94
18	Naomi Garcia <i>Sponsor: Bridgett Galvin</i>	The Effectiveness of Hotlines	95
19	Rebecca Green <i>Sponsor: Bridgett Galvin</i>	An Examination of the Effectiveness of Call Centers	96

Framingham State University Student Poster and Presentation Day

Poster Session 1: 1:00 – 1:45pm			
Poster Number	Authors	Title	Abstract Number
Psychology			
20	Rebecca Green <i>Sponsor: Phoebe Lin</i>	An Examination of Perceptions of Males with Depression Among College Students	97
21	Kaitlynn Innis <i>Sponsor: Maggie Obaid</i>	The Importance of Play for Emotional Development in an Early Childhood Classroom	98
22	Kelly Keenan <i>Sponsor: Bridgett Galvin</i>	The Most Efficient and Effective Ways to Distribute Information to College Students	99
23	Brendan McDonough <i>Sponsor: Bridgett Galvin</i>	The Benefits of Social-Emotional Learning Groups on Young Children	100
24	Christopher Mini <i>Sponsor: Bridgett Galvin</i>	The Effectiveness of Mindfulness Meditation	101
25	Gemma Murnin <i>Sponsor: Bridgett Galvin</i>	Benefits of Socializing Children Early: An internship experience	102
26	Ashley Santos <i>Sponsor: Bridgett Galvin</i>	The Department of Children and Families: Framingham, MA internship site	103
27	Maggie McNeill <i>Sponsor: Bridgett Galvin</i>	Consoling the Living and Commemorating the Deceased	104
Sociology			
28	Stephanie Brown, Mattea Hakala, Tatyana Oneal, Chynere Vaughn Scott-Dottin, Jennifer Walker <i>Sponsor: Vincent Ferraro</i>	Social Bonding and Substance Use: The effect of marriage on deviant substances	105
29	Kassandra Costello, Megan Gosselin, Sarah Palace, Jenna Remmes <i>Sponsor: Vincent Ferraro</i>	Technology and Adolescent Health: One step forward, two steps back	106
Spanish			
30	Angela Caron, Cat Pilotte <i>Sponsor: Virginia Noon</i>	The Panamanian Pollera	107

Undergraduate Poster Presentations Forum

Poster Session 2: 2:00 – 2:45 pm			
Poster	Authors	Title	Abstract Number
Communication Arts			
1	Britney Cita, Alison Evans <i>Sponsor: Virginia Noon</i>	Viva La Espadrille's	31
2	Lillian Curley-Swannie, Nate Sherrill <i>Sponsor: Virginia Noon</i>	America's First Footwear: Moccasins	32
English			
3	Jordan Ragan <i>Sponsor: Virginia Noon</i>	The Perfect Poncho	42
Environmental Science			
4	Gabrielle Dame, Grace Orfanello <i>Sponsor: Virginia Noon</i>	Dancing For Dirndl's	43
Fashion Design & Retailing			
5	Alessandra Gallo <i>Sponsor: Virginia Noon</i>	Rubber Bands & Buckets of Dye	48
6	Felicia Lauture <i>Sponsor: Virginia Noon</i>	The Raving Rasta Hat	49
7	Haley Alexson <i>Sponsor: Haewon Ju</i>	Translucence-A Conscious Corporation and Supply Chain	44
7	Haley Alexon <i>Sponsor: Ruirui Zhang</i>	Generational Divides on Domestic Production	45
8	Kezia Miller, Mariane Santos <i>Sponsor: Imranul Islam</i>	Impact of Textiles on the Environment: Approach Toward Eco-Friendly Textiles	147

Framingham State University Student Poster and Presentation Day

Poster Session 2: 2:00 – 2:45 pm			
Poster	Authors	Title	Abstract Number
Fashion Design & Retailing			
9	Mary McCarthy <i>Sponsor: Virginia Noon</i>	UGG Boots: From beaches to Boston	51
10	Margaret Looney <i>Sponsor: Haewon Ju</i>	Fashion Blog: Seamless & Savvy	66
11	Margaret Looney <i>Sponsor: Virginia Noon</i>	Hip Hip Beret!	50
12	Savannah Mixay, Brianna Peter <i>Sponsor: Virginia Noon</i>	Amour Bohemien	52
13	Hannah Nyman, Stephanie Rodriguez <i>Sponsor: Virginia Noon</i>	Are You Hip? Hop Into This!	54
14	Joy Rhinehart, Patricia Romelus <i>Sponsor: Imranul Islam</i>	To Improve the United States Marine Corps Uniforms During Deployment for Comfort and Safety Standards	55
15	Erika Simon <i>Sponsor: Virginia Noon</i>	Keeping Up With the Kimono	56
16	Kate Sookiasian, Kanaeya Spencer <i>Sponsor: Imranul Islam</i>	Evaluate the Performance of Thermal and Water-Vapor Resistance on Fabrics	57
17	Olivia Spadafore, India Rose Ward <i>Sponsor: Imranul Islam</i>	Determination of How Much Spandex is Necessary for Long Lasting Retention	58
18	Nicole Stanton <i>Sponsor: Virginia Noon</i>	Doing Sweaters Norway	59
19	Caeley Whalen <i>Sponsor: Virginia Noon</i>	Doc Martens	60
Fashion Merchandising			
20	Lauren Abbott, Molly Dubrowski, Erina Saraiva DaSilva <i>Sponsor: Imranul Islam</i>	Improving Colorfastness to Crocking of Active-wears	61

Framingham State University Student Poster and Presentation Day

Poster Session 2: 2:00 – 2:45 pm			
Poster	Authors	Title	Abstract Number
Fashion Merchandising			
21	Bridget Chafe, Molly Fennessey, Athena Venetsanakos <i>Sponsor: Imranul Islam</i>	Finding Effective Detergent on Stained Fabric: A Sustainable Approach	64
22	Caitlin Frias, Lauren Gambon <i>Sponsor: Virginia Noon</i>	The Journeying Gypsy Skirt	65
23	Kerin McCarthy <i>Sponsor: Virginia Noon</i>	Aloha! (shirt)	68
24	Jordan Rowe <i>Sponsor: Virginia Noon</i>	Fedorable	69
25	Jocelyn Dion <i>Sponsor: Haewon Ju</i>	Flipping A House	70
26	Megan Hazelhurst <i>Sponsor: Virginia Noon</i>	Earthy Crunchy or Trendy and Stylish? The Birkenstock	72
27	Christina Kamra <i>Sponsor: Virginia Noon</i>	African Head Wrap (Wrap Your Head Around This)	73
History			
28	Chelsea Hathaway <i>Sponsor: Virginia Noon</i>	Shawl Significance: Cultural authentication of the shawl	79
Studio Art			
29	Abby Ames <i>Sponsor: Virginia Noon</i>	Protection With A Little Decoration	108
Chemistry			
30	Catherine Soliman, Ezequiel De Leon <i>Sponsor: Steven Cok</i>	The Effect of phytochemical Extracts on the Expression of Sirtuin-1 that Could Prevent the Development of a Pre-diabetic State to a Diabetic One Using a C.elegans Model	29

Undergraduate Poster Presentations Forum

Poster Session 3: 3:00 – 3:45 pm			
Poster	Authors	Title	Abstract Number
Biology			
1	Karen Bermudes <i>Sponsor: Bryan Connolly</i>	Applied Behavior Analysis as Treatment for Autism Spectrum Disorder in Children	4
2	Kaylee Brazell <i>Sponsor: Amanda Simons</i>	Resveratrol Effects on K562 Leukemia Cells	8
3	Grace Cook <i>Sponsor: Bryan Connolly</i>	Investigation of Self-Compatibility in <i>Solanum sisymbriifolium</i> (Sticky Nightshade) and its Implications for Species Invasiveness	9
4	Krysta Bertoli <i>Sponsor: Brandi Van Roo</i>	Wildlife Specimen Preparation: Building upon prior experience	5
5	Krysta Bertoli, Lyla Strassel <i>Sponsor: Bryan Connolly</i>	Analysis of Rare <i>Solanum</i> Reproduction and Seed Banking Potential	6
6	Christy Corliss, Felipe Silveira <i>Sponsor: Richard Beckwitt</i>	Analyzing Mitochondrial DNA Sequences of the White Tailed Deer Population on Nantucket	10
7	Jessica Danahy <i>Sponsor: Amy Knapp</i>	The Non-Genomic Effects of Estradiol on Mouse Skeletal Muscle	11
8	Christopher Léo <i>Sponsor: Bryan Connolly</i>	The Effects of Climatic Changes in the Phenology of Plants near Middlesex County, MA; Specifically, in the Flowering Time of Plants During the Spring Semester	15
9	Mark Gawlak <i>Sponsor: Eugene Muller</i>	Hop Tolerance in Highly Resistant <i>Pediococci</i>	13
10	Kaylee Killion <i>Sponsor: Amanda Simons</i>	Effect of Prolonged Exposure to Resveratrol on Chronic Myeloid Leukemia K562 Cells	14

Framingham State University Student Poster and Presentation Day

Poster Session 3: 3:00 – 3:45 pm			
Poster	Authors	Title	Abstract Number
Biology			
11	Barbara Luciano, Alexandra Ricco <i>Sponsor: Bryan Connolly</i>	Generation of Late Blight (Phytophthora infestans) Resistant Hybrid Tomatoes	16
12	William Miller <i>Sponsor: Bryan Connolly</i>	Sugar content and viability of hybrid Solanum muricatum x caripense	18
13	Kaitlyn Fortin, Molly Silva <i>Sponsor: Amy Knapp</i>	Methods for Experimental Studies of Skeletal Muscles in Mice	12
14	Katie Mahr, Kylie McCaul <i>Sponsor: Amy Knapp</i>	The Effects of Caffeine on Skeletal Muscle	17
15	Thalita Borges, Kourosh Ghamary <i>Sponsor: Amy Knapp</i>	Effects of Theobromine on Skeletal Muscle Contraction	7
16	Joshua Morin <i>Sponsor: Amy Knapp</i>	The Relationships Amongst Mobile Device Use, Posture, and Health Variables on a University Campus	19
17	Kimberly Mullen <i>Sponsor: Richard Beckwitt</i>	The Role of the One-to-One Aide in Rehabilitative Care	20
18	Frank Servello <i>Sponsor: Amanda Simons</i>	The Effect of Low-Dose Resveratrol on H2AX Phosphorylation and Apoptosis in K562 and HeLa Cells	21
Fashion Design & Retailing			
19	Haley Alexson, Tresja Belton, Christina Fazio, Josephine Nazzarro <i>Sponsor: Ruirui Zhang</i>	Consumer Behaviors of The North Face Shoppers	46
20	Kayla Dutcher <i>Sponsor: Ruirui Zhang</i>	Personal Styling	47

Framingham State University Student Poster and Presentation Day

Poster Session 3: 3:00 – 3:45 pm			
Poster	Authors	Title	Abstract Number
Fashion Merchandising			
21	Lauren Abbott, Jocelyn Dion, Justine D'orsi, Alexandra Sookiasian <i>Sponsor: Ruirui Zhang</i>	Consumer Behavior Research Project	62
22	Shaina Mansur, Lanaeya Spencer, Kalina Swana <i>Sponsor: Ruirui Zhang</i>	Clarks	67
23	Molly Dubrowski, Erina Saraiva DaSilva, Cassandra Tedeschi <i>Sponsor: Ruirui Zhang</i>	Observation of male behavior and attitude towards Vineyard Vines	71
Nursing			
25	Jacqueline Accime, Maggie Feather, Natalie Gracia <i>Sponsor: Ruth Remington</i>	Effects of Nurse Staffing Ratios and Turnover Outcomes	85
26	Davies Amuti, Serah Guilbe, Rose Kamau, Nancy Merisali, Caroline Wambui <i>Sponsor: Ruth Remington</i>	Patients' Safety: Medication errors	86
27	Nathanial Blue, Jamie Garland, Ranjana Jha, Eryn Mooney <i>Sponsor: Ruth Remington</i>	Music: A non-pharmacological approach to pain management	87

Framingham State University Student Poster and Presentation Day

Poster Session 3: 3:00 – 3:45 pm			
Poster	Authors	Title	Abstract Number
Nursing			
28	Anna Boyko, Angela Cadasse, Mary Lynn Kolowsky, Kenneth Mutegyeki <i>Sponsor: Ruth Remington</i>	College Students and Sleep Deprivation	88
29	Ana Gamboa, Lisa Guidi, Judi Saini <i>Sponsor: Ruth Remington</i>	Effective Role Delegation to Improve Code Outcomes	89
30	Jennifer Jorgensen <i>Sponsor: Ruth Remington</i>	Permanent Charge Nurse Model: Evidence-based Orientation Program for the Labor and Delivery Charge Nurse	90

Undergraduate Poster Presentations Forum

Poster Session 4: 4:00 – 4:45 pm			
Poster	Authors	Title	Abstract Number
Biology			
1	Karen Bermudes <i>Sponsor: Bryan Connolly</i>	Applied Behavior Analysis as Treatment for Autism Spectrum Disorder in Children	4
2	Kaylee Brazell <i>Sponsor: Amanda Simons</i>	Resveratrol Effects on K562 Leukemia Cells	8
3	Grace Cook <i>Sponsor: Bryan Connolly</i>	Investigation of Self-Compatibility in <i>Solanum sisymbriifolium</i> (Sticky Nightshade) and its Implications for Species Invasiveness	9
4	Krysta Bertoli <i>Sponsor: Brandi Van Roo</i>	Wildlife Specimen Preparation: Building upon prior experience	5
5	Krysta Bertoli, Lyla Strassel <i>Sponsor: Bryan Connolly</i>	Analysis of Rare <i>Solanum</i> Reproduction and Seed Banking Potential	6
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9	Mark Gawlak <i>Sponsor: Eugene Muller</i>	Hop Tolerance in Highly Resistant <i>Pediococci</i>	13
10	Kaylee Killion <i>Sponsor: Amanda Simons</i>	Effect of Prolonged Exposure to Resveratrol on Chronic Myeloid Leukemia K562 Cells	14

Framingham State University Student Poster and Presentation Day

Poster Session 4: 4:00 – 4:45 pm			
Poster	Authors	Title	Abstract Number
Biology			
11	Barbara Luciano, Alexandra Ricco <i>Sponsor: Bryan Connolly</i>	Generation of Late Blight (Phytophthora infestans) Resistant Hybrid Tomatoes	16
12	William Miller <i>Sponsor: Bryan Connolly</i>	Sugar content and viability of hybrid Solanum muricatum x caripense	18
13	Kaitlyn Fortin, Molly Silva <i>Sponsor: Amy Knapp</i>	Methods for Experimental Studies of Skeletal Muscles in Mice	12
14	Katie Mahr, Kylie McCaul <i>Sponsor: Amy Knapp</i>	The Effects of Caffeine on Skeletal Muscle	17
15	Thalita Borges, Kourosh Ghamary <i>Sponsor: Amy Knapp</i>	Effects of Theobromine on Skeletal Muscle Contraction	7
16	Joshua Morin <i>Sponsor: Amy Knapp</i>	The Relationships Amongst Mobile Device Use, Posture, and Health Variables on a University Campus	19
17	Kimberly Mullen <i>Sponsor: Richard Beckwitt</i>	The Role of the One-to-One Aide in Rehabilitative Care	20
18	Frank Servello <i>Sponsor: Amanda Simons</i>	The Effect of Low-Dose Resveratrol on H2AX Phosphorylation and Apoptosis in K562 and HeLa Cells	21

Graduate Poster Presentations Forum

Poster Session 4: 4:00 – 4:45 pm			
Poster	Authors	Title	Abstract Number
Nursing			
19	Daniela Brown <i>Sponsor: Nancy Bittner</i>	The Implementation of TeamSTEPPS and Perceptions Associated with Implementation: An Integrative Review	113
20	Ashley Lanpher <i>Sponsor: Coleen Toronto</i>	Barriers to Teaching LGBT Education in Nursing Programs: An Integrative Review	116
21	Lina LeDoux <i>Sponsor: Nancy Bittner</i>	Workplace Incivility Among Acute Care Nurses: An Integrative Review	117
Nursing Education			
22	Lauren Danforth, Jaclyn Sugrue <i>Sponsor: Coleen Toronto</i>	Nurse Residency Programs Effect on New Graduate Nurses	123
23	Teresa DiModica, Valerie McCarthy <i>Sponsor: Coleen Toronto</i>	Technology as a Teaching Methodology: An Integrative Review	126
24	Wylie Figlioizzi <i>Sponsor: Coleen Toronto</i>	Educating Hospitalized Heart Failure Patients to Reduce Readmissions	128
25	Sarah McHugh <i>Sponsor: Coleen Toronto</i>	Registered Nurses' Knowledge Regarding Pain Assessment of the Adult: An Integrative Review	130
26	Adam Munroe <i>Sponsor: Coleen Toronto</i>	Impact of Information Literacy Training on Nursing Student Education	132
27	Cassandra Plamondon <i>Sponsor: Coleen Toronto</i>	Aromatherapy and Music to Manage Adults' Pain and Anxiety	133
28	BettyAnn Warner <i>Sponsor: Coleen Toronto</i>	The Effects of Nurses Using SBAR Communication as it Relates to Provider and Patient Outcomes: An Integrative Review	136

Framingham State University Student Poster and Presentation Day

Poster	Authors	Title	Abstract Number
Nursing Leadership			
29	Susan Darling <i>Sponsor: Nancy Bittner</i>	Caring for Elders Who Self-Neglect: An Integrative Review	139
30	Madina Musse <i>Sponsor: Nancy Bittner</i>	Occurrence of Falls among Elderly Nursing Home Residents with Cognitive Impairment	143

Undergraduate Poster Presentations Forum

Poster Session 5: 5:00 – 5:45 pm			
Poster	Authors	Title	Abstract Number
Business and Information Technology			
1	Jack Cone, Joao Dasilva Marinho, Eliezel Vargas <i>Sponsor: Karen Druffel</i>	Trust in Autonomous Vehicles	23
2	Rebecca DeMeo, Nathan Natanel <i>Sponsor: Karen Druffel</i>	The Advancement of Artificial Intelligence and the Impact on the Future of Job Security	25
3	Corrie Lovell, Jacqueline Lovell <i>Sponsor: Karen Druffel</i>	AI Technology in Retail	27
Chemistry			
4	Ezequiel De Leon, Catherine Soliman <i>Sponsor: Steven Cok</i>	The effect of Caesalpinia sappan extract on the expression of a SREBP1-c promotor-GFP transgene in C. Elegans	30
Communication Arts			
5	Ashley Herbert, Kyle Hicks, Ben McNally, Marielle Sciore, Brittany Yates <i>Sponsor: Kate Caffrey</i>	Kennedy Center American College Theatre Festival	33

Framingham State University Student Poster and Presentation Day

Poster	Authors	Title	Abstract Number
Computer Science			
6	Cameron Coburn, Joseph Tranghese, Maxwell Young <i>Sponsor: Karen Druffel</i>	Do People Trust Artificial Intelligence in Finance?	38
7	John Egan, Matthew Yee <i>Sponsor: Karen Druffel</i>	Artificial Intelligence Knowledge Gap	39
8	Colin James Fuller, Kazim Tirmizey <i>Sponsor: Karen Druffel</i>	Opinions of Artificial Intelligence Integration in Human Society	40

Graduate Poster Presentations Forum

Poster Session 5: 5:00 – 5:45 pm			
Poster	Authors	Title	Abstract Number
Nursing			
9	Estefanny Castro <i>Sponsor: Coleen Toronto</i>	Recognizing the Newly RN Transitional Challenges: An Integrative Review	114
10	Kay Grant <i>Sponsor: Nancy Bittner</i>	Rounding An Approach to Improving Communication among Nurses and Physicians: An Integrative View	115
11	Lori Moniz <i>Sponsor: Nancy Bittner</i>	Barriers and Strategies Surrounding Adherence to Warfarin Therapy in Adults	118
12	Shelby-Lynn Rikeman <i>Sponsor: Nancy Bittner</i>	Compassion Fatigue in Emergency Department Nurses: An Integrative Review	119
Nursing Education			
13	Mary Absi, Laura DeCastro <i>Sponsor: Coleen Toronto</i>	Compassion Fatigue in Nursing: An Integrative Review	120

Framingham State University Student Poster and Presentation Day

Poster	Authors	Title	Abstract Number
Nursing Education			
14	Beth Anne Bowen <i>Sponsor: Coleen Toronto</i>	Surgical Site Infection Prevention in the Elderly	121
15	Karla Bulmer <i>Sponsor: Coleen Toronto</i>	What is the Impact of Peer Assisted Learning on the Student Experience	122
16	Jennifer DeFilippo, Chau Nguyen <i>Sponsor: Coleen Toronto</i>	How is Professionalism Developed in Undergraduate Nursing Students?	124
17	Kristine DiCarlo, Mary Naugler <i>Sponsor: Coleen Toronto</i>	Increasing Safe Sleep Compliance for Neonatal Nurses and Parents of Premature Infants	125
18	Courtney Elsmore <i>Sponsor: Coleen Toronto</i>	Best Practices for Perioperative Orientation: An Integrative Review	127
19	Kenneth Fitzpatrick <i>Sponsor: Coleen Toronto</i>	The Patients' Perception to the Use Of Negative Pressure Wound Therapy (NPWT): An Integrative Review	129
20	Julie Mullins <i>Sponsor: Coleen Toronto</i>	Mentorship Best Practices for Newly Licensed Nurses: An Integrative Review	131
21	Katie Silverberg <i>Sponsor: Coleen Toronto</i>	Simulation Use in New Graduate Nursing Programs: An Integrative Review	134
22	Kerry Sorrentino <i>Sponsor: Coleen Toronto</i>	Preparation for the Nurse to be a Preceptor: An Integrative Review	137
23	Lisa Walsh <i>Sponsor: Coleen Toronto</i>	Postoperative Pain Management in Elderly Patients	135
Nursing Leadership			
24	Samantha Asber <i>Sponsor: Nancy Bittner</i>	Retention Outcomes of Nurse Residency Programs: An Integrative Review	138
25	Marcela Jimenez <i>Sponsor: Nancy Bittner</i>	Nurses' Attention to the Emotional Impact on Organ Recipients: An Integrative Review	140

Framingham State University Student Poster and Presentation Day

Poster	Authors	Title	Abstract Number
Nursing Leadership			
26	Carrie Lill <i>Sponsor: Nancy Bittner</i>	The Effect of Noise and Distraction on Patient Safety in the Operating Room	141
27	Jesse MacKinnon <i>Sponsor: Nancy Bittner</i>	Effects of End-of-Life Simulation: An Integrative Review	142
28	Kathryn Ohman <i>Sponsor: Nancy Bittner</i>	The Impact of Alarm Fatigue and Patient Safety: An Integrative Review	144
29	Kristin O'Rourke <i>Sponsor: Nancy Bittner</i>	Communication Barriers in School Nursing	145

Undergraduate Poster Presentations Forum

Poster Session 6: 6:00 – 6:45 pm			
Poster	Authors	Title	Abstract Number
Business and Information Technology			
1	Apollo Bijjumbuko, Rhuel Worrell <i>Sponsor: Karen Druffel</i>	Smartphone Usage and Security Awareness	22
2	Lawrence Lamisere, Millicent Whitely <i>Sponsor: Karen Druffel</i>	Facebook Cyber Security	26
Computer Science			
3	Michael Bercume, Leigh Willis <i>Sponsor: Karen Druffel</i>	Password Complexity Requirements. Detriment to Security?	34
4	Benjamin Britton, Evan Jensen <i>Sponsor: Karen Druffel</i>	How the effectiveness of security features in Apple's iOS is related to consumer understanding, acceptance, and trust	35
5	Kenneth Carter, Varinder Real <i>Sponsor: Karen Druffel</i>	Security Software and its Importance in Today's Society	37
Studio Art			
19	Trisha Danforth <i>Sponsor: Erika Schneider</i>	Widening the Circle: Inclusivity in Contemporary Art History - Jeff Donaldson (1932-2004), mixed media	
20	Kristen Fisher <i>Sponsor: Erika Schneider</i>	Widening the Circle: Inclusivity in Contemporary Art History - Elizabeth Catlett (1915-2012), graphic artist and sculptor	
22	Luana Gomes <i>Sponsor: Erika Schneider</i>	Widening the Circle: Inclusivity in Contemporary Art History - Jennie C. Jones (1968), multidisciplinary	
23	Rohma Shirwani <i>Sponsor: Erika Schneider</i>	Widening the Circle: Inclusivity in Contemporary Art History - Mark Bradford (1961), painter	

UNDERGRADUATE ABSTRACTS

ACCOUNTING

1. **Nicholas Dubuque** *Sponsor: Mark Hardie*

The Entrepreneur Innovation Center at Framingham State University: The financial foundation and business evolution of a state university hybrid co-working space

This paper provides an extensive analysis of the original intent and need of a co-working space in the Metro West area including the differentiating student intern program associated with the Entrepreneur Innovation Center at Framingham State University, as well as the financial implications associated with operating such a program. The Center is currently subsidized by the University. However, the financial assessment employed in this work operates with the intention of the Entrepreneur Innovation Center behaving as a stand-alone operation. Such a perspective will assist in determining whether or not the program has or possesses the potential to operate as a cash flow neutral or cash flow positive enterprise. The research conducted for this project, and the financial analysis undertaken, will aid in crafting a pertinent answer to this question of profitability and value of offering this service.

ART HISTORY

2. **Elizabeth Goodreau** *Sponsor: Virginia Noon*

Amazing Anoraks and Pretty Parkas

An anorak is a lightweight waist-length pullover jacket that has elastic strings attached to the hood, waist, and wrists for functionality. The parka is similar to the anorak, but it is instead hip-length with insulated padding and has a front opening. The Classification System for Types of Dress (Roach-Higgins & Eicher, 1992) identifies both the anorak and parka as body supplements that are pre-shaped enclosures. They both originated from arctic zones and are made to withstand harsh weather conditions. During the 20th Century, they were used in a military context for the World War II and the Korean War. After both wars, anoraks and parkas became well known for being functional and fashionable among consumers and designers. In the United States, the fishtail parka emerged as an uninsulated parka and became popular as an everyday jacket. As items of world dress, the parka and anorak have been adopted by many different countries and have been adapted to fit each culture. As world fashion, the jackets can be seen in high fashion designer's collections and fashion magazines, but their popularity has also trickled down to fast fashion clothing stores. The parka is an item of national dress to the Inuit, who live in arctic regions. Over the past decades, the parka's and anorak's popularity has risen and they can both cement themselves as fashion staples today.

3. **Rebecca Moffatt** *Sponsor: Virginia Noon*

Jumping Jelly (Shoes)!

Jellies are a type of footwear made exclusively of plastic and produced by a process called injection molding. Shoes, by definition of the Classification System for Types of Dress, are temporary body supplements that are pre-shaped enclosures (Roach-Higgins & Eicher, 1992). Jelly shoes were thought to be created in the early 1960's for workers in third world countries because the shoes were inexpensive and durable. Jellies may have also been created during WWII when there was a leather shortage and plastics were becoming more mainstream. Jelly shoes were first brought to the United States by Andrew and Preston Haag Sr. Geller, who had noticed them being worn by hotel staff while vacationing in Greece. In Brazil, Dorothee Bis created a similar style of plastic shoe worn by women in the country.

Framingham State University Student Poster and Presentation Day

Jellies were at their peak popularity in the 80's, especially in America, and were introduced into all levels of fashion from Burberry to Old Navy. Today, jelly shoes are worn by many, from children to high fashion models. Crocs, a brightly colored plastic clog, became the revival point for traditional jelly shoes in 2004.

BIOLOGY

4. Karen Bermudes *Sponsor: Bryan Connolly*

Applied Behavior Analysis as Treatment for Autism Spectrum Disorder in Children

Autism is a developmental disorder that impairs the ability to appropriately communicate and interact with the environment. Autism affects individuals differently and to varying degrees of severity. Onset begins before age three and may present itself with only subtle signs. A unique cause for the disorder has yet to be identified, however, genetic factors likely interact with environmental variables to result in the expression of autism. Neurobiological research indicates that autism is likely the result of genetically determined abnormalities in brain development. One in eighty-eight children are affected by autism. Rates are highest among males with a ratio of five for every one female. Characteristics to look for in a child include impairment in reciprocal social interaction such as limited eye contact, communicative deficits that may include limited or no verbal communicative skills, and repetitive behavior or marked adherence to specific routines such as body rocking and problems transitioning from one activity or environment to another. Years of research support that early intervention is key to reducing symptoms and allowing for maximal growth and development. Using the techniques of applied behavior analysis, children were taught self-care and received academic training to increase their independence and skill development. Data was taken before and during treatment and ineffective interventions were revised to ensure continued progress.

5. Krysta Bertoli *Sponsor: Brandi Van Roo*

Wildlife Specimen Preparation: Building upon prior experience

Specimen preparation of animals is not a skill that is commonly taught. It takes countless hours of practice to produce quality specimens suitable for collections used for research as well as public education. My main goal was to take what I learned from the wildlife specimen preparation course (BIOL 123) that I took for the first half of the semester and improve my technique and work on more difficult specimens. A secondary goal was to take into consideration the condition of older specimens in the Framingham State University's Museum collection and prepare specimens better suited for teaching purposes. I have prepared a variety of specimens including birds and mammals as well as bones. The process of preserving these animals involves skinning them, creating a form to replace the body, and preserving the skin by rubbing borax into it. Preparing bones involves removing any tissue left on the bones and wiring the bones together at the joints to rearticulate a skeleton. Specimens vary in their level of difficulty. In my experience the preparation of medium-sized animals is generally easier than large or small animals. The condition of the specimen when it was collected also dictates the level of difficulty. Animals that died by impact or by being attacked by another animal tend to have damage to the skin. Another factor is how long the animal was deceased before collection. If decomposition has begun, it degrades the skin, making skinning more difficult as well as sewing it back together. Throughout my independent study I have increased my ability to problem solve through several different types of difficult preparations of specimens.

6. Krysta Bertoli, Lyla Strassel

Sponsor: Bryan Connolly

Analysis of Rare Solanum Reproduction and Seed Banking Potential

Understanding the reproductive biology of rare and endangered species is critical to conservation efforts. We conducted two different experiments that included rare Solanums. First, the pollination system of *Solanum dymophilum* (syn. *S. ensifolium*), a federally endangered species endemic to Puerto Rico, was investigated by doing both reciprocal crosses and self-pollination. Additionally, pollen tubes were analyzed to determine if this species was self-incompatible. A second experiment was conducted where the seed viability and germination success was tested. The rare species included in this investigation were *Solanum lidthii* (Canary islands), *Solanum polygamum* (U.S. Virgin Islands), *Solanum conocarpum* (U.S. Virgin Islands) and *Solanum vespertilio* Sub spp. *doramae* (Canary islands). Seeds of these rare species were frozen at -20°C for one week. The second week, both controls (unfrozen seeds) and frozen seeds were planted and placed under artificial light and germination was tested. We hypothesized that *S. dymophilum* would be self-incompatible and that the seeds of the other aforementioned Solanums would be viable and be able to germinate after a cold treatment. If seeds of these rare Solanums are viable after the cold treatment, then seed banking is possible and the species could be preserved ex situ.

7. Thalita Borges, Kourosh Ghamary

Sponsor: Amy Knapp

Effects of Theobromine on Skeletal Muscle Contraction

Chocolate milk is thought to enhance muscle recovery in athletes through glycogen restoration and amino acid synthesis. One major components of chocolate milk is 3,7 dimethylxanthine (theobromine) which is derived from the cacao plant. Theobromine is also a byproduct of caffeine metabolism in the liver. Few studies have looked at the effects of theobromine on excitation-contraction coupling in skeletal muscle and how this compound may affect recovery after exercise. Some studies suggest that theobromine has a high affinity for Ryanodine receptors (Ryr), and upon binding can increase calcium release from the sarcoplasmic reticulum (SR) which could promote faster muscle recovery. To determine the effects of theobromine on skeletal muscle recovery, we isolated mouse extensor digitorum longus (EDL) muscles and measured the recovery time and time to fatigue after a bout of fatiguing contractions. We found that 2 mM theobromine promoted a more rapid recovery to 80% of the original contraction force compared to muscles not exposed to theobromine. This data suggests that theobromine has the ability to promote rapid force regeneration after fatiguing contractions possibly due to increased release of calcium from the sarcoplasmic reticulum.

8. Kaylee Brazell

Sponsor: Amanda Simons

Resveratrol Effects on K562 Leukemia Cells

Resveratrol is a polyphenolic phytoalexin that can be found in grapes and an assortment of herbs. Resveratrol consumption may offer health benefits to combat hypertension, cancer, obesity and muscle problems. Resveratrol was also found to induce autophagy, a protective self-digestion. Many previous studies have examined resveratrol at high concentrations for short periods of time. This model is beneficial for understanding resveratrol and its molecular mechanisms but lacks the understanding of how resveratrol would react in the human body when consumed regularly. In the present study, human leukemia K562 cells were exposed to low doses of resveratrol over a long period of time in order to mimic physiological responses to long-term resveratrol consumption. We measured rates of autophagy in treated cells over a multiweek period to determine whether physiologically relevant conditions could elicit a response.

9. Grace Cook

Sponsor: Bryan Connolly

Investigation of Self-Compatibility in *Solanum sisymbriifolium* (Sticky Nightshade) and its Implications for Species Invasiveness

Solanum sisymbriifolium, also known as sticky nightshade or litchi tomato, is a spiny, shrubby weed native to South America. It readily invades disturbed areas, such as landfills, wastelands, roadsides, and crop fields (Hill and Hulley 1995). *S. sisymbriifolium* is considered invasive in South Africa (Hill and Hulley 1995) and India (Srivastava et al. 2015), as well as a Watch List A plant in Tennessee (Bowen et al. 2002). Particularly in India, it is shown to have allelopathic effects against several important Indian crops (Debnath et al. 2016). In addition, *S. sisymbriifolium* has multiple valuable uses. In Bangladesh, it is used to treat ailments such as heart disorders, ovarian problems, and parasitic worm infections (Tuhin et al. 2013). In Europe, it is used as a trap crop for potato cyst nematode (Suszkiw 2013). Studies have reported *S. sisymbriifolium* as both self-compatible (Anderson and Whalen 1981) and self-incompatible (D'Arcy 1974). Self-compatible plants are able to reproduce quickly in small populations (de Groot et al. 2012) whereas self-incompatible plants typically have greater genetic diversity and lesser accumulation of harmful genetic mutations (Busch and Schoen 2008). This project aimed to establish the reproductive method of *S. sisymbriifolium* with more precision, and this was accomplished via hand-pollination of multiple *S. sisymbriifolium* plants; self-pollinations and cross-pollinations were attempted at relatively equal frequencies. Fruit set was not a reliable demonstration of pollination success in this project, due to a number of environmental conditions. However, we were able to observe pollen tube formation in both self-pollinated and cross-pollinated flowers. Early results from this project indicate that *S. sisymbriifolium* is likely self-incompatible.

10. Christy Corliss, Felipe Silveira

Sponsor: Richard Beckwitt

Analyzing Mitochondrial DNA Sequences of the White Tailed Deer Population on Nantucket

In the early twentieth century, there were no white-tailed deer present on the island of Nantucket. It has been documented that one male and two female deer were brought to the island in the 1920s, and it is thought that these deer were the origin of the current deer population on the island, estimated at 2-3000. The goal of our experiment was to determine the validity of this story. Muscle tissue samples were collected from a deer hunting check station on Nantucket Island. Total genomic DNA was extracted from this tissue, and a portion of the mitochondrial DNA control region (D-loop) was amplified by Polymerase Chain Reaction. The amplified DNA was prepared for DNA sequencing. If all deer on Nantucket are descended from only two females, we expect to find only two distinct mitochondrial sequences, since mitochondrial DNA is only inherited from mother to offspring.

11. Jessica Danahy

Sponsor: Amy Knapp

The non-genomic effects of estradiol on mouse skeletal muscle

The steroid hormone dihydrotestosterone (DHT) has previously been shown to increase the contraction force of fast-twitch muscle fibers. The purpose of this study was to see if estradiol, a member of the steroid hormone family, exerts similar effects. Soleus and extensor digitorum longus (EDL) muscles from adult male mice were treated for 5 minutes with 1 μ M 17 β -estradiol in methanol ringer's solution (E2). Separate muscles incubated in methanol ringer's solution with no estradiol served as controls (C). In all muscles, force was measured at various frequencies to determine estradiol's effect on maximal tetanic tension of the soleus and EDL, which served as representative slow-twitch and fast-twitch muscles, respectively. Time to fatigue was also measured in all muscles to determine estradiol's effects on endurance of the soleus and EDL. Results indicated that the soleus contracted significantly more forcefully at maximal frequencies (120 Hz) in the presence of 17 β -estradiol while the contraction force of

the EDL was unchanged in the presence of estradiol compared to controls. These results are in contrast to the previous findings with dihydrotestosterone, which demonstrated increased force in fast-twitch fibers and decreased force in slow-twitch fibers in the presence of DHT. Therefore, further investigation, such as a repeat study with more trials, is warranted. Force-frequency curves and time to fatigue were not significantly different in the E2 treated EDL or soleus muscles compared to controls. However, there was a trend toward shorter time to fatigue in the E2 treated soleus muscles, which also warrants further investigation.

12. Kaitlyn Fortin, Molly Silva

Sponsor: Amy Knapp

Methods for Experimental Studies of Skeletal Muscles in Mice

For this study, the effects of caffeine and theobromine were tested on a mouse extensor digitorum longus (EDL) muscle via in vitro muscle testing. To functionally test the EDL muscle, these experiments required the use of a muscle bath containing Ringer's solution that was continuously bubbled with 95% oxygen and 5% CO₂, a force transducer to detect force changes, a stimulator to control the amount of current stimulating the muscle and an analysis system to record the force and stimulus outputs. Before beginning experiments, muscles were set at their supramaximal force output with their optimal length (L_o) then measured. This was done to ensure the muscle produced its largest measurement of force and that all fibers were recruited during each stimulus. The protocol for these experiments was as follows; the muscles were fatigued via tetanic contraction stimulus until maximal force output reached 20% of the original force. Following fatigue, muscles were allowed to recover back to 80% of its maximal force output, to which then the muscles were fatigued for a second time back down to 20%. These muscles would be tested in three environmental conditions; control (Ringer only), addition of caffeine, and addition of theobromine into the Ringer solution. The measurement of tetanic force is an indication of the recovery of excitation-contraction coupling after the fatiguing contractions while the time to fatigue measurement is an indication of the endurance capacity of the muscle.

13. Mark Gawlak

Sponsor: Eugene Muller

Hop Tolerance in Highly Resistant *Pediococcus*

Lactic acid bacteria such as *Lactobacillus* and *Pediococcus* are commonly used in the craft brewing industry in order to produce desired flavors in "sour" beer styles. While these organisms must typically be able to tolerate low concentrations of alpha-hop-acids generally present in beer, only certain LAB are able to tolerate hop acids in higher concentrations. In this study, sediment samples from a variety of were obtained, and microorganisms were recovered using aseptic techniques. 15 different bacterial strains were recovered from the sample bottles, and were incubated in MRS broth containing varying concentrations of isomerized hop extract. The lactobacilli recovered tolerated only low levels of hop acids, while the pediococci strains demonstrated hop tolerance and growth at far higher hop acid concentrations.

14. Kaylee Killion

Sponsor: Amanda Simons

Effect of Prolonged Exposure to Resveratrol on Chronic Myeloid Leukemia K562 Cells

Resveratrol is a polyphenolic compound found in grapes and other fruits, berries and plants. Multiple in vitro studies have shown that the chemical at large doses can act in the cell to assist in autophagic and apoptotic cell death and increase the effectiveness of certain chemotherapy drugs. However, these large doses are not physiologically attainable. The effects of the chemical at low, physiologically attainable doses over a much longer period of time have rarely been reported. The aim of this study was to explore the effectiveness of resveratrol at physiologically attainable doses.

15. Christopher Léo *Sponsor: Bryan Connolly*

The Effects of Climatic Changes in the Phenology of Plants near Middlesex County, MA; specifically, in the Flowering Time of Plants during the Spring Semester

Phenology is the study of the cyclical phenomena that occurs in species; usually due to recurring changes in the environment- e.g., the seasons. My study focuses on the phenology of the plants surrounding Middlesex County, Ma. The purpose of the study is to see the trends in flowering time of the different species. Only plants that flower during the spring semester were included in this study. The phenology of plants can be measured by establishing records containing information on when the events in the life of the plants occur. Events such as fruiting, flowering, etc... The data available to scientists concerning the phenology of plants is not helpful when it comes to analyzing long-term trends due to a lack in quantity. Davis et al have demonstrated that herbarium specimens can be a source of data for phenology, thus expanding the ability to look at changes in phenology over longer periods (Davis et al, 2015). From the Framingham State University Herbarium, information about the plant specimens was collected and added to an already established database. I further added more specimens by going out and collecting new samples from 2017 to serve as additional data points. The University of Connecticut Virtual Herbarium also served as an additional source of data. The information gathered over a span ranging from the 1880s to today can be used to possibly visualize how the plants have been responding to climatic changes. Perhaps those graphs may help us to infer the directions that these plants are taking.

16. Barbara Luciano, Alexandra Ricco *Sponsor: Bryan Connolly*

Generation of Late Blight (*Phytophthora infestans*) resistant hybrid tomatoes

Generation of Late Blight (*Phytophthora infestans*) resistant hybrid tomatoes. Alexandra L. Ricco, Barbara D. Luciano, Bryan A. Connolly. Department of Biology, Framingham State University, Framingham MA 01702. Late blight, an extremely devastating disease is most commonly known for causing the Irish Potato Famine which occurred in the 1840's (Fry et al. 1997). It is a result of what is now known as *Phytophthora infestans*. This oomycete is separate from fungi, plants, and animals due to the lack of chitin in the cell wall (Fry et al. 1997). However, some studies do refer to *Phytophthora infestans* as a fungus (De Bary. 1876). *Phytophthora infestans* spreads rapidly under ideal conditions, and can successfully infect a wide array of hosts, mostly belonging to the solanum family. Currently, there are some late blight resistant tomatoes, but a majority of late blight susceptible tomatoes still exist, inevitably causing a great deal of damage to local and large agricultural companies during an outbreak. Due to *Phytophthora infestans* rapid ability to spread, plant pathologists have exhausted great efforts to warn local growers who have not yet been affected by late blight. They have increased research and academic methods in understanding this epidemic on a more detailed level. They have also put a more specific focus on immigrant strains of late blight due to their ability to grow and spread against several preventative methods (Fry et al. 1997). Late blight is still prevailing today, and learning to control and eventually prevent the devastating effects this causes is a top priority in the agricultural community. Our experimental goal is to successfully cross late blight resistant tomatoes with late blight susceptible tomatoes, through means of forced pollination. In doing so, we wish to observe patterns of inheritance and future generations resistance of late blight. We will also be analyzing the number of fruit yielded per cross and number of seeds yielded per fruit as means of determining the success of each cross. We wish to use the results of this experiment as a means of generating late blight resistant hybrids that are aesthetically comparable to heirlooms.

17. Katie Mahr, Kylie McCaul *Sponsor: Amy Knapp*

The Effects of Caffeine on Skeletal Muscle

We investigated the effect of caffeine on the recovery of fast twitch skeletal muscle contractions. Caffeine is known to cause an increase in Ca^{2+} release from the sarcoplasmic reticulum. When Ca^{2+} is released, the muscle contracts which allows for a faster recovery after fatigue. To examine the effects of 2mM caffeine on fast twitch skeletal muscle recovery, Extensor Digitorum Longus (EDL) muscles were dissected from mice, placed in a bath of Krebs-Henseleit Ringer Solution bubbled with 95% O_2 , 5% CO_2 , and attached to a force transducer. Each muscle was subjected to fatiguing contractions, followed by a recovery period, in which muscles were either challenged with 2 mM caffeine or a control condition of ringer solution. After the muscle recovered to 80% of its initial contraction, the muscle was subjected to fatigue contractions for a second time. Each fatigue period and the recovery period were timed to determine if 2mM Caffeine allows the EDL to recovery faster and fatigue slower the second time. Our results support what others have found, which is that 2 mM Caffeine allows the EDL to recover to 80% of initial contraction faster than the control. The results suggest that post workout beverages may be more beneficial if they contain levels of caffeine that will assist in muscle recovery.

18. William Miller *Sponsor: Bryan Connolly*

Sugar content and viability of hybrid *Solanum muricatum* x *caripense*

We examined a hybrid between two species of nightshade native to South America—*Solanum muricatum* and *Solanum caripense*. The two are closely related evergreen shrubs, bearing edible fruit that is similar in flavor to cantaloupe or honeydew melon. Despite their success as crops in their native range, only recently have pepino (*S. muricatum*) begun to emerge as marketable produce in other areas of the world. Tzimbaló (*S. caripense*), although typically more sweet than pepino, are less well known in the agriculture industry. As both species interbreed readily, we sought to understand if a hybrid would bear fruit that were higher in sugar or subjectively better tasting than either parent. Moreover, as the F2 generation gave rise to individuals with multiple different phenotypes, we determined whether this had any effect on the fruit flavor or viability of these hybrids.

19. Joshua Morin *Sponsor: Amy Knapp*

The Relationships Amongst Mobile Device Use, Posture, and Health Variables on a University Campus

Improper mobile device posture and over-usage have been suggested to cause altered posture (Forward Head Posture and Rounded Shoulders) and other health issues such as pain, headaches, altered breathing, and psychological disturbances. The purpose of this study was to determine if there are correlations between mobile device use (posture and usage), posture (head and shoulder), and health variables in a population of college students. The study also addressed if there is a significant difference between subjects with ideal posture (standing head and shoulder posture and mobile device posture) and altered posture to determine if the recommendations of adopting an ideal postures makes a difference. Additionally, the study investigated if breathing was associated with mobile device use and health variables since there is limited research on this subject. Using a convenience sample, mobile device posture was measured in 85 subjects using a 0-4 scale, where a value of zero was ideal, neutral head posture, and 1,2,3 or 4 represented 15, 30, 45, and 60 degrees of head flexion. Head and shoulder posture and breathing pattern and rate were measured using field tests. Average daily head and shoulder pain, anxiety, stress, and headache intensity levels were determined through survey using a Numeric Analog Scale (NAS) of 0-10. Weekly headache frequency and daily mobile device usage was also determined through a survey. Preliminary results from the study showed positive correlations between

Framingham State University Student Poster and Presentation Day

head posture and mobile device posture, breathing rate, and stress. There were also positive correlations between shoulder posture and breathing pattern and stress and anxiety levels. No other measures of posture were significantly associated with health variables. While not causative, these results suggest that education on proper posture, mobile device use, and proper breathing is warranted.

20. Kimberly Mullen *Sponsor: Richard Beckwitt*

The Role of the One-to-One Aide in Rehabilitative Care

The role of a one-to-one aide is to support patients in reaching their therapy goals and providing personal care including assistance with activities of daily living such as using the toilet, eating, and transferring in and out of their wheelchair. CDC's National Center for Health Statistics reported that in 2012, 713,300 Americans lived in residential care communities. During the summer of 2016, I spent my time working at the Pappas Rehabilitation Hospital for Children (PRHC) as a one-to-one aide in their summer program. PRHC is a pediatric chronic care hospital for children ages 8-22 who have a physical disability that requires medical management. PRHC's hospital-based environment offers medical care coordinated with therapies including physical therapy, occupational therapy, and speech therapy. PRHC offers patients a variety of recreational activities such as swimming, horseback riding, and adaptive sports. Care for individuals with disability is important, as it allows them to live as independently and safely as possible with an increased quality of life. This project aims to illustrate the importance of one-to-one care for disabled patients.

21. Frank Servello *Sponsor: Amanda Simons*

The effect of low-dose resveratrol on H2AX phosphorylation and apoptosis in K562 and HeLa cells

Resveratrol is a natural polyphenol that has been shown to modulate the activities of sirtuins - a protein family with mono-ADP-ribosyltransferase or NAD-dependent histone deacetylase activity. Sirtuins regulate a broad range of biological pathways including DNA damage response and repair, aging, and senescence, which has resulted in studies attempting to evaluate resveratrol's potential applications in chemotherapy or cancer prevention. Most studies which have elucidated resveratrol's modulation of sirtuins have used resveratrol concentrations in the range of 25-300 μM over 12-72 hours; however, clinical studies have demonstrated that resveratrol reaches a peak concentration of approximately 2.5 μM . Few studies have pursued long-term treatment with resveratrol. Previous work in our lab has demonstrated that 2.8 μM resveratrol treatment over six weeks in K562 cells results in mildly increased basal H2AX phosphorylation and decreased H2AX phosphorylation in response to hydroxyurea. It remains unclear how other cell lines may respond to similar treatment, if such a response would significantly contribute to apoptosis or DNA repair, and if treatment period is a significant variable in either case. In this study, we extend our analysis to other cell lines.

BUSINESS AND INFORMATION TECHNOLOGY

22. Apollo Bijjumbuko, Rhuel Worrell *Sponsor: Karen Druffel*

Smartphone Usage and Security Awareness

Today's smartphones are filled with personal information such as credit cards, online banking accounts, and other confidential data. As the smartphone continues to make technological advances, users must be able to stay up to date with security measures to protect their personal information. Some security mechanisms that have been developed to protect user data include password encryption and finger print recognition. Before users can stay up to date with security features offered by their smartphone devices, we must first know what the level of awareness is amongst the average smartphone user [A1]. This paper will explore published articles that support the results found in the study conducted on smartphone

Framingham State University Student Poster and Presentation Day

security awareness. The paper will examine various authors' articles and the relationship between their data and the data found in the study we will conduct. The survey that will be conducted will better help determine the level of awareness amongst the average person on a college campus. With this data, we can better determine how safe the information on a smartphone for the average person on college campus is and if they are taking full advantage of all the security features their device offers. We will gather this information through surveys which will be given to two sets of individuals. We will survey college students and college faculty. The paper will compare contrast any similarities and differences based upon the results found. After these results, we will discuss and draw a conclusion on the study.

23. Jack Cone, Joao Dasilva Marinho, Eliezel Vargas *Sponsor: Karen Druffel*

Trust in Autonomous Vehicles

With the emergence of artificial intelligence in autonomous vehicles, there rises questions and concerns about this new technology. We will investigate whether artificial intelligence in autonomous vehicles is both reliable and trustworthy for public use within various scenarios. We want to measure the level of comfort among university students in the Northeast of the United States. Therefore, measuring the level of receptivity of autonomous vehicles in the current automotive market. In order to gather this data, we will conduct a survey at Framingham State University for empirical data. For theoretical data, we plan to collect information from published articles, including but not limited to scholarly journals and trade journals. Ultimately, we seek to make conclusions about artificial intelligence in autonomous vehicles by measuring our sample's level of trust in comparison to the data that we find through our research. We hope that the information collected will be able to eliminate possible barriers standing in the way of the ubiquitous adaptations of artificial intelligence in automobiles or Autonomous vehicles.

24. Joshua Crowder, Daniel Trigg *Sponsor: Karen Druffel*

General Knowledge Levels and Behaviors of College Students Related to Two-Factor Authentication with Personal Accounts

With the rapid advancement and integration of technology and day to day life, there comes an increased risk of cyber-crime. Almost every person with access to modern technology and the internet uses it to somehow store at least some of their important personal information. Some examples of this information can include financial information, social security numbers, personal media, and anything else that can be used to commit crimes such as identity theft, larceny, plagiarism, etc. As a result, cyber security experts continuously look for new and innovative ways to add extra levels of security to online personal accounts and devices. One of the methods that have proven very successful is two-step authentication. This simple yet very effective way of adding an extra level of security works by requiring two different methods of user verification to access an account. Some examples of methods include requiring a user to have pre-determined security questions or the use of a personal device for verification, such as a phone number receiving a temporary code via text. The purpose of this study is to determine the prevalent attitudes, levels of knowledge, and behaviors of college students in regard to the use of two-factor authentication on their online accounts. Users may not be aware of the usefulness of this technology, or may not have the option of using this technology on some accounts important to them. We will use a survey given to college students that will gather information related to their attitudes, levels of knowledge, and behaviors related to two-factor authentication.

Framingham State University Student Poster and Presentation Day

25. Rebecca DeMeo, Nathan Natanel *Sponsor: Karen Druffel*

The Advancement of Artificial Intelligence and the Impact on the Future of Job Security

The advancement of technology in our everyday lives is constantly expanding. Artificial intelligence has become a major focus as part of the evolution of technology in recent years. With the introduction of applications such as Siri for the iPhone and products such as self-driving vehicles and self-check-out registers, artificial intelligence will unquestionably continue to grow and become a major influence in the work force. The purpose of this research paper is to discover the following: Are college students aware of what artificial intelligence is? Do college students believe Artificial Intelligence will take over an abundance of jobs in the next 20-40 years? How do college students at four-year Universities feel about the changes artificial intelligence may bring? To gather this information, we will administer 75 surveys to college students at a four-year University to deduce to what extent students are informed of the future impact that artificial intelligence will have on their lives.

26. Lawrence Lamisere, Millicent Whitely *Sponsor: Karen Druffel*

Facebook cyber security

Privacy Settings. We will evaluate end users attitude, behavior and knowledge of Facebook security features. There are three risks to privacy; the first risk is allowing third parties to collect users' information, and Facebook's willingness to provide them with such information. Secondly, Facebook does not take the necessary steps to safeguard and protect user privacy. The last and most important factor is the user's willingness to disclose so much information. In order to explore these mitigating factors further, we will collect information from the User Agreements and Privacy Policies on Facebook, in order to gauge students' knowledge of Facebook security features, random sampling surveys will be given to Framingham State Students to discern if students are aware that the shared information being collected through Facebook is not actually private.

27. Corrie Lovell, Jacqueline Lovell *Sponsor: Karen Druffel*

AI Technology in Retail

Through use of Artificial Intelligence, many retailers minimize face-to-face encounters between the employee and the customer. In this paper, we define retailers as restaurant chains, either fast-food or the classical sit-down restaurants, general merchandise and specialty stores, or online services only. With online purchasing, mobile ordering, and checkout-line-free (Amazon Go, Apple Store App) shopping emerging, customers only have to interact with live employees to the degree in which they want. With the emergence of different shopping methods such as online purchasing, retailers that did not have an online presence had to adapt to compete. Fast-food and restaurants have enacted a mobile ordering system where the only employee interaction they receive is when they get handed their food. This is important to predict future trends for customer interactions with employees and what we can expect. The trends that are emerging today will predict how the retail industry will look tomorrow and our research will be looking at how the public will receive it by finding review online and distributing surveys to the Framingham State University academic community.

CHEMISTRY

28. Letycia Pereira *Sponsor: Sarah Pilkenton*

Sorption of Pyrene by Commercially Available Water Filters

The purpose of this project was to adapt a reductive amination for use in the undergraduate organic laboratories. Following optimization, a full derivatization and characterization of the compounds used would then allow for the use of different aldehydes and/or amines as student unknowns.

29. Catherine Soliman, Ezequiel De Leon *Sponsor: Steven Cok*

The Effect of phytochemical Extracts on the Expression of Sirtuin-1 that Could Prevent the Development of a Pre-diabetic State to a Diabetic One Using a C.elegans Model

The circulating FA and their intracellular accumulation that are observed in obesity lead to a state of cellular stress and hypoxia that results in the infiltration of macrophages into the adipose tissue (AT) and subsequent release of nuclear factor- κ B (NF- κ B)-induced pro-inflammatory cytokines. Through various mechanisms, these cytokines, especially Tumor Necrosis Factor- α (TNF- α) interfere with the insulin signaling pathways to promote insulin resistance. A protein that counteracts this state of inflammation by several mechanisms is AMP-dependent kinase (AMPK). AMPK and Sirtuin-1 (SIRT-1) are induced by similar factors and AMPK further increases SIRT-1 expression. Together, they indirectly inhibit NF- κ B and its downstream inflammatory cytokines, thus attenuating insulin resistance. Among the factors that induce AMPK/SIRT-1 are dietary polyphenolic compounds. In this experiment, *C.elegans* were used to determine the level of expression of the SIRT-1 analogous gene upon exposure to *Caesalpinia sappan* plant extract with the goal of potentially preventing the development of a pre-diabetic state to a diabetic one.

30. Ezequiel De Leon, Catherine Soliman *Sponsor: Steven Cok*

The effect of *Caesalpinia sappan* extract on the expression of a SREBP1-c promotor-GFP transgene in *C. Elegans*

Type II Diabetes Mellitus is a metabolic disease characterized by insulin resistance and hyperglycemia. Hypertrophic obesity, as characterized by an enlarged adipocytes and decreased adipogenesis, has been strongly correlated with type II Diabetes Mellitus and ectopic lipid accumulation, a major component of the pathophysiology of insulin resistance through the mechanisms of lipotoxicity and lipid induced insulin resistance. Increased lipid storage, through increased adipogenesis, is thus an area of great interest in the treatment and prevention of type II Diabetes Mellitus. This study aims to study the effect *Caesalpinia sappan* extract on the expression of a SREBP1-c promotor-GFP transgene in *C. elegans* as it relates to adipogenesis, increased lipid storage, and the prevention and treatment to type II Diabetes Mellitus.

COMMUNICATION ARTS

31. Britney Cita, Alison Evans *Sponsor: Virginia Noon*

Viva La Espadrille's

Espadrilles, a pre-shaped enclosure are canvas or often cotton shoes worn by men and women that can be dated back to the 13th century. They were worn by peasants in the area between Spain and France called Catalonia and also in the Basque region, which is an area near the western Pyrenees Mountains that straddles the border between France and Spain. Espadrilles were originally flat-bottomed and made with a material called jute, which was usually used to make rope and matting. The jute started off being tied to the canvas material, but is now glued in modern day manufacturing. Fabric and jute were used

Framingham State University Student Poster and Presentation Day

during this time because they were cheaper than leather, and they were typically worn in the spring and summer months or in warm climates. It was not until the nineteenth century that the production of the handcrafted shoe truly spread. The French city Mauleon kick-started Espadrilles' popularity by selling them in vast quantities to military soldiers. However it was not until the 1940's that these shoes became admired in the United States. A famous actress during the 1940's, Lauren Bacall, wore espadrilles with a strap around the ankle. Around the 1960's espadrilles were updated by the famous designer, Yves Saint Laurent; who came up with the idea to add a heel. This enhancement drew even more attention to the shoe, eventually making it an integral part of world fashion. Today espadrilles are known and worn as casual footwear around the world and can be popularly seen as Toms brand shoes.

32. Lillian Curley-Swannie, Nate Sherrill

Sponsor: Virginia Noon

America's First Footwear: Moccasins

Moccasins are a type of footwear made out of soft leather materials and decorative patterns originally worn by Native Americans. Shoes are temporary body supplements and are pre shaped enclosures according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The thickness of the sole depends upon where the tribe was located in the US, if they were in the sandy plain region, it would be thinner and if they were in the mountainous region, it would be a thicker more protective sole and lined with rabbit fur. Later on, after European contact, sheepskin was used to provide warmth and add another layer to protect the feet from cold and water. Moccasins have been worn by Native Americans throughout the United States for many generations. The popularity of the moccasin increased in the 20th century throughout the world as both a shoe and a slipper. The way the moccasins were made and the designs on them are dependent on the location of the tribe.

33. Ashley Herbert, Kyle Hicks, Ben McNally, Marielle Sciore, Brittany Yates

Sponsor: Kate Caffrey

Kennedy Center American College Theatre Festival

During the Fall of 2016, Framingham State University's Theatre program in the Communication Arts Department produced the classic Thornton Wilder play, "Our Town". The show's Director/Producer/Designer Professor Kate Caffrey entered the play into the Kennedy Center American College Theatre Festival (KCACTF) Region I competition. Five students were invited to attend the festival at Western Connecticut State University in January 2017. The students selected were Marielle Sciore (Actor), Ben McNally (Actor), Ashley Herbert (Actor), Kyle Hicks (Actor) and Brittany Yates (Crew). This five day festival/ conference brought New England/New York college theatre students together with professors and theatre professionals from around the country. The student actors auditioned for the Irene Ryan award and for a chance to be featured in ten minute and one-act plays written by playwriting students. The actors who were cast in these plays worked on the plays in rehearsals with a professional director, student stage manager and the playwright. The plays were then given staged readings in front of an audience. The KCACTF also featured many workshops for students interested in both onstage and backstage work, including scenic, costume and lighting design and construction, stage management, dance, movement, vocal training, playwriting, directing and theatre administration. The whole week in Connecticut was a surreal learning experience for all of us and we loved every minute of it.

COMPUTER SCIENCE

34. Michael Bercume, Leigh Willis *Sponsor: Karen Druffel*

Password Complexity Requirements. Detriment to Security?

Data security policies have always required a balance between the level of security attained and ease-of-use for those that need to access data. Those responsible for securing digital data have employed many techniques as computing technologies have evolved, with one of the most common methods being the use of password-based authentication. Protection of data can be attained through the enforcement of policies requiring sufficiently complex passwords. Along with password complexity, standard practice has evolved to require users to change their password at a predefined frequency. Insecure methods of password management may result when users must remember continuously changing passwords across multiple platforms. In this paper we compare the riskiness of consumer behavior when password changes are forced upon the user as opposed to when password changes are not forced. Data regarding user behavior has been sampled via a survey of users. Analysis of this sampling shows that users exhibit a lower likelihood of enabling a security breach through poor password management when they are not required to regularly change their password.

35. Benjamin Britton, Evan Jensen *Sponsor: Karen Druffel*

How the effectiveness of security features in Apple's iOS is related to consumer understanding, acceptance, and trust.

As mobile devices increase in popularity, both privacy and security are a necessity to end users. In the last few years, user privacy has been a priority for developers, as consumers have turned their focus towards the handling of their private data. In this study, we identify some of the security features built into iOS, Apple's mobile operating system, and if consumers are aware of, trust, and take advantage of the safeguards put in place for them by the manufacturer. To conduct our research, a random group of iPhone users will be surveyed to determine their familiarity with the security features in the operating system, whether or not they take advantage of these features, and if so, how trusting and comfortable they feel regarding the security of their personal data. We hope to gain insight into the end users' awareness of these features, and how their awareness contributes to the overall effectiveness towards security and privacy.

36. Brendan Burdick, Derek Nadeau *Sponsor: Andrew Jung*

Software Development Helps Develop 4th Grade Students Math Skills

Recently, United States education has invested in the "CS for All" initiative. The important part of this initiative is to present computer science theories and practices to students at an early age. Researchers have reported that using computers and similar technologies in the classroom tend to enhance a student's performance in specific subjects. We used this research as inspiration when we designed software to help students develop mathematical skills. We developed a software called "Fraction Worksheet Generator" that automatically generates fraction worksheets that produce random questions. We developed this software to help 4th grade students who are suffering with fraction-based concepts in elementary school. The proposed system also produces the random word problems as well. Additionally, this software has several useful features such as scoring reports, secure login and logout, Admin level control, and different level question production. The software successfully designed and implemented and we will apply for it to 4th grade students in near future.

37. Kenneth Carter, Varinder Real *Sponsor: Karen Druffel*

Security Software and its Importance in Today's Society

A user's knowledge in regards to security software is very important in today's high-tech world where security and privacy is paramount. Our study sought to learn about the average student's knowledge of everyday security programs on their computer, and use this gathered information to learn about their behavior. Throughout this study surveys were used to collect general information about a user, their knowledge of such security systems, and how they would handle security breaches or other security issues on their computer. There were two sections on the survey, one focused on home computer security and the other on work, to try to see if there was a correlation between security habits at home and at work. Their answers were divided up into common risk behaviors and safe computer security practices that may apply to the average college student. Finally, this information was compiled and used to try to determine if any major problem areas or bad habits exist, and if any good practices were common.

38. Cameron Coburn, Joseph Tranghese, Maxwell Young *Sponsor: Karen Druffel*

Do people trust artificial intelligence in finance?

In the modern age, technology has evolved to a highly advanced stage, and it allows for much greater conveniences than in the past, even allowing for advanced algorithms and programs to assist in decision making or even making the decisions. These algorithms range from the relatively simple, like Turbo Tax's preparation software, to highly advanced ones, like IBM's Watson, which has been implemented in business environments. With the rate that technology has been improving, there is greater potential for enhanced algorithms and AI to be used in the financial sector for various applications. The success of the implementation, though, would be dependent on the user's willingness to accept and trust artificially intelligent services and devices. To this end, we conducted a study on a select sample of students at Framingham State University in Massachusetts, asking participants whether or not they would be trusting of artificial intelligence with their financial well-being.

39. John Egan, Matthew Yee *Sponsor: Karen Druffel*

Artificial Intelligence Knowledge Gap

In a short time period, artificial intelligence has gone from a futuristic concept to a technology many people use in their daily lives. With products like Amazon Alexa, consumers have access to many basic forms of artificial intelligence readily available for home use. Even with these products readily available, many people still lack knowledge regarding the current state of artificial intelligence. The type of education an individual is pursuing might affect the level of knowledge. A person whose college education has them learning about humanities and social sciences may not be as knowledgeable as someone whose studies focus on physical sciences. Less knowledge can result in fear or uncertainty about further developments of a technology; therefore, identifying if there is a significant knowledge gap is important. People with less knowledge on the current state of artificial intelligence and how its developing would have no understanding of how it could affect future jobs and other important aspects of life. In this study, we focused on the education of college students who are currently attending a four-year public university. We researched and gathered information from several academic articles, as well as surveyed a random grouping of students from each of the three educational traditional disciplines to find out if field of study correlates with knowledge gap relating to information on artificial intelligence.

Framingham State University Student Poster and Presentation Day

40. Colin James Fuller, Kazim Tirmizey

Sponsor: Karen Druffel

Opinions of Artificial Intelligence Integration in Human Society

Artificial Intelligence (AI) has slowly become an integral part of modern human society. People rely on AI for tasks ranging from creating a reminder on their smartphone to guiding them in a self-driving car. AI has started taking control of important decisions that need to be made in our everyday lives. The purpose of this study is to gain further insight on the average American's knowledge about AI through surveys distributed to Framingham State University students, faculty, and staff, as well as through research articles. The survey will measure consumers' current understanding of AI and willingness to rely on AI for decision-making relating to important matters such as privacy and safety in both private and public spaces. By reviewing the results of the survey, the study can inform design decisions for further AI development and predict future trends in AI adoption rates. AI is expected to have a significant impact on society in the future; however, to accurately predict future trends, it is vital to understand consumer perceptions in the present.

ENGLISH

41. Jackie Carlson

Sponsor: Evelyn Perry

Bridges and Boundaries: Choice in Young Adult Literature

The purpose of this project is to examine young adult literature that celebrates choice as a thematic motivator for lifelong readership. By using young adult novels that encourage choice, teachers can pass the literary torch onto students rather than expecting one flame, or one book, to illumine all. Young adult novels have been valued by teachers for their relatable voices and accessibility, and prized for their role as a vehicle to classic literature. Using young adult literature solely as a bridge ignores the capabilities of the literary art and the reader. By providing young adult novels as a first step, students might reach the predetermined canonical destination: adult reading, the classics. However, since authorities are still choosing the destination and the path, students merely walk the same line as their classmates and generations before them. By sticking to one path, educators favor safety over individuality and authentic textual engagement. Instead, as a lead to independent reading, teachers can use young adult novels to examine the value and weight that choices have. By studying agency and choice in young adult literature as an art form rather than a vehicle, students can find empowerment in not only their role as a reader, but their role in the world, where people do not genuinely succeed when they cross a structure that's already been built, but when they actively and thoughtfully build something of their own.

42. Jordan Ragan

Sponsor: Virginia Noon

The Perfect Poncho

The poncho is a sleeveless garment with a hole for the head that hangs from the shoulders. When laid flat the poncho forms a diamond shape. The poncho is a suspended body enclosure according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The poncho can identify different ethnic groups in South America along the Andes Mountain range and the poncho's design represents different South American cultures. The Peruvian color is red, while Argentinian ponchos are white and blue. The main source of fabric used in the South American poncho is a yarn that is made from the fur of an alpaca. In the 1960s the poncho came to the United States and was popular in the hippie culture for the traditional colors and materials. In the 2000s the poncho was found in mainstream stores across the country. Today ponchos are made from both natural and synthetic fibers and yarns and blends. The poncho has been adopted around the world and has been manipulated to fit the fashion sense of different areas. The poncho is still known for its highly cultural background, and continues to be a staple piece in South American countries.

ENVIRONMENTAL SCIENCE

43. Gabrielle Dame, Grace Orfanello

Sponsor: Virginia Noon

Dancing For Dirndl's

The dirndl was originally a garb or outfit of clothing worn by the working class of the 18th century in places where Bavarian cultures were practiced. A dirndl, according to the classification system for dress, is a body supplement. It is a combination type of a wrapped enclosure with a pre-shaped bodice and the skirt would be considered a hanging enclosure draped from the waist (Roach-Higgins & Eicher, 1992). The dirndl was also used as a servant or maids dress. The word dirndl comes from the word 'dirn' which means young girl and sometimes was even used to describe female servants and maids of the lower class and those working on farms. The garb includes a blouse, bodice that resembles a corset, a full skirt and an apron. The dirndl's style slightly changed through the seasons, for the winter it was a full dress with long sleeves and made of heavy materials for warmth and in the summer it was made of lightweight materials with short sleeves worn under a sleeveless bodice. The basics of the traditional dirndl have stayed the same throughout the years, yet modern fashion has put its own spin on it. The changes include different styles such as soft and simple to vibrant and exquisitely crafted styles with rich fabrics. Unlike in the 18th century dirndls are no longer worn as an everyday and are now worn for traditional Bavarian cultural events.

FASHION DESIGN & RETAILING

44. Haley Alexon

Sponsor: Haewon Ju

Translucence-A Conscious Corporation and Supply Chain

With increasing pressure from consumers to place emphasis on more than just their bottom line, many retailers are making use of the Triple Bottom Line Theory that motivates companies to be aware of the social and environmental implications they have in addition to their profit in order to become a truly sustainable business. The Educators for Socially Responsible Apparel Practices have put forth a competition for students to create their own retail store that incorporates socially responsible business practices in order to differentiate itself from brands in the market today. Translucence is a revolutionary retail destination that incorporates an apparel design lab in store to allow consumers to view production and make the supply chain their purchases go through accessible to them. This brand was created with the hopes of illuminating the functions of the apparel supply chains and utilize it to engage customers. In order to put this revolutionary concept of making consumers involved in all aspects of the products they purchase, socially responsible techniques will be utilized such as educating the customer base, minimizing waste by creating made to order products, and allowing customers to understand the value in our products through our supply chain transparency and growing our business as a result.

45. Haley Alexson

Sponsor: Ruirui Zhang

Generational Divides on Domestic Production

Domestic products, or products that are "Made in U.S.A." have been a part of the retail landscape for many years. As the supply chain of the apparel industry becomes increasingly global, domestic production remains an option for retailers despite the recent success of fast fashion brands. The purpose of this research is to study the generational divides that exist in regards to domestic production and to determine how retailers can best appeal to customers regarding domestic production across the spectrum of generations in America. In order to understand consumers attitudes towards domestic production dependent variables such as age, education level, and discretionary income were compared to independent variables such as environmental consciousness, ethnocentrism and purchase intention. The

Framingham State University Student Poster and Presentation Day

results of this research found that consumers who identified themselves as nationalistic which were respondents from older generations were more likely to purchase domestically produced products. In opposition, respondents who identified themselves as a global citizen which were people from younger generations were less likely to purchase domestically produced products. In addition, respondents from older generations were more certain if they purchased domestically produced products whereas respondents from younger generations were less certain. For fashion retailers this research can be beneficial because they can create a promotional strategy that appeals to nationalistic older generations. The fashion industry can also benefit from this research because it shows them that millennial, or the age cohort with the most purchasing power, do not value domestically produced products but rather value brands that they view as global and environmentally conscious.

46. Haley Alexon, Tresja Belton, Christina Fazio, Josephine Nazzarro *Sponsor: Ruirui Zhang*

Consumer Behaviors of The North Face Shoppers

Fashion brands make themselves come to life for their customers and it is imperative that these brands understand how and why their consumers shop in order to maintain their success. This research looks at consumer behaviors of The North Face customers through in depth interviews that examines demographic information in addition to attitudes and purchasing behavior. The results of this research not only give insight into how The North Face customers shop but also indicates higher level trends regarding strategic retail planning, customer engagement, and building customer loyalty. The implications of this research will be beneficial for understanding consumer behavior which is essential to all retailers and not just to outdoor retailers or The North Face.

47. Kayla Dutcher *Sponsor: Ruirui Zhang*

Personal Styling

The purpose of this study is to determine the differences between different personal styling companies, comparing department stores, boutiques and online styling companies. The goal is to see what marketing strategies these companies are utilizing to be successful or what more they can do to compete in the industry and increase consumer awareness.

48. Alessandra Gallo *Sponsor: Virginia Noon*

Rubber Bands & Buckets of Dye

Tie-dyeing is a method of producing textile patterns by tying parts of the fabric to shield it from the dye that is being applied. Tie-dyed textiles are body supplements that are pre-shaped enclosures according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The tie-dye method originated around the 6th century in China. Once trade flourished, this innovative way of dyeing fabrics was introduced to Asia, India and parts of the Far East. The traditional form of tie-dye today in India is called Bandhani, in Japan it is called Shibori, and in Thailand it's called Mudmee. Japan's national dress, the Kimono, is dyed intricately using their traditional Shibori method. Tie-dye was first introduced to the United States sometime around 1900, but did not become popular until the 1960s. The 60s was the beginning of the hippie movement which led to the rapid acceptance of tie dyed clothing. Tie-dye was a popular fashion choice amongst the youths who opposed the Vietnam War, because it told a story about what they stood for. Tie-dyed clothing began to disappear sometime around the 1980s, but was desired again at the beginning of the 1990s. Influenced by rock stars such as Janis Joplin and John Sebastian, tie-dye was an inexpensive way to customize clothing for rock concerts. Elevated and eye catching tie-dyed fashions can be found on the runway today thanks to high end fashion designers like Michael Kors, Gucci, and Alexander Wang.

49. Felicia Lauture

Sponsor: Virginia Noon

The Raving Rasta Hat

The Rasta Hat also known as the Rastafarian hat or the “Tam” is a knitted or crocheted tall cap traditionally worn by Rastafarians in Jamaica. The depth of the cap, ranges depending on the length of the wearer's dreadlocks. Dreadlocks also referred to as “Dreads” are defined as, the process of matting ones hair into locks. The Rasta cap consists of three main colors, red, green and yellow, that derive from the Ethiopian flag. The cap is a temporary body supplement and is a preshaped enclosure according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The meaning of the color patterns and stripes, derive from the Rastafarian movement that originated in Ethiopia and developed and emerged in Jamaica in the 1930s. The Rastafarian movement, also known as the “Rasta” movement came about in the poor part of Jamaica. The movement was made to motivate those in the lower economic class, to rise and challenge the current government. The Rasta hat is worn for many different reasons, including religious views and protection for ones locks by Rastafarians. The Rasta hat gained popularity in the United States in the 1950's through immigration and travel to and from Jamaica. As immigration and travel increased, so did the Rasta movement. The Rasta cap, was quickly adopted by non-Rastafarians who found the movement appealing, in affect having a large impact in the United States and the Rasta cap has become an authentic item in U.S. culture.

50. Margaret Looney

Sponsor: Virginia Noon

Hip Hip Beret!

The beret is a circular hat that is worn on top of the head. It is a body supplement that is a pre-shaped enclosure according to the Classification System of Dress (Roach-Higgins & Eicher, 1992). Originally made from boiled wool, the beret comes in many colors and textures. The beret plays a major role in both men and women's dress. The beret has a legacy in various countries militaries and people. It is worn to protect, satisfy, and communicate. In the nineteenth century France adopted the beret, and was worn by farmers, artists, painters and schoolboys. After this, the British military adopted the beret as a form of protection and each branch of the armed forces had different colors to differentiate roles. The beret holds an elite title within various fighting corps, including “the green beret” which includes a US special force, established by President John F. Kennedy. Throughout the world, the beret holds a major role in the military and simultaneously a role in fashion.

51. Mary McCarthy

Sponsor: Virginia Noon

UGG Boots: From Beaches to Boston

UGG is a popular footwear company for men, women and children that originated in both Australia and New Zealand. UGG eventually made its way to the United States in Southern California in 1978 when Brian Smith traveled from Australia with a bag of sheepskin boots he was hoping to sell to surfers along the beach. Sheepskin covers the outside of the boot while the inside is completely lined with fleece and completed with a rubber sole made from ethylene vinyl acetate. This is also used in the process of making running shoes, allowing maximum comfort. The brand is famous for its sheepskin products that allow both warmth and comfort for the consumer. The “classic style” is UGG's most popular seller, which ranges in different boot lengths and colors. While the boots were originally designed for surfers, UGG's eventually made their way to colder climates and are worn by many throughout fall and winter seasons. In addition to shoes, UGG also produces clothing and home accessories such as pillows, blankets, bedding and towels. UGG is constantly creating new products and utilizing celebrity endorsements to reinvent the brand and keep their large consumer base happy.

Framingham State University Student Poster and Presentation Day

52. Savannah Mixay, Brianna Peter

Sponsor: Virginia Noon

Amour Bohemien

Bohemian dress acted as a source of nonverbal communication through the people of the arts and literature in Europe and America. Bohemian dress derived in the mid- nineteenth century and consisted of embroidered blouses, flowy maxi skirts, dark large floppy hats and sandals. Elaborate jewelry was added to complete the desired look. According to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992), Bohemian dress is a variety of body supplements that are pre-shaped, wrapped and/or enclosed. One associated (Roma people) with the Bohemian culture dressed with the intention to resist from the cultural norms of society. The Bohemian culture became accustomed to the Roma people of India, Europe and Persia during the fourteenth century. Popularity of the Bohemian dress in the United States arose in the 1850s when Henry Murger publicized the culture in his sketches. As national dress, Bohemian dress consisted of versions similar to the Roma people. From the late nineteenth to early twentieth century Bohemian dress became a distinct style as world dress and vivid patterns and bright colors were worn both by men and women to set them apart from the social norms of dress. During the early twentieth century, Bohemian items such as embroidered blouses became an item of world fashion. As time progressed, Bohemian dress began to spread worldwide and is still a style that is popular among many. Today, many upscale their Bohemian looks fringe, patterns, customized graphics to make the ensemble more on trend.

53. Rachel Mullins

Sponsor: Seunghye Cho

When Fashion Meets Cultures

The world is full of many people, many cultures, and a vast range of inspiration. As a fashion designer, you must understand that inspiration can come from anywhere and from anyone. Cultures influence how people dress and what styles they chose to express themselves. Awareness and comprehension of these different cultures can be a valuable tool to all designers. The purpose of this project is for a designer to learn about another culture or lifestyle that is different from their own and find innovation that can inspire their apparel designs. For this project, a young woman from the Islamic culture who has lived in both Pakistan and the United States was interviewed by the designer for a cultural background in clothing worn in Pakistan. The interview questions were categorized into demographics, psychographics of shopping habits, Pakistani culture, and style elements to gain sufficient insight into the subject's cultural dress. Based on the interview, the designer created six illustrations of original apparel designs to reflect a mix of both Pakistan and Western culture. This mini collection is designed for women who are between 25 and 35-years-old who look for professional and modest styles with pops of bright, accent colors found in Pakistani clothing. Besides style elements from the Pakistani culture, an underlying theme in the designs is inspiration of the Spring time in Boston. One of the six original designs was sewn into a complete outfit to show how the design process occurs from ideas and research to illustration to an actual product.

54. Hannah Nyman, Stephanie Rodriguez

Sponsor: Virginia Noon

Are You Hip? Hop Into This!

After the rise of hip-hop genre of music in the 1970s, the fashion worn by hip hop artists spiked in the 1990s. Hip-hop dress also known as "big fashion" is not simply defined due to the multiple influences it has, but is used as a reflection of personal narratives and transcultural expression. Nearly all aspects of the Classification System for Types of Dress are fulfilled in hip hop fashion (Roach-Higgins & Eicher, 1992). This type of dress includes every day wear such as baggy bottoms, tracksuits, sneakers/ combat boots, oversized t-shirts, and flashy gold jewelry. This fashion developed from the influence of hip-hop culture as public figures introduced a new informal fashion wave that made a significant impact to the fashion world.

55. Joy Rhinehart, Patricia Romelus

Sponsor: Imranul Islam

To Improve the United States Marine Corps Uniforms During Deployment for Comfort and Safety Standards

BACKGROUND: The United States Marine Corps has a total of three uniforms issued to them upon the successful completion of basic training. The uniform that will be analyzed through this research is the uniform worn during deployment. More specifically the t-shirt is worn under the protective gear that is issued to Marines. When on deployment Marines need to carry everything they need while on a mission. The issue relates to the heavy burden of the weight of gear and the hot climates these Marines are occupying call for an undershirt that offers wicking ability. However, the fabric utilized now if exposed to fire will melt to skin. **OBJECTIVE:** The objective is to find a fabric that offers the wicking property that is necessary for these Marines to function properly into climates as well as have flame retardant properties. **METHOD:** This will be tested by utilizing multiple fabrics and testing the wicking ability. As well as using the same fabric and testing how flame retardant it is. **EXPECTED FINDINGS:** The results should find a fabric that will an acceptable balance of wicking and flame resistant in order to improve that comfort and safety for Marines deployed. **CONCLUSION:** To creates a fabric that improves the overall comfort and safety of Marines on deployment by improving wicking and flame-retardant properties in the t-shirts worn.

56. Erika Simon

Sponsor: Virginia Noon

Keeping Up With the Kimono

The kimono is a T-shaped loose fitting robe with a V-neck opening that is straight cut with wide sleeves. Kimonos are typically a body supplement, combination type of both pre-shaped and wrapped according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The kimono is the national dress of Japan and the garment itself helps to identify specific qualities about the wearer's personal identity and status. The kimono is a garment that easily cycles in and out of fashion over time because with a quick manipulation of color, fabric, pattern, texture, and shape, it will coincide with the current season. Designers such as Tom Ford, YSL, Prada have created their own appropriations of this garment that have been featured in Vogue causing a larger gain in popularity of this garment. The kimono's popularity around the globe is due to its comfortability, exoticness, sophisticated yet trendy style and because of this, the kimono will continue to flourish throughout fashion.

57. Kate Sookiasian, Kanaeya Spencer

Sponsor: Imranul Islam

Evaluate the Performance of Thermal and Water-Vapor Resistance on Fabrics

BACKGROUND: With athletic apparel booming in popularity throughout the fashion industry, the demand for top quality apparel is at an all-time high. This growing popularity of athletic wear encourages more research to be done, specifically in creating the most durable and practical pieces. Consumers use their athletic apparel to train which then produces sweat, or some as lifestyle clothing. Some also use their apparel in different weather conditions and temperatures. All of which needs to be considered when designing garments, to optimize what consumers are purchasing for longevity and purpose. **OBJECTIVE:** (1) To test thermal resistance, which reduces heat transfer in apparel. (2) To test Water Vapor Resistance in fabrics, which allows water vapors to pass through clothing freely and then evaporates quickly. **METHOD:** The quantitative method will be used to test garments individually to see if they are thermal or water vapor resistant. A qualitative method – consumers' feedback through surveys and interviews on the effectiveness of garments will also be used; **EXPECTED FINDINGS:** To find the best fabrics and materials to use in athletic attire to optimize the benefits of thermal and water vapor resistance. **CONCLUSION AND IMPLICATIONS:** This study will determine what fabrics and materials will be the most durable for the athletic industry when seeking thermal and water vapor resistance. This experiment will be able to help designers pick the appropriate materials and textiles to use for their athletic attire. The

Framingham State University Student Poster and Presentation Day

consumers will be satisfied with top quality garments providing comfort in the many situations that will utilize thermal and water vapor resistance.

58. Olivia Spadafore, India Rose Ward

Sponsor: Imranul Islam

Determination of How Much Spandex is Necessary for Long Lasting Retention

BACKGROUND: Athleisure apparel consists of clothing designed as workout apparel that is often worn in a different setting. The demand for athleisure apparel has significantly increased and is a continually growing industry. Most athleisure apparel items contain some percentage of elastomeric fiber (e.g., spandex). **OBJECTIVES:** (1) Identify varying factors among samples with varying spandex blend (e.g., 95% cotton and 5 % spandex, 93% cotton and 7% spandex, 97% Polyester and 3% spandex). (2) Assess the best amount of spandex for athleisure apparel. (3) Determine the amount of spandex needed to affect a fabric's elastic recovery. **METHOD:** Quantitative analysis will be used to determine the outcome of elastic recovery. This analysis includes stretching each three-inch swatch of fabric 20 times over a five-inch space. **EXPECTED FINDINGS:** The fabric swatch with higher percentage of spandex will have better elastic recovery than the fabric swatch with lower spandex percentage. **CONCLUSIONS AND IMPLICATIONS** This study will determine which spandex blend provides better elastic recovery. This study will help to better understand the properties of spandex. This study will also determine the ability of a small percentage of spandex to change the properties of other fabrics when blended.

59. Nicole Stanton

Sponsor: Virginia Noon

Doing Sweaters Norway

The Norwegian sweater is a high quality wool sweater with bold patterns worn to signify Norwegian heritage. Sweaters are body supplements that are pre-shaped enclosures according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The dense wool of the sweater is worn to protect against the cold climate of Norway. The Norwegian sweater has been popular in Scandinavia for centuries but has been cherished and symbolic for Norwegians since 1905 when Norway gained independence from Sweden. The Norwegian sweater traveled to the United States with Norwegian immigration; folklore and the distinctive knitting techniques captivated American consumers. The sweater was adopted as world dress due to its attractive aesthetic, warmth, and its ability to double as casual wear and winter sportswear. High-end fashion has incorporated elements of the Norwegian sweater repeatedly since the 1980s. Various designers have featured the garment, or variations of it, in their collections establishing it as world fashion. As national dress, the Norwegian sweater allows for Norwegians to identify within specific cultural regions in Norway based off of the motifs knitted into individual sweaters. In Norway the traditional sweaters are worn as casual wear in order to stay warm during their intense winters. Cultural authentication of the Norwegian sweater in the United States heightened in the 1960s when skiing became a favored activity among Americans.

60. Caeley Whalen

Sponsor: Virginia Noon

Doc Martens

Doc Martens (DMs, or Docs) are a type of heavy lace-up boot or shoe with an air-cushioned sole. Shoes are, according to the Classification System of Types of Dress (Roach-Higgins & Eicher, 1992), temporary body supplements and pre-shaped enclosures. DMs have a thick, air-cushioned sole that makes the shoe comfortable, and provides protection from the elements. Typically made of leather, DMs are durable and long-lasting. Created by German WWII army physician Dr. Klaus Marten, the brand originated in Germany. Today, the Doc Marten headquarters are located in the UK, where the boots first made their debut as accessories for everyday dress. The trendy boots crossed the pond to the United States when the grunge and punk subcultures saw their musical idols wearing Docs on and off stage. While the boot is

Framingham State University Student Poster and Presentation Day

a symbol of the youth rebellion, they were originally marketed as a work boot for factory workers, and were staple pieces of a uniform due to the comfort and protection factor. DMs have been a consistent trend in the fashion industry since the grunge and punk music artists gave them popularity in the early 1990s. Doc Martens have been linked to the Skinheads, who wear the boots with red laces to show allegiance to the far left. Once DMs made their way to the US, the youth rebellion latched onto the boot, using it as a symbol of their grunge/ punk movement. Doc Martens remain as the symbol of the youth rebellion, but have been adopted by many other groups.

147. Kezia Miller, Mariane Santos

Sponsor: Imranul Islam

Impact of Textiles on the Environment: Approach Towards Eco-Friendly Textiles

Background: It is known that every product purchased by a consumer has an impact on the environment. However, the average consumer likely does not realize how much impact one product has on the environment compared to another. Any product, which is made, used or disposed of in a way that is less harmful to the environment, could be considered beneficial. The textile industry is comprised of both natural and manufactured fibers. The natural fibers are comprised primarily of: wool, silk, flax, cotton, and hemp. The synthetic fibers are comprised primarily of: polyester, elastane, and lycra. **Objectives:** (1) Identifying fibers that are least harmful to the environment, (2) Understanding which fibers are most harmful to the environment, (3) What can the textile industry do to lower carbon emissions from textile production. **Method:** A mixed method of research will be used. Qualitative research will require the use of primary and secondary resources. Quantitative research will require gathering physical samples of both natural and synthetic fibers. **Expected Findings:** The production of synthetic fibers will have more of a harmful impact on the environment than natural fibers. **Conclusions and Implications:** This study will determine which fibers ultimately have the least amount of harmful impact on the environment. At each of the six stages typically required to make a garment, the negative impacts on the environment are numerous. Spinning, weaving, and other industrial methods all have an impact on the environment. The manufacturing of synthetic fibers are more likely to have a negative impact on the environment.

FASHION MERCHANDISING

61. Lauren Abbott, Molly Dubrowski, Erina Saraiva DaSilva

Sponsor: Imranul Islam

Improving Colorfastness to Crocking of Active-wears

BACKGROUND: Crocking is a colorfastness problem in which color on the surface of a material transfers to another material by surface contact and rubbing. This problem occurs mostly in the active wear, more specifically in its under arm and crotch regions. **OBJECTIVES:** Determining colorfastness to crocking for different active-wears, and identifying ways to improve it. **METHOD:** This study will utilize the standard colorfastness to crocking (AATCC Test Method 8) test on different type and color active-wears in both dry and wet state. **EXPECTED FINDINGS:** The wet and dark-color fabrics will appear to have more colorfastness to crocking than the dry and light-color fabrics. **CONCLUSIONS AND IMPLICATIONS:** This study will determine if the colorfastness to crocking with wet active-wear textile differs to dry active-wear. The ways of improving colorfastness to crocking can be determined by observing how various fabrics react differently to crocking. Finally, this study will help designers, retailers, and consumers to understand the scenario when clothes get wet and rubbing against each other.

Framingham State University Student Poster and Presentation Day

62. Lauren Abbott, Jocelyn Dion, Justine D'orsi, Alexandra Sookiasian *Sponsor: Ruirui Zhang*

Consumer Behavior Research Project

The purpose of this project was to provide a hands-on opportunity to help understand the behavioral aspects of retail environments as well as gain in-depth knowledge about consumers' attitude and purchase behaviors. Generation X was studied by this group and the retailer was Loft.

64. Bridget Chafe, Molly Fennessey, Athena Venetsanakos *Sponsor: Imranul Islam*

Finding Effective Detergent on Stained Fabric: A Sustainable Approach

Background: Just as there are several different ways to clean a fabric, there are also a large variety of fabric detergents, most of which claim to be "the best". Many big brand named detergent companies have specific formulas each to remove stains from fabric. One brand may be better at getting grass stains out when another may be better at getting wine stains out of a fabric. Objectives: (i) identify types of stains and the best ways to remove them and (ii) create a model in which the researchers can test different fabrics equally to examine which detergent is the most effective and sustainable to clean fabrics. Method: This study will utilize the soil release (AATCC 130) test with different types of big brand detergents on different stained fabrics. Expected Findings: By conducting this experiment, it is expected to identify a detergent that is the single best at removing tough stains on fabrics. Conclusions and Implications: At the end of the experiment, the researchers hope to find one detergent that works better than any other and apply it to everyday life to remove hard stains while using the least amount of water possible. Selecting the right detergent is conducive to save electricity and water from the apparel care phase through avoiding further wash.

65. Caitlin Frias, Lauren Gambon *Sponsor: Virginia Noon*

The Journeying Gypsy Skirt

The gypsy skirt is a skirt worn traditionally by women of a nomadic Romania. The nomadic Romanian people who descended from India and Europe in the mid-14th century are often times referred to as gypsies. The gypsy style, worn by women, often consists of tight fitting blouses and elaborate inexpensive jewelry with low necklines. The pleated skirts are long and nearly floor length. The skirts are this length due to Roma's belief that women's lower halves are impure because of childbirth and menstruation. The style of the gypsy skirt by the late 1930's were elements of fashionable dress on both sides of the Atlantic. By the early 1940's the gypsy skirt had been brought into the American culture and was soon being sold in American stores such as Macy's. As the Roma migrated in to the United States in the 19th century, the gypsy skirt became more popular and common in everyday dress. The skirt was very popular in the arts and crafts movement mainly for its free flowing appearance. These skirts were often worn by middle and upper class women to costume balls and for romanticized costumes in the late 19th and early 20th centuries. As wartime subsided and the hippie generation rose, the gypsy skirt became more stylish. Women working outside the home preferred this skirt due to its comfortable, loose fitting material. The gypsy skirt is described by fashion magazines as having a "joyful swing and optimistic style".

66. Margaret Looney *Sponsor: Haewon Ju*

Fashion Blog: Seamless & Savvy

Seamless & Savvy is a blog created for a project as an independent study. New posts are updated weekly. Within each post, there is information on use of styling, shopping habits and behaviors, as well as a clothing budget applied to each outfit and individual. Consumer behavior plays an important role in the blog as to how and why the outfits were chosen, based on wants, needs, trends and money. The majority of Seamless & Savvy includes a large amount of research and dedication of time put into each

Framingham State University Student Poster and Presentation Day

post, making every week unique and different. Each week includes posts including: spring 2017 trends, what to pack travelling abroad, Parisian street style, Coco Chanel, manufacturing in the US, and more. Every post is reviewed with follow up recaps on views, followers, as well as foot traffic and comments on the webpage. With this blog, Maggie began to travel and try new opportunities to influence others to be themselves and express who they are through their choice of clothing.

67. Shaina Mansur, Lanaeya Spencer, Kalina Swana

Sponsor: Ruirui Zhang

Clarks

Research done on baby boomer generation to find out there consumer behavior habits with the Clarks brand.

68. Kerin McCarthy

Sponsor: Virginia Noon

Aloha! (shirt)

The Aloha shirt is a collard top made of vibrant woven fabric in tropical prints with buttons down the front. It originates from Hawaiian Islands as well as Japan. This garment is a body supplement that is a pre-shaped enclosure according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The first of these shirts were worn by Hawaiian workers of sugarcane fields in the 1930's for protection. This version was a long sleeve jacket made of heavy cotton and plaid material. The shirts overtime were modified with shorter sleeves and bright patterns using fabrics from Japan. With the attraction of consumers in 1936 Elery Chun trademarked the term Aloha shirt, beginning mass production. During World War II local business were able to create shirts that were even brighter and more elaborate than prior years. Around 1960 the Aloha shirt made its way to the U.S, brought by surfers from California who embraced their laid back origins. The aloha shirt has contributed to world fashion in department stores such as Nordstrom and Neiman Marcus, and has been featured in designer lines from Prada and Saint Laurent. In Hawaiian culture the aloha shirt is national dress that showcases a relaxed lifestyle and serves as special occasion attire. The Aloha shirt continues to evolve in dress today.

69. Jordan Rowe

Sponsor: Virginia Noon

Fedorable

The classic fedora was first seen widely in French dramatist, Victorien Sardau's 1882 play *Fédora*, for the hat was created specially and worn by the American actress Sarah Bernhardt who played the lead role of Princess *Fédora*. At the time of the play's debut and for a decade after, the hat was fashionable in the middle and upper class for women in Europe and the United States. The fedora, according to the classification system for the types of dress, is a pre-shaped enclosure that is an attachment to the body (Roach-Higgins & Eicher, 1992). The fedora became an almost exclusivity male fashion item by the end of the ninetieth century. Fedora's popularity reached its apex in the United States in the first decade of the 20th century when it signaled the end of the equestrian age and the rise of the automobile, as well as loosening of rigid Victorian etiquette. Infamous gangsters like Al Capone and Frank Costello, customized the fedora uniquely with a pinstripe suit and gum-solder shoes. The fedora became inextricably linked with tough-guys style. In the late 1930's and early 1940's, young African-American, Chicano, and Italian-American men popularized the 'zoot' suit, a suiting style that features high-waist pants with tapered, pegged legs and a long jacket with extra wide lapels and padded shoulders that is usually topped off with a porkpie or fedora hat. Today, the fedora is closely associated with the hipster subculture. Worn by both men and women, the fedora can be found at all price ranges and is most frequently worn in casual contexts paired with everyday dress. While the fedora is far removed from its associations to gangster and crime culture in the present moment, it maintains its status as a stylish accessory for a discerning arbiter of fashion in the climate in which the baseball cap is ubiquitous.

70. Jocelyn Dion

Sponsor: Haewon Ju

Flipping A House

This project consisted of pretending to flip a house. What was done was the aspects of an old house were taken like for instance a dated kitchen or bathroom and it was redesigned. To analyze them a survey was created to see what type of furnishings the client likes for their home, colors and décor. By doing this it was easy to better understand their needs and tastes for the makeover. After, they completed the survey a trend analysis was conducted to see what colors, textiles and fashion trends should be considered for their home. Appropriate materials were chosen and a "budget" was set for how much could be spent to flip this house and for what the client can afford. The budget was later broken down for each room and the project was completed. In other words the "house was officially flipped."

71. Molly Dubrowski, Erina Saraiva DaSilva, Cassandra Tedeschi

Sponsor: Ruirui Zhang

Observation of male behavior and attitude towards Vineyard Vines

Consumer Behavior is how retailers look at different customer experiences and explains why they make their purchases in order to grow their brand's business. The purpose of this research is to look at consumer purchasing behavior at a specific retail store in order to understand and serve the customer's needs. This research targeted males that shop at Vineyard Vines and asked them to participate in a survey questionnaire which includes questions that focus on attitude towards the brand. This research was conducted through the use of one on one in-depth interviews. The researchers expect to find more about when and how consumers shop at Vineyard Vines. The results of this research can be used by Vineyard Vines corporation. In order to better the customer's experience.

72. Megan Hazelhurst

Sponsor: Virginia Noon

Earthy Crunchy or Trendy and Stylish? The Birkenstock

Whatever opinions there are on the Birkenstock there is no denying the shoes' comfort and quality. The Birkenstock shoes can be dated back to 18th century in Langen-Bergheim, Germany, where in 1774 Johann Adam Birkenstock developed the first contoured insole for use by shoemakers in the production of custom footwear. By 1964 Karl Birkenstock developed the contoured insole into the original Birkenstock sandal. From its inception, the Birkenstock was considered orthopedic footwear, often recommended by podiatrists to patients with chronic foot pain. The Birkenstock Company now has global headquarters, production and logistics based throughout Germany. Birkenstocks are sold approximately in 90 countries worldwide and have been selling shoes in the U.S for 50 years. Birkenstocks are known for using environmentally friendly adhesives in production. Birkenstocks were first introduced in the United States in the 1960's. Even though thousands of people wear the Birkenstock shoe, they had a very big association with the "hippie crowd". The "hippie crowd" supported the company's values and support of recycling, earth day, and other environmental causes. They embraced the comfort health and functionality that the sandal provided. Birkenstocks became a representation of the body and ideas of individuality due to the shoes ability to mold uniquely to an individual's foot. The Birkenstock is now in transition from hippie staple to the high fashion "it" shoe. Birkenstocks present us with a classic example of the fashion industry's habit of recycling past trends and re-appropriating them.

73. Christina Kamra

Sponsor: Virginia Noon

African Head Wrap (Wrap Your Head Around This)

The head-wrap worn by African women holds a distinctive and prominent position in the history of African dress both for its longevity and rich cultural background. A head tie is a women's cloth head scarf that is commonly worn in many parts of Southern Africa and Western Africa. Head wraps are temporary body

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supplements and that are wrapped enclosures according to the Classification System of Dress (Roach-Higgins & Either, 1992). The head wrap originated in sub-Saharan Africa, and was often used to convey modesty, spirituality and prosperity. During slavery, white enslavers imposed the wearing of head wraps as a badge of enslavement. The head-wrap worn by African women holds a distinctive and prominent position in the history of African dress both for its longevity and rich cultural background. A head tie is a women's cloth head scarf that is commonly worn in many parts of Southern Africa and Western Africa. Head wraps are temporary body supplements and that are wrapped enclosures according to the Classification System of Dress (Roach-Higgins & Either, 1992). The head wrap originated in sub-Saharan Africa, and was often used to convey modesty, spirituality and prosperity. During slavery, white enslavers imposed the wearing of head wraps as a badge of enslavement. The head-wrap worn by African women holds a distinctive and prominent position in the history of African dress both for its longevity and rich cultural background. A head tie is a women's cloth head scarf that is commonly worn in many parts of Southern Africa and Western Africa. Head wraps are temporary body supplements and that are wrapped enclosures according to the Classification System of Dress (Roach-Higgins & Either, 1992). The head wrap originated in sub-Saharan Africa, and was often used to convey modesty, spirituality and prosperity. During slavery, white enslavers imposed the wearing of head wraps as a badge of enslavement.

FOOD AND NUTRITION

74. Stephen Kheboian

Sponsor: Jerusha Nelson-Peterman

The Paleolithic Diet: A Systematic Review of its Applications and Most Suitable Implementations

The Paleolithic Diet, first introduced in 1985, has gained popularity and support from the theory that human bodies have not evolved enough from the Paleolithic Era to healthily function with a modern diet consisting of agricultural and processed foods. Variations of the diet restrict foods developed or cultivated after the Paleolithic Era, including grain products, dairy products, and domesticated crops such as potatoes and legumes. Studies link the diet to improved weight management and a reduction in the risk and severity of diabetes, cardiovascular disease, various autoimmune disorders, and cancer, among others. This thesis reviews the current literature on different variations of the Paleolithic Diet, and the relationship of Paleolithic dietary patterns with health and disease by using cross-sectional studies, case control studies, and other reviews of Paleolithic Diets. Various cross-sectional studies of Paleolithic dietary patterns found significant links between some markers of diabetes and cardiovascular disease and Paleolithic dietary patterns. Reviews link the Paleolithic Diet to reduction in both dietary risk factors of cancer and exacerbation of multiple sclerosis. However, limited research exists for long-term effectiveness in healthy individuals, and research generally ignores environmental, social, and lifestyle differences between the Paleolithic Era and the present. Paleolithic diet patterns may increase risk of some deficiencies, especially Vitamin D and calcium, due to its restriction of fortified foods succeeding the Paleolithic Era.

HISTORY

75. Victoria Anderson

Sponsor: Jon Huibregtse

The Bias of the Lytton Commission

Japan invaded northern China, an area called Manchuria, in September of 1931. This event sent shock waves throughout the world partly because Japan was a member of the League of Nations and had agreed to multiple pacts, such as the Kellogg-Briand Pact and League Covenant, which banned invading other countries. The League of Nations sent the Lytton Commission to observe Manchuria (Manchukuo) under the rule of the Japanese and decide whether Japan had broken its trust by invading China. The

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Committee's decision was practically unanimous; Japan had violated the League's charter. While Japan did violate international treaties another factor may discredit the Commission's response: the United States. This paper will explain how the United States clearly affected the Lytton Commission's report in a way which was extremely biased and racist. The United States was not a member of the League of Nations but had a major impact in the League and possibly made the decision of the Commission even before it made its own decision. This paper will look into this observation and determine if the Commission was too biased and made its decision based on the decision of the United States in the Stimson Doctrine of 1932. It does this by first examining the relationship between the United States and the League and the reasons why the United States was very influential in the League. Then, the paper examines multiple diplomats within each of the countries affected: United States, China, and Japan. One major factor in this paper is the direct influence of the United States on the Commission in the form of representative, Major General McCoy. The end of the paper also speculates the affect the United States had on Japan's withdrawal from the League as it was the major deciding force on whether it was legal for Japan to leave.

76. Madeline Billiel

Sponsor: Jon Huibregtse

War destroyed their Youth: Women's literary reflections of World War One

World War One ended a century of progress and flipped the world upside down. Many people believed that the war would be over in a matter of months, but instead it became a global war that lasted over four years and took millions of lives. This left a blanket of disillusionment over the world. Literature was one of the many things that the war greatly affected and contributed to the evolving modernist movement. Authors that wrote the literature that emerged out of the Great War came from all walks of life, but since then the works of combat veterans have been the most scrutinized. This project instead focuses on and analyzes the female response to the war. A common theme found in women's literature was the feeling that the war had taken away their, and their generation's, youth. By using autobiographies, works of fiction, and poetry written by women during and after the war, their reflections and experiences of the war can be added to the greater narrative of the war's effect on the world.

77. Kylie Boyle

Sponsor: Jon Huibregtse

Berlin 1936: When Sports Duped the World

This presentation focuses on the very controversial 1936 Olympic Games that were held in Berlin, Germany, and under Nazi Germany control. It argues that if the world powers were attentive to Germany during the Olympics that summer, and even the period leading up to the games, World War II could have been foreshadowed due to the fact that appeasement would not work and war was inevitable. This essay examines this argument through primary sources, contemplated boycotts that almost derailed the Games, and assessing how certain athletes of different races, ethnicities and religions were treated during the Olympics. Lastly, this paper explores how Adolf Hitler used the largest international sporting event as a platform to showcase the world his "new Germany" to his advantage, and ultimately conned the world.

78. Jen Fortin

Sponsor: Jon Huibregtse

The Art of Persuasion: A Comparison of WWI Propaganda and Circus Advertisements

The Great War required effort from all members of society, including women. Engaging in work on the home front or on the battle front, women had a more active role in society that stretched gender boundaries which carried over after the war. With the rise of prosperity and leisure activity in the 1920's, American society became more involved in fun activities and events for entertainment. My project closely examines both circus posters and WWI propaganda posters, analyzing how women were depicted and

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how those representations helped to solidify women's roles that were blurred by the war. In representing women in war propaganda as motherly and sexualized in circus advertisements, these modes of communication played a larger role in society than just to persuade men to enlist and for children to buy tickets to the circus.

79. Chelsea Hathaway

Sponsor: Virginia Noon

Shawl Significance: Cultural Authentication of the Shawl

A shawl is a large piece of fabric that can be wrapped or draped over the shoulders and be form fitting to the body. The shawl is classified as body supplement wrapped enclosure according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The main purpose of the shawl originally was to provide protection in warm climate zones from the sun and supply a light layer of warmth in colder climates. The shawl started in Central Asia and gained popularity in Europe during the 19th century. It became a staple for women's clothing when Napoleon sent forty-five shawls to his wife Josephine from Egypt, who was considered an icon at the time. Since America was watching Europe for the latest fashion trends, eventually the shawl became a part of women's clothing in the United States as well. The Kashmir shawl, a type of shawl made of fine cashmere in the Indian city, was a symbol of national dress to the Indian culture and was well-known trading and bribery item among tribes. Shawls became an item of world dress after Europe started mass producing the Kashmir shawl due to its high demand since women wanted the highly sought after fabric and design. Today, the Pashmina shawl, the same cashmere made out of the Kashmir shawls, is the most popular version of the shawl and used instead of for warmth but rather as a fashionable item to wear over dresses and other fancy clothes.

80. Margaret Nee

Sponsor: Jon Huibregtse

World War I and Shellshock: A New Hope

This presentation is based on my seminar paper. Before World War I, the acknowledgment of psychological trauma in the military was almost non-existent. Mental health diagnoses were associated with cowardness, weakness, and violence. In my paper I argue that during World War I, the introduction of shell shock shaped the mental health stigma within the military. The diagnosis and emergence of soldiers with shell shock brought light to the serious consequences of mental illness and caused the creation of new rehabilitation techniques, treatment for the mentally ill, and new social programs. World War I shell-shocked veterans created better chances of recovery and normalization back into society not only for veterans affected with mental illness but the regular civilian population as well.

81. Craig Reynolds

Sponsor: Maria Bollettino

Revolutionary Legacy: The Politics of Western Massachusetts and Shays' Rebellion

This research project contends that the underlying political differences present within Massachusetts during the eighteenth century played an important role in the outbreak of Shays' Rebellion. This work demonstrates how longstanding political differences between the regions of western Massachusetts and the Boston area were amplified by a series of factors in the post-American Revolutionary era, among them an economic depression, westerner's feelings of alienation from the political decision-making process, and, perhaps most importantly, the experiences and rhetoric that many in western Massachusetts had taken from the Revolution. These divergent political viewpoints and the amplifying factors present in the state at the time made violent and armed resistance seem a logical, and the only, solution to the rebels' problems.

82. Kieran Shakeshaft

Sponsor: Jon Huibregtse

A Eulogy for the Old America: The America First Committee, The Great War, and the Final Struggle for a Traditional Conservative United States

This paper investigates the America First Committee's philosophy and actions during the Great Debate that occurred before the US entered World War II, in an effort to place the struggle against American intervention into the larger ideological landscape of the interwar years. Examination of America First Committee releases, publications, private correspondences, and speeches made by advocates and their anti-interventionist allies, reveals a larger pervasive clash between traditionalist conservatism and modernism/New Deal liberalism. Faced with a new and transformed world after the end of the First World War, conservative Americans rejected modern ideas of internationalism and warfare, while simultaneously combating the increasing executive power unleashed by Roosevelt's New Deal. Joined by powerful supporters in Congress and the media, the America First Committee instinctively steeped its philosophy and beliefs in American traditions and the historical memory of the First World War, thereby creating a solid foundation to defend against a perceived assault upon American conservative values. Collectively, this paper argues that the deliberation over American entry into the Second War was far more than a question of military intervention, it was a contest for the future of the nation at the dawn of a new era in American history.

83. Andrew Turbesi

Sponsor: Jon Huibregtse

The CCC and its Practices of Discrimination

Histories the New Deal programs, and more specifically the Civilian Conservation Corps, often portray them as a godsend for the country and its people, but frequently ignore the negative effects of these programs. A close examination of the CCC reveals its larger flaws. One of these flaws was its discriminatory selection and treatment of African American enrollees. Many states did not select enrollees on a fair basis, which violated the spirit if not the letter of the law, while other minority groups such as Native Americans, would greatly benefit from the CCC. Using firsthand accounts of African American enrollees during their tenure with the CCC, letters between the director of the CCC and members of the NAACP and senators that discuss the racial policies of the CCC, and contrasting them with studies done on Native Americans and how they were affected by the CCC, this study examines the CCC's institutional racism.

84. Matthew Woodward

Sponsor: Jon Huibregtse

An Alcohol-free "Melting Pot": How Prohibition changed American Immigration Legislation

Between the world wars, America experienced a great deal of change, including the banning of the manufacture, sale, and transportation of alcohol. As the temperance movement took hold, Americans began to associate drinking with immigrants and the two became inextricably linked. This essay examines the link between prohibition and immigration by analyzing newspaper articles and propaganda posters from this era, combined with other historiography on the subject. Because prohibition propaganda targeted immigrants as the source of the nation's "drinking problem" it had a profound effect on immigration policy, especially in the wake of the Red Scare in 1919-1920, which greatly influenced the Immigration Act of 1924 that limited the number of immigrants who could enter the United States, and outright banned Arabs and Asians from entering.

146. Alexandra Waithe

Sponsor: Jon Huibregtse

Together We Can Make Magic: The Effects of Growing American Materialism and Progressive Education on American College Female Culture

The shock of World War I left its mark on the American people and launched a series of changes within the social sphere of the nation. One of the largest social changes was the growing enrollment rate in higher educational institutions among young adults and the development of a new "college culture". This new college culture became very prominent for women especially. The growth in educational value began with the growth of secondary education which continued into college education as well. The Progressive educational movement that dominated many secondary school systems introduced concepts of individuality as well as an overall value of self for American youth. At the same time there was a growth in American materialism and company marketing who realized the value of these independent youths. For young women entering college, their newfound self-awareness provided by their Progressive foundation, their unique realities as compared to their peers and the marketing tactics used for products, resulted in a rapidly developing culture for their social group. This new freedom they came upon in college would create the catalyst for them to create their own culture on their campuses as it related to materials.

NURSING

85. Jacqueline Accime, Maggie Feather, Natalie Gracia

Sponsor: Ruth Remington

Effects of Nurse Staffing Ratios and Turnover Outcomes

Within health care, inadequate staffing can pose a strain on workers and in turn decreases the quality of care provided to patients. It is essential to ensure the safety of nurses as well as patients. This literature review showed that adequate nurse staffing promotes good patient care and nurse retention. However, inadequate staffing results in unfavorable patient outcomes, higher readmission rates, infections and higher mortality. Nurse fatigue and turnover adds to the cost of care. In conclusion, safe staffing ratios benefits nurses, patients, and the healthcare system.

86. Davies Amuti, Serah Guilbe, Rose Kamau, Nancy Merisali, Caroline Wambui

Sponsor: Ruth Remington

Patients' Safety: Medication Errors

INTRODUCTION: Medication errors are a significant issue affecting patients' safety and costs in hospitals, often posing dangerous consequences for patients. It is important to understand that an analysis of medication errors can help nurses identify why medication errors occur and provide insights into how to make improvements to prevent or reduce them. **AIM:** This review identifies current literature related to medication administration errors, the role of nurses in such errors, and current initiatives that are underway within healthcare settings to address this aspect of patient safety. **METHODS:** Literature review from CINAHL, Pubmed, MEDLINE, EMBASE, OVID, using the search terms: Prescribing errors, contributing/etiologic/risk factors, medications errors, medicines reconciliation, nursing, nurses, Registered Nurses, Licensed Nurses, patient safety, error reduction, safety management, nursing research. **RESULTS:** With inadequate nursing education about patient safety and quality, excessive workloads, staffing inadequacies, fatigue, illegible provider handwriting, flawed dispensing systems, and problems with the labeling of drug, nurses are continually challenged to ensure that their patients receive the right medication at the right time. **CONCLUSION:** This research review concludes that medication administration errors have multiple causes, including both unsafe acts and error violation, provoking conditions and all these conditions, or a combination of many may result in medication administration

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errors. However, there is a lack of consistency in approaching medication administration errors. Some interventions have shown that their results only partially address the medication administration challenge.

87. Nathaniel Blue, Jamie Garland, Ranjana Jha, Eryn Mooney *Sponsor: Ruth Remington*

Music: A non-pharmacological approach to pain management

Purpose: Pain management is one of the most difficult challenges in care today. Identifying effectiveness of music for pain management is the main aim of this literature review. **Method:** This is a comprehensive review of research reports, found using CINAHL database, using the search terms music and pain management. They range from 2010 to 2015. Studies using the adult population were included and the pediatric population was excluded. **Results:** Twenty two studies were found. The result shows that music, especially along with other measures can be effective in pain management at different levels and in a variety of settings. **Conclusions:** Music is a cost-effective intervention that nurses can add to existing therapies to assist their patients to manage pain.

88. Anna Boyko, Angela Cadasse, Mary Lynn Kolowsky, Kenneth Mutegeyeke

Sponsor: Ruth Remington

College Students and Sleep Deprivation

Objective: To educate college students about the problems associated with not getting enough sleep and offers suggestions for improving sleep quality. **Methods:** Thirteen different articles were obtained from a search of Ebsco and CINAHL, using keywords sleep deprivation AND college student AND effects. **Results:** Several studies have shown that college students do not get adequate or quality sleep. College students may not be getting the recommended 7-9 hours of sleep most nights or they may not be getting the quality of sleep needed to function at their optimal levels. Many of these studies have used qualitative data obtained from voluntary surveys such as the Pittsburg Sleep Quality Index (PSQI). **Conclusion:** Most college students are aware that diet and exercise are important for good physical and emotional health, but they may not be aware of the importance of sleep. Sleep deprivation can impede memory which affects learning and their overall college performance.

89. Ana Gamboa, Lisa Guidi, Judi Saini

Sponsor: Ruth Remington

Effective Role Delegation to Improve Code Outcomes

Introduction: Response time to cardiac arrests within the hospital are critical to patient outcomes. It is vital to have established measures and protocols. The importance of clearly identifiable roles and effective leadership is crucial to positive outcomes in a life-threatening code events. **Methods:** Comprehensive search of the literature was conducted through CINHL and EBSCO, using the search terms cardiac arrest, code blue, mock codes, delegation, adult. Inclusion criteria includes adult patients, actual codes and mock codes, medical surgical units and intensive care units. **Exclusion:** pediatrics. **Results:** Code blue training and team training improve patient outcomes. Effective communication and leadership are crucial in managing emergency situations and has identified the importance of team building skills such as mock-codes and team organization. **Outcome:** Effective leadership can lead to clear communication between team members and increase survival rate.

90. Jennifer Jorgensen

Sponsor: Ruth Remington

Permanent Charge Nurse Model: Evidence-based Orientation Program for the Labor and Delivery Charge Nurse

Introduction The role of the charge nurse encompasses diverse responsibilities within the clinical care practice of labor and delivery. Currently, the charge nurse role is often lead by experienced clinical nurses that are bestowed the role and responsibilities with insufficient guidance on role parameters, leadership technique, and managerial requirements. Method A comprehensive research and literature review on the educational qualifications and preparation of the charge nurse role in an acute care setting were examined. An investigation and synthesis of the literature relieved the necessity for quality preparation in nursing charge leadership. Keywords used included: charge nurses, nursing leadership, leadership practice, role development, quality improvement, professional practice Results indicated that there is quality evidence linking charge nurse orientation, evidence-based bedside practice, and positive managerial leadership with in fifteen literature articles reviewed for synthesis. Discussion A permanent charge nurse model is recommended given the vast evidence-based research and literature support for the implementation of a formal educational orientation training program and the establishment of clearly defined responsibility parameters for charge nurses in the labor and delivery setting.

POLITICAL SCIENCE

91. Estefania Mangué

Sponsor: Virginia Noon

These Boots were made for Riding

Riding boots are a type of footwear typically made of leather or faux leather that are tall and heeled. Shoes are preshaped enclosures that are temporary body supplements according to the Classification System for Types of Dress (Roach-Higgins & Eicher, 1992). The heel of the boot is crucial to its function as a riding boot; it prevents the foot from slipping out of the stirrups. Riding boots are a type of world dress because they originated in England and have now become staple footwear for horseback riding all over the world. Today the boots have taken many different forms in the US and have also become part of the culture particularly in the South in the form of cowboy boots, Cowboy boots are an American adaptation or riding boots they use the same concept but have a different design. Riding boots were adopted because they are a protective shoe for horse riding and therefore across the world they are needed to protect the rider. In world fashion riding boots remain trendy however throughout the years the style may change such as short or tall boots. Riding boots are currently in fashion and are also a seasonal trend and commonly worn during the fall and winter.

92. Seth Signa

Sponsor: Joseph Coelho

Admittance into the United Nations is the GOOOOOOOOOOOOAL: How Kosovo is Gaining International Recognition through FIFA and Global Sport

For decades, Kosovo has been battling for admittance to The Fédération Internationale de Football Association [FIFA] and the Union of European Football Associations [UEFA] and other global sport governing bodies such as the International Olympics Committee [IOC] to compete on the world stage under their own flag. After all the years of waiting, thanks to a 2016 vote, they had finally made it, and were placed in their groups for the upcoming European World Cup Qualifiers [WQC] for a chance to be one of 32 countries to travel to World Cup 2018 in Russia. Since declaring independence from Serbia in 2008, the small country of Kosovo has still fallen short on the world stage and has not gained membership to the United Nations [UN] and the full international recognition that comes with it. Serbia's ties with UN Security Council member Russia has been the barrier that stands in Kosovo's way, with

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Russia promising to veto any attempt on Kosovo's part to gain UN membership. This analysis takes a look at how Kosovo has decided to use more "soft-power" tactics and take a non-traditional route towards gaining the international recognition that they have been after for decades, this being what experts have described as, "the Sports Door." The role of representative sports has played a vital role in forging a national identity for both Kosovars to rally behind and for the world to recognize. Kosovo has made great strides forward with the ability to have their flag seen and to have their anthem heard at all Olympic, FIFA, and UEFA events. However, the ideal end result has not yet been accomplished. Now, just as it has been for years, admittance into the UN is the goal.

PSYCHOLOGY

93. Montana Burke

Sponsor: Bridgett Galvin

Research Assistant at a Clinical Setting: An Internship Explored Recognition through FIFA and Global Sport

The purpose of this study was to examine the relationship between research and the clinical practice of alternative therapies. The literature shows the benefits of mindfulness-based therapies that promote psychological health and well-being. The site that I chose to use for my example showing the effectiveness of mindfulness-based therapies is Riverside Community Care. They are a non-profit organization that provides behavioral healthcare and human services to eastern and central Massachusetts. This provides one case study of a site that provides these types of services.

94. Alexa Fantoni

Sponsor: Bridgett Galvin

The Opposite Side of the Spectrum: An Internship Experience

The purpose of this project was to examine how early education programs prepare children and their parent(s) for the transition to kindergarten. The literature suggests benefits to early education tools and stresses the importance of parental involvement. The site I have chosen to use as an example that demonstrates the effectiveness of early education program offerings is The Early Childhood Alliance of Framingham. This program provides services to the Metro west community for children and families that have limited access to early education programs. In addition to providing information regarding the site itself, lessons learned for future interns are also shared.

95. Naomi Garcia

Sponsor: Bridgett Galvin

The Effectiveness of Hotlines

The purpose of this research project is to shed light on the effectiveness of mental health and emotional support hotlines. Information will be provided about hotlines and how they function. This project will address how effective these are in enhancing mental health care. The internship site Call2Talk, which is part of United Way of Tri-County, will be used as an example of the research question. The purpose of Call2Talk is to provide confidential, judgment-free emotional support to individuals who need assistance during stressful moments in their lives. Call2Talk is open 24 hours a day, seven days a week. Call takers are not only compassionate and empathetic, but are trained to comply with rules of risk assessment in order to assist callers to the best of their abilities.

96. Rebecca Green

Sponsor: Bridgett Galvin

An Examination of the Effectiveness of Call Centers

This study was used to shed light on the effectiveness of call centers in helping the public get support for mental health. A brief literature review examines the effectiveness of the services provided by call centers

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and help lines. The review also provides the general demographics of those who typically use the service. The focus of this review was the National Suicide Prevention Line, as the most research has been conducted on that specific help line. The purpose of the literature review was to guide a case study of a specific call center, Call2Talk, in the Metro west area.

97. Rebecca Green

Sponsor: Phoebe Lin

An Examination of Perceptions of Males with Depression Among College Students

This research focuses on the perceptions of mental illnesses, specifically in regards to males with depression, among college students at a small university. To examine this a scenario-based survey will be used with varying levels of help seeking behaviors of a male with symptoms of depression. The hypotheses researched could help the community better understand mental health and the implications could help the field better adapt to these perceptions and help those who are struggling with mental illnesses more effectively. It also sheds light on the stigma that surrounds males with mental illnesses in today's society.

98. Kaitlynn Innis

Sponsor: Maggie Obaid

The Importance of Play for Emotional Development in an Early Childhood Classroom

Schools today are debating the importance of play; many are minimizing and even eliminating time for play in the classroom. Some teachers believe that time in the classroom may be more beneficially spent preparing for standardized tests. Recent research found that play will allow children to be more confident in themselves, create relationships with others, control their behaviors and to be more academically successful in the future. These are skills that may not be attained as easily by the children that are robbed of their play time at a young age. The current study examined the importance of play and how it benefits children's development, specifically their emotional development. In a classroom of six students ages three to five, I observed their conflict resolution skills. Results of this study showed that preschool students who engage in play develop problem-solving skills that help them resolve conflict on their own.

99. Kelly Keenan

Sponsor: Bridgett Galvin

The Most Efficient and Effective Ways to Distribute Information to College Students

The purpose of this research is to provide information on the most efficient and effective ways to distribute information to residents of a college campus. A brief literature review was conducted to understand what methods have been used and are recorded as being the most effective. In addition, a case study of Residence Life at Framingham State University was analyzed to gather information as an example of how one university is communicating with residents.

100. Brendan McDonough

Sponsor: Bridgett Galvin

The Benefits of Social-Emotional Learning Groups on Young Children

While interning at the Peter Pan Center in Boxborough, Massachusetts I was able to observe interactions between children that lacked social and emotional skills. They are learning skills to improve their social intelligence and pro-social behavior. The purpose of this study was to investigate and observe how interactions amongst these children with emotional needs benefit from a social skills program. More specifically, are social groups more effective for young children rather than therapy and medications.

Framingham State University Student Poster and Presentation Day

101. Christopher Mini

Sponsor: Bridgett Galvin

The Effectiveness of Mindfulness Meditation

The purpose of this study was to explore the effectiveness of mindfulness meditation in the every day life. A brief literature review addresses the question that I am asking. "Black, D. S. & Fernando, R. (2013) said that 'The Mindful schools curriculum last 5 weeks, focuses on mindfulness practices that help children pay attention, build empathy and self-awareness... Student behavior improved significantly in all four areas measured.' A case study from this site is also provided, being an intern at Ivy Child International allowed me to observe mindfulness mediation in the classroom and every day life, for this reason, I wanted to explore mindfulness meditation and how its effectiveness can change a person's way of life.

102. Gemma Murnin

Sponsor: Bridgett Galvin

Benefits of Socializing Children Early: An Internship Experience

The purpose of this study was to examine how social interactions at a young age can prepare a child to become comfortable and ready for entering kindergarten. Literature suggests that there are many benefits for socializing children at a young age. The evidence also suggests that there are disadvantages for not socializing children at a young age. The Early Childhood Alliance of Framingham (ECAFF) is a program that was designed to provide services for those who typically cannot access any early education programs. One avenue for socialization is the establishment of playgroups that children can attend with their parents and socialize with other children. ECAFF is the internship site on which I am reporting.

103. Ashley Santos

Sponsor: Bridgett Galvin

The Department of Children and Families: Framingham, MA Internship Site

The purpose of this project is twofold. First a brief review of the literature regarding placement of children in kinship homes and adoptions will provide clarity on how these decisions are typically made when a government agency removes children from the home. Second, this project provides information regarding how the Department of Child and Families in Framingham, MA functions as it provides services for children and families.

104. Maggie McNeill

Sponsor: Bridgett Galvin

Consoling the living and commemorating the deceased

Previous research has investigated gravestone inscriptions and sympathy cards as they relate to issues around death and dying. This in-depth examination of archival data focused upon consoling the living and commemorating the deceased through an examination of both cards and headstones. Sympathy cards represented the consolation of the living, focusing specifically on the death of a child or the death of a parent. The choice of words used to describe the death and address the receiver of the card were assessed along with font, color and size of the actual card. Furthermore, whether the cards were religious, referred to as "traditional" or not religious referred to as "non-traditional" were also evaluated. Gravestone inscriptions were used as a way to examine the act of representing and remembering the deceased. Over time grief rituals and the way death is depicted has changed vastly. Specifically, this notion is seen throughout the gravestone inscriptions. The symbols and language used differed based upon the historical period in which the death occurred. Implications of communication about death to the survivor and language used to describe the deceased are discussed. Keywords: death, grief, death rites, sympathy cards, and gravestones

SOCIOLOGY

- 105. Stephanie Brown, Mattea Hakala, Tatyana Oneal, Chynere Vaughn Scott-Dottin, Jennifer Walker** *Sponsor: Vincent Ferraro*

Social Bonding and Substance Use: The Effect of Marriage on Deviant Substances

This study examines the effect of marital status on a person's use of illicit and licit substances; a critical topic to study in the United States due to the cost of substance use and treatment, especially because of its continuing increase each year. Substance use is measured by the use of alcohol, tobacco, cocaine, marijuana, and illicit substances, all in the past year. Previous research supports the theory that stronger social bonds are more likely to result in decreased substance abuse. The research was conducted by means of secondary data analysis of the 2014 National Survey on Drug Use in Households (n = 55, 281). The data are used to support the overall hypothesis that those who are married will experience a decrease in their substance use. The results of the current study show a relationship between being married and substance use in the past year; a decrease in the use of both licit and illicit substances. The findings show that marriage has a negative effect on substance use, as individuals become married, their substance use decreases. These results can be used to implement different ways of conducting therapy for those in need of it, taking advantage of couples counselling, rehabilitating those with substance abuse problems, and/or other ways to help couples who both use substances.

- 106. Kassandra Costello, Megan Gosselin, Sarah Palace, Jenna Remmes**

Sponsor: Vincent Ferraro

Technology and Adolescent Health: One Step Forward, Two Steps Back

Purpose: Individuals are constantly connected through different forms of technology, which may cause extensive health risks that are not seen by the naked eye. While technological advancements are beneficial, there may be consequences associated adolescents' mental and physical health. Research has shown a strong correlation between high technology use and negative mental and physical behaviors, specifically in females in comparison to their male counterparts. The study will investigate the health risks adolescents' experience due to high consumption of technology. Methods: The National Longitudinal Study of Adolescent Health provides data for this study of whether technology use affects adolescents' mental and physical health (n=4,882). Bivariate and multivariate analyses will either confirm or reject the hypotheses that the consumption of computers, video games, and television affects adolescents mental and physical health. Expected Results: It is expected that the findings will solidify the overall hypothesis that female adolescents are at a greater risk of experiencing issues with their mental and physical health. Male adolescents will consume more technology than females, but can mask the societal stigma of mental health disorders. Conclusion: Technology continues to play a role in daily life, and researchers are curious about the effect it has on the youth of society. With easy access and high consumption, adolescents may be the prime targets to experience mental and physical health setbacks.

SPANISH

- 107. Angela Caron, Cat Pilotte**

Sponsor: Virginia Noon

The Panamanian Pollera

The pollera is a voluminous body supplement that is pre-shaped and adhered at the waist with a tie. It is suspended over the legs and often covers the ankles. In Spain and in Panama the pollera is most often made of wool or cotton, while in Peru and Bolivia it is only made of wool. During the sixteenth-century, women from Spain wore the pollera during the Spanish conquest of Latin America. The indigenous people of a few specific Latin American countries began to wear this item, and it became most popular in

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the nineteenth-century. Around this time, during the Spanish-American War and the construction of the Panama Canal, Spanish culture became popular in the United States. In the 1920s people would dress up as “Spanish dancers” when they attended a ball. The pollera then spread from Panama to Peru, Bolivia, and Colombia. In the United States today the style goes in and out of fashion and each time the style emerges it is a little different. It has been known as a bohemian skirt and also as a gypsy skirt. The most recent variations of the pollera in the United States do not have the embroidered designs and are often one solid color.

STUDIO ART

108. Abby Ames

Sponsor: Virginia Noon

Protection With A Little Decoration

An apron is a wrapped enclosure with straps to fasten behind the back and neck. It is worn to protect garments under the clothes or to protect skin in general. An apron was the first garment documented as national dress. Aprons were first used during the middle ages, made from leaves and were mainly worn for protection. In modern day, aprons are made from a wide range of materials depending on the work being done. With some jobs you may need nonabsorbent material, but with others cloth would work fine. Today, aprons are unisex garments, however prior to the 1960s and the women’s movement a decorative apron was mostly worn by women to cook and clean around the house and people started to refer to a woman wearing a decorative apron as a housewife.

109. Trisha Danforth, Kristen Fisher, Luana Gomes, Rohma Shirwani

Sponsor: Erika Schneider

Widening the Circle - Inclusivity in Contemporary Art History

“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>

Using this quote as a starting point, each student in ARTH 383: Contemporary Art History chose an artist to research and present to the class. Artists included work in a variety of media from painting and sculpture to installation and performance and represent different races, gender, and sexual orientation. This assignment seeks to correct inequalities in the contemporary art history survey class by allowing students to have a voice about whom they study and increase inclusivity in the discipline and the classroom.

GRADUATE ABSTRACTS

NURSING

113. Daniela Brown *Sponsor: Nancy Bittner*

The Implementation of TeamSTEPPS and Perceptions Associated with Implementation: An Integrative Review

The purpose of this integrative literature review is to examine the differences in the methods of implementation of the TeamSTEPPS program and to examine if the differences in implementation affect the perceptions of healthcare workers regarding communication and teamwork. The Cumulative Index to Nursing and Allied Health Literature Plus (CINAHL) with full text and MEDLINE, the United States National Library of Medicine's database, was searched for articles between 2008 and 2017. Search terms included TeamSTEPPS, TeamSTEPPS and nurses, TeamSTEPPS and nurs*, and TeamSTEPPS and communication. Each article was appraised and scored and patterns of methods of implementation of the TeamSTEPPS program were identified. Attitudes towards team training were then analyzed and grouped according to method of implementation. Twelve articles were included in the review. From the data synthesis, three patterns emerged regarding methods of possible implementation of the TeamSTEPPS program including inter-professional education (IPE), the use of simulation, and the type of approach. Attitudes regarding team work and communication were assessed pre and post-implementation of the three methods. A combination approach to implementation, the inclusion of IPE with more than two disciplines, and the use of simulation received the highest attitude improvement scores post-implementation. The results of this review indicate that a combination approach, utilizing simulation, and an IPE model may result in the greatest success regarding maintenance of the program. These methods appear to result in an increase in positive perceptions regarding teamwork skills by the participants. Further research is required to test the validity of that finding. Keywords: TeamSTEPPS, team training, teamwork, team communication

114. Estefanny Castro *Sponsor: Coleen Toronto*

Recognizing the Newly RN Transitional Challenges: An Integrative Review

The purpose of this study is to recognize these transitional experiences that new graduate nurses' face within their first year of practice so that additional resources can be developed and provided to them to help overcome these challenges. The National Council of State Boards of Nursing (2012) explains that high turnover and low retention rates are related to the gaps in nursing. These gaps in turn cause significant transitional challenges for a large number of new graduate nurses that are entering the professional workforce. The transitional challenges that were found to impact new graduate nurses within their first year of employment are related to their limited experiences with risk management and the current more complex health care setting (The National Council of State Boards of Nursing, 2012). For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Providing consistent support and professional development within the first year of practice for new graduate nurses improves successful transition into the professional nursing role. There are many challenges that new graduate nurse encounters within their first year of practice that must be considered in order to effectively transition them into professional practice. At the same time, healthcare institutions face their own unique challenges when coping with the consequences of this global crisis. Therefore, it is detrimental that both nurse managers and clinical educators look beyond the institutions immediate needs and focus on long term solutions. These long term solutions include fostering new graduate nurses within their first year of practice to ensure a successful transition into the professional nursing role.

115. Kay Grant*Sponsor: Nancy Bittner***Rounding An Approach to Improving Communication among Nurses and Physicians: An Integrative View**

Abstract Background. Communication between nurses and physicians has always been problematic. The Institute of Medicine (IOM) and the Joint Commission attribute error in medical care to lack of communication between physician and nurses. **Purpose:** To investigate the role of rounding in improving nurse–physician communication. **Method:** This is an integrative review of relevant literature on rounding as a means of improving nurses’ and physicians’ communication. **Results:** The results of this study showed that rounding, done as multidisciplinary rounding (MDR), interprofessional rounding, intentional rounding, and physician–nurse rounding, does improve communication between nurses and physicians. Rounding was found to improve patient satisfaction; nurse retention; resident education; improvement in core measures such as acute myocardial infarction (AMI), congested heart failure (CHF), and community acquired pneumonia (CAP); and decrease in length of hospital stay. **Limitations.** This study was done using a convenient sample and small sample size. It was limited to units or sections in a hospital. There was also absence of instrument validation. **Conclusion:** Challenges in communication among caregivers still exist. Evidence links improvement in communication and patient outcomes after rounding. As some authors pointed out, rounding alone may not be a panacea. However, for the process of rounding to work, resources must be dedicated to developing educational programs for physicians and nurses in their early stages of training to better develop communication skills among the professions (Hailu, Kassahun, & Kerie, 2016).

116. Ashley Lanpher*Sponsor: Coleen Toronto***Barriers to Teaching LGBT Education in Nursing Programs: An Integrative Review**

The purpose of this integrative review is to identify the obstacles hindering the education of nursing students surrounding LGBT health disparities. LGBT patients have specific health related concerns that often go overlooked in the professional world; termed “Health Inequality.” Due to this injustice, LGBT patients frequently postpone seeking medical due to: fear of discrimination, concerns about healthcare costs, bad past experiences with health professionals, and possible embarrassment. Discrimination against the LGBT community has been linked with higher rates of psychiatric disorders, substance abuse, and suicide. Teaching nursing students about health disparities facing the LGBT community is vital for achieving gender comprehensiveness and producing sensitive care providers. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Three themes were identified as obstacles to teaching nursing students about LGBT material: outdated curriculum, inexperienced faculty, and students’ knowledge gaps. LGBT patients are a growing population with corresponding health disparities; however, nursing programs are underprepared to educate on this topic. It is vital for the future of culturally competent care to develop LGBT courses, and to incorporate them into our programs. Integration of LGBT material will produce tolerance among the students early on; thus preparing them for future patients alike.

117. Lina LeDoux*Sponsor: Nancy Bittner***Workplace Incivility Among Acute Care Nurses: An Integrative Review**

Incivility is described as behaviors, whether intentional or unintentional, that are discourteous. In health care, it has been found that workplace incivility creates environments that undermine safety. In these uncivil environments, adverse events and outcomes are more likely to occur. The aim of this integrative review is to describe the effects of incivility on acute care nurses, and to identify interventions to promote

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civility in acute care settings. Major concepts extrapolated from the 11 articles selected for this review include: incivility causes physiologic and psychologic distress in nurses, results in decreased productivity, and few interventions have been developed to promote civility in acute care settings. Researchers should continue to describe the phenomenon of incivility in nursing and its effects on acute care nurses, and interventions to promote civility should continue to be developed and assessed for efficacy. Nurse leaders must also acknowledge incivility and actively promote civility on their units.

118. Lori Moniz

Sponsor: Nancy Bittner

Barriers and Strategies Surrounding Adherence to Warfarin Therapy in Adults

Background: Non-adherence to warfarin therapy in adults is related to demographics, psychosocial issues, routine monitoring, lifestyle changes, dose maintenance, communication, and health literacy. Non-adherence leads to inadequate therapeutic effectiveness as measured by the INR resulting in increased risk of bleeding, life threatening thrombosis, or death. The aim of this study was to identify barriers and describe strategies related to adherence in warfarin therapy. Methods: An integrative review was performed using CINAHL and MEDLINE. Search terms included warfarin, adherence, and compliance. Eleven articles were identified. A critical appraisal was performed on each article. A matrix was developed to identify common themes. Results: Barriers to adherence to warfarin therapy were determined utilizing a variety of questionnaires, some with high validity and others created for the study. Intensive education of warfarin patients with the use of videos increased adherence to the medication regimen and laboratory testing. Alternative strategies in the way of MEMS pill caps and a lottery incentive were also found to increase compliance with the medication regimen. Conclusions: As the population ages and more patients are treated with warfarin therapy, the identification of an individual's barriers will assist in discovering ways to remain adherent to their regimen. The utilization of intensive education as well as alternative therapies will help patients differently. The goal is to maintain adherence to decrease the potential for adverse outcomes.

119. Shelby-Lynn Rikeman

Sponsor: Nancy Bittner

Compassion Fatigue in Emergency Department Nurses: An Integrative Review

Purpose: Compassion fatigue remains a relatively new concept related to nursing. Joinson coined the term in 1992 to describe the defeat and emotional toll witnessing constant suffering daily has on a nurse. The lack of full conceptual clarity makes it difficult to fully research and develop appropriate interventions. Additionally, symptoms of compassion fatigue vary, though there can be key signs to look for. Although, the concept has been studied in psychology and different specialties of nursing, there remains a gap of knowledge in relation to emergency room nurses. Methods: An integrative review was conducted. A search of the databases Cumulative Index to Nursing and Allied Health Literature (CINAHL) plus with full text and PubMed were conducted using keywords and Boolean phrases. Pertinent data from the articles were extracted using a matrix, grouped into themes, and analyzed. Results: A total of eight articles were included in the integrative review. Three researchers were able to demonstrate the prevalence of compassion fatigue in emergency department nurses, while in comparison one researcher found compassion fatigue levels to be low. Due to a lack of research thus far, interventions to mitigate compassion fatigue were recommendations made by the researchers. However, one scholar provided positive evidence of an educational informative session improving compassion fatigue scores by 19% post-intervention. Conclusion: Compassion fatigue remains in its infant stages warranting further research. Additionally, conceptual clarity is needed. Nevertheless, compassion fatigue symptoms should be learned and studied to halt it promptly. Further research focusing on emergency department nurses and interventions to combat compassion fatigue is also recommended.

120. Mary Absi, Laura DeCastro

Sponsor: Coleen Toronto

Compassion Fatigue in Nursing: An Integrative Review

The purpose of this integrative review was to explore self-care modalities being utilized in the nursing arena to mitigate compassion fatigue. Nurses experience degrees of emotional stress in their professional arena; therefore, would benefit from practicing self-care techniques to decrease stress and promote individual wellness (Rushton, Batcheller, Schroeder, & Donohue, 2015). Self-care modalities are vital to encompass the mind, body, and spirit to provide resilience to stressors that are experienced by nurses individually and professionally. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Five themes were identified exploring self-care modalities: health promotion behavior strategies, emulating interpersonal positive elements, encompassing spirituality, acquiring healthy work environments, and engaging educational structured programs. Research is needed to guide the understanding of the interactions between staff relationships and compassion fatigue. Integrating yearly educational competencies as policy development in compassion fatigue is essential to the nurse and fosters an ongoing culture to maintain compassion satisfaction.

121. Beth Anne Bowen

Sponsor: Coleen Toronto

Surgical Site Infection Prevention in the Elderly

The purpose of this integrative review was to explore the impact of surgical site infections (SSIs) on the elderly. The geriatric patient population is growing in demand for routine surgical procedures. SSI's are preventable but potentially fatal among older adults. Elderly patients pose a higher risk of morbidity and mortality when diagnosed with a SSI postoperatively. Nurses can decrease the burden of SSI's on geriatric patients in the hospital setting. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Three common themes were identified during the review 1.) SSI is a common yet preventable hospital acquired infection that occurs more frequently among the elderly; 2.) SSI's increase mortality, length of stay and hospital costs among elderly patients; 3.) Continued patient education on how to prevent SSIs is needed. While little is known about the full physical and emotional impact SSI's have on older adults, continued research is justified. However, nurses can assess an elderly patient's risk factors preoperatively and initiate proper infection control protocols to reduce the incidence of SSI postoperatively. Implementing evidenced based care practices and following federal guidelines on infection control may eliminate the prevalence of SSI's in the elderly.

122. Karla Bulmer

Sponsor: Coleen Toronto

What is the Impact of Peer Assisted Learning on the Student Experience

The purpose of this integrative review was to determine what impact peer assisted learning has on the student experience in nursing programs. Many qualified nursing students are turned away from nursing programs due to faculty shortages and lack of clinical sites. With decreased graduation rates nursing schools are trying to provide more academic support in order to retain nursing students who are accepted into nursing programs. This review provides an analysis of the impact peer assisted learning has on the student experience as a means of addressing these issues. For this integrative review the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Findings highlighted that peer assisted learning increased test scores, increased skills in nursing students, increased confidence and decreased anxiety. Nurse educators should consider the use of peer assisted learning to help

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improve nursing students' academic performance. Research is needed to explore the patient experience in the clinical setting when peer assisted learning is used.

123. Lauren Danforth, Jaclyn Sugrue

Sponsor: Coleen Toronto

Nurse Residency Programs Effect on New Graduate Nurses

The purpose of this integrative review was to examine the literature for the effect that Nurse Residency Programs (NRPs) have on new graduate nurses (NGNs). The Institute of Medicine had three major recommendations for NRPs in 2010, which include increasing retention, expanding clinical competency, and improving patient outcomes. NRPs have demonstrated an increase in retention of NGNs, which is a benefit to the organization. What the NGNs gain from the NRPs has not been well explored. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Twelve studies that met the inclusion criteria were used for the review. Three themes that emerged from the literature were high job satisfaction, opportunity for support, and increased skills and abilities. The literature reviewed points to NRPs having a positive influence in NGNs. NRPs should be looking less at retention, and should instead focus on the NGNs expanding their clinical competencies by receiving education about the transition to practice while in nursing school. More tools should be created to further explore if NRPs assist NGNs with positively influencing patient outcomes.

124. Jennifer DeFilippo, Chau Nguyen

Sponsor: Coleen Toronto

How is Professionalism Developed in Undergraduate Nursing Students?

The purpose of this integrative review was to explore how professionalism is developed in undergraduate nursing programs. According to the American Nurses Association (ANA), nursing continues to be ranked as the most trusted profession in the United States (2016). Today, patients expect the highest level of quality of care and they expect that the nurses are caring, compassionate, and professional. Undergraduate nursing programs play a crucial role in preparing future nurses for the importance of professionalism in their practice. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Common themes for barriers and facilitators in professionalism emerged from the studies. Themes for barriers 1.) vague definition of professionalism and 2.) lack of professional development courses. Themes for facilitators 3.) nurse educators and 4.) professional ethics. Professional development in undergraduate nursing students has been identified as a concern. Nursing students need to be aware of what professionalism means however nursing program curricula often lack structured courses that clearly identify the professional values and behaviors needed by nursing students. Professionalism is a key core value of the nursing profession. Future research is warranted.

125. Kristine DiCarlo, Mary Naugler

Sponsor: Coleen Toronto

Increasing Safe Sleep Compliance for Neonatal Nurses and Parents of Premature Infants

The purpose of this integrative review was to identify interventions that increase neonatal nurses' compliance with safe sleep recommendations and to identify interventions that increase parental compliance of safe sleep practices after discharge from the NICU. In 2011, the American Academy of Pediatrics (AAP) expanded recommendations to focus on a safe sleep environment beyond just the supine sleep position to reduce the risk of all sleep-related infant deaths. As part of the new recommendations, AAP instituted guidelines that encourage preterm infants be placed in the supine position for sleep as soon as medically stable and by 32 weeks' postmenstrual age. While the incidence of SIDS overall has dropped since 1994, the risk for SIDS and other sleep-related deaths among preterm

Framingham State University Student Poster and Presentation Day

infants remains elevated. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Findings highlighted barriers to compliance, presence of hospital policy, and education for neonatal nurses and parents. Consistent and comprehensive nursing and parental education related to a safe sleep environment should include the most current AAP recommendations and address barriers to compliance such as, lack of hospital policy and parental concerns. Future research should address how to support parents in managing nighttime infant fussiness.

126. Teresa DiModica, Valerie McCarthy

Sponsor: Coleen Toronto

Technology as a Teaching Methodology: An Integrative Review

The purpose of this integrative review was to examine what barriers nurse educators face when implementing technology as a teaching methodology in pre-licensure nursing programs. Governing agencies of nursing education have called for a reform of nursing curricula to incorporate a technological pedagogy. However, some baby boomer faculties lack the exposure to technology that the technologically savvy student expects. In order to remain effective in the teaching role educators must adapt to the immersing teaching strategies that enhance learning. The call for technology implementation has been initiated yet the adoption has been delayed. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. As a result of the review five barriers were identified that inhibit nurse educators from implementing technology as a teaching methodology. They include: generational divide, faculty knowledge deficiency, faculty mentorships, established programs, and implementation. The literature shows that the way in which we educate must incorporate technology. However, the long-drawn-out delay of implementation continues even though barriers have been identified. The literature is significantly lacking qualitative research examining why these barriers have not been addressed. This incorporation of technology is not an intuitive skill for many of the baby boomers. Institutions of higher education need to assist faculty in bridging the gap by offering faculty development initiatives to prepare faculty to teach with technology.

127. Courtney Elsmore

Sponsor: Coleen Toronto

Best Practices for Perioperative Orientation: An Integrative Review

The purpose of this integrative review was to synthesize research to identify the best practices for perioperative orientation. The operating room (OR) is a highly specialized practice setting that requires a lengthy orientation period to effectively develop the theory, technical, and communication skills necessary for success. The OR nurse workforce is shrinking as nursing schools provide little exposure to this setting and the current workforce is approaching retirement. Nurse educators should be familiar with best practices for orientation to provide a comprehensive training period under the constraints of time and budget, and to promote retention of staff. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Several themes emerged in literature including (a) structured orientation period, (b) preceptor selection, and (c) social support. Nurse educators should provide orientees with a quality preceptor and social support during a structured orientation period in order for the orientees to feel a sense of belonging while transitioning to the OR practice environment. Additional empirical research is needed to quantify and qualify the relationship between perioperative orientation practices and job satisfaction and retention of staff.

128. Wylie Figlio*Sponsor: Coleen Toronto***Educating Hospitalized Heart Failure Patients to Reduce Readmissions**

The purpose of this integrative review was to examine what are the most effective teaching strategies used by nurses when educating hospitalized heart failure patients that promote self-management. The Hospital Readmission Reduction Program reduces payments made by Centers for Medicare and Medicaid Services to hospitals with excess readmissions or hospitals face financial penalties (Centers for Medicare and Medicaid Services, 2016). Heart-failure patient readmissions can be reduced when nurses effectively educate heart failure patients on self-management. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Eleven articles met search criteria. Educational strategies included one on one heart failure education by a nurse, providing patients with written material on heart, use of teach-back, telephone follow-up after hospital discharge, and the use of video format for heart failure education. While individualized and written heart failure education are identified as effective teaching strategies for inpatient heart failure patients, nurses should consider the high percentage of low health literacy in heart failure patients. Nurses can implement teach-back as an effective countermeasure to low health literacy. While effective heart failure teaching strategies have been identified to educate heart failure patients, further research is necessary on best strategies on educating nurses to teach heart failure patients.

129. Kenneth Fitzpatrick*Sponsor: Coleen Toronto***The Patients' Perception to the Use Of Negative Pressure Wound Therapy (NPWT): An Integrative Review**

The purpose of this integrative review was to explore patient's experience with negative pressure wound therapy (NPWT). Since 1995 NPWT has been a growing modality to wound treatment. NPWT improves wound healing and decreasing infection rates. Gaps between knowledge and practice create a sense of altered self-perception and instill patient lack of confidence with healthcare providers and NPWT technology. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. After synthesizing the results from the 7 articles, four themes emerged: (a) patient change in self-perception; (b) reliability on others for self-care; (c) the technology of NPWT apparatus; and (d) patient confidence with nursing knowledge about NPWT. NPWT is an effective method to wound healing. Literature identifies inconsistency of application of NPWT results with a lack of confidence by the patient. NPWT simulation needs to be a nursing requirement prior to being assigned to a patient with this wound modality.

130. Sarah McHugh*Sponsor: Coleen Toronto***Registered Nurses' Knowledge Regarding Pain Assessment of the Adult: An Integrative Review**

The purpose of this integrative review was to examine recent literature to determine the knowledge of registered nurses (RNs) regarding pain assessment in the adult patient population. Pain is considered the most common reason Americans access health care and poorly managed pain can lead to adverse outcomes. RNs have the most interactions with patients and play a critical role in assessing pain. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Four themes emerged regarding RNs' knowledge of pain assessment: 1.) knowledge of assessment tools, 2.) attitudes toward pain assessment, 3.) education and pain knowledge, and 4.) nursing experience and pain knowledge. The evidence from the sample of 11 research articles in this

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integrative review demonstrated mixed results in RNs' knowledge of pain assessment. RNs felt most confident assessing patients who were able to self-report. However, RNs struggle to appropriately assess pain in patients unable to self-report. There is a need to educate RNs on pain assessment tools and techniques to improve assessment skills to better serve patients. More research is indicated to determine current education strategies and areas for improvement.

131. Julie Mullins

Sponsor: Coleen Toronto

Mentorship Best Practices for Newly Licensed Nurses: An Integrative Review

The purpose of this integrative review was to explore best practices within a nursing mentorship program. Based on anticipated population reports, the national nursing deficit is projected to be 29% or one million nurses by the year 2020 and that as many as one in three nurses under 30 years old intend to leave their current position within one year. Numerous studies have shown that mentorship programs improve job satisfaction and greatly reduce turnover rates. However, there is a gap in the literature regarding how to make a mentorship program successful. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Four practices were identified that assist in the success of a mentorship program. These included support from the organization, appropriate matching of mentors to mentees, a pre-mentorship workshop, and regular meetings. Nurse educators have an enormous role to fill in that they must be the ones to bridge the gap between the overarching organization and the nurses it employs. Educators need to advocate for nurses involved in the program to ensure that they have the tools they need to succeed. Nurse educators must hold the facility accountable to guarantee the success of the mentorship program. More research exploring how nurse educators can best help facilitate a mentorship program is needed.

132. Adam Munroe

Sponsor: Coleen Toronto

Impact of Information Literacy Training on Nursing Student Education

The purpose of this integrative review was to examine nursing students' beliefs related to the use of information literacy skills by pre-licensure nursing students since the Introduction of the Transforming Information Guiding Education Reform (TIGER) Initiative. The knowledge needed to integrate evidence-based practice in nursing is expanding. Likewise nurses must possess information literacy skills to identify the need, conduct research, evaluate, and synthesize information. Identifying potential barriers to information literacy is essential. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Three common themes were identified as potential barriers to the use of information literacy skills by pre-licensure nursing students. Lack of information literacy education integration into nursing curriculum, students' attitudes toward information literacy, and lack of librarian utilization. The TIGER initiative has highlighted the need for nurses to possess the skills to incorporate information literacy into nursing practice to ensure the delivery of timely, evidence based care. This call to action has been embraced by many nursing organizations and education programs however gaps in information literacy education remain. Nurse educators and researcher need to explore, design, and implement strategies to mitigate the current gap in information literacy skills.

133. Cassandra Plamondon

Sponsor: Coleen Toronto

Aromatherapy and Music to Manage Adults' Pain and Anxiety

The purpose of this integrative review was to evaluate the effects of music and aromatherapy on adult's pain and anxiety, the time-frame needed for these treatments, tools to measure the effects of these interventions, and patients' perceptions/experiences of these treatments. Individuals are using

complementary and alternative medicines (CAM) outside of the hospital setting to help manage their pain and anxiety. It is not uncommon for adults to experience pain and anxiety when hospitalized. Aromatherapy and music are alternative therapies health care providers may be able to implement in the hospital setting to help alleviate patients' pain and anxiety. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Aromatherapy and music interventions were found to have positive physiological and psychological results on pain and anxiety. A variety of measurement tools were used by researchers to assess pre-and post-intervention pain and anxiety scores. The time-frame for these therapies were provided for at least 10 minutes or longer. Patients reported positive experiences when these interventions were used. Overall, aromatherapy and music have been found useful in the management of adults' pain and anxiety. Nursing leadership and hospital organizations should consider developing integrative medicine programs that will provide educational opportunities on CAM therapies to bedside nurses. Further research is needed to evaluate patients' perceptions and experiences when undergoing CAM interventions.

134. Katie Silverberg

Sponsor: Coleen Toronto

Simulation Use in New Graduate Nursing Programs: An Integrative Review

The purpose of this integrative review was to explore simulation use in new graduate nursing programs. Lack of clinical experience, increase in medical errors, as well as patient safety concerns have caused a significant rise in the use of simulation for further education or remediation among novice nurses entering practice. The majority of the research studies that have been conducted on simulation have focused mainly on the impact that this technology has on students enrolled in undergraduate nursing programs. A significant gap in the literature exists in what is known about the effect simulation has as on the novice nurse population. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Four common themes were identified among new graduate nurses utilizing simulation: increased confidence, improved critical thinking, readiness for practice, and the need for standardization of the simulation experience. Though research on the novice nurse population utilizing simulation technology is sparse, evidence suggests that these nurses benefit from having a safe space to practice their skills where the reality of a clinical environment can be replicated. To evaluate the efficacy of simulation, further research is warranted to identify and develop a tool that can be used to evaluate learning outcomes and standardize the simulation experience.

135. Lisa Walsh

Sponsor: Coleen Toronto

Postoperative Pain Management in Elderly Patients

The purpose of this integrative review was to determine best practices for nurses when providing postoperative pain management to elderly patients after orthopedic surgery. Pain management in the elderly is one of the most complicated and under managed issues. Gaps between knowledge and practice contribute to poor pain management of the elderly patient. Inadequate management of pain in this population can have long-term consequences. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. After synthesizing the results from the 16 articles, several themes emerged: (a) pain assessment; (b) pharmacological interventions; (c) contraindications; (d) around the clock vs. as needed dosing; (e) nonpharmacological interventions; and (f) a multimodal analgesia approach. Effective pain management requires nurses to understand age-specific physiological changes in the elderly that may influence their pharmacokinetics and what

treatment modalities are beneficial. Further research is needed to explore clinician experience and beliefs related to opioid risk in older patients.

136. BettyAnn Warner

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The Effects of Nurses Using SBAR Communication as it Relates to Provider and Patient Outcomes: An Integrative Review

The purpose of this integrative review was to explore the effects of nurses using a standardized SBAR (situation, background, assessment, recommendation) communication tool as it relates to patient and provider outcomes. Patient safety has been identified as a crucial concern in all areas of health care. JCAHO has discerned that communication has played a major role in approximately 70 % of all sentinel events. Verbal miscommunication between nurses and physicians was responsible for 37% of all errors. Exploring this phenomenon will provide evidence-based practice to promote best methods for the advancement of excellent communication practices that effect patient safety and outcomes. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. Four themes were discerned while investigating the use of SBAR: use of SBAR improves the structure of communication, improved nurse performance at handover, enhanced safety climate had positive effect on patient outcomes and the SBAR tool enhanced teamwork/collaboration. Barriers include physician involvement/participation and the critical thinking component for nurses. This approach warrants serious consideration and further research as the universal verbal handoff method between caregivers to promote a culture of safety as well as provider satisfaction.

137. Kerry Sorrentino

Sponsor: Coleen Toronto

Preparation for the Nurse to be a Preceptor: An Integrative Review

The purpose of this integrative review was to synthesize research on stressors of the preceptor role and what supports nurse preceptors perceive they need to be successful. The preceptor role places an increased demand on nurses to provide professional and personal support to new nurses and new hires with varying levels of education while simultaneously providing safe and quality care to patients. Presently, organizations employ either various methods of providing preceptor education or do not offer any at all. This is a key area that must be addressed in order to allow for organizations to effectively prepare preceptors who will assist novice nurses with the transition into clinical practice. For this integrative review, the framework outlined by Whittemore and Knafl (2005) was used. This approach involved five steps: problem identification, literature search, data evaluation, data analysis, and presentation. The results of the sample were organized using a narrative synthesis following the framework of the NSM. Three concepts from the NSM and the associated lines of resistance were identified: intrapersonal stressors, interpersonal stressors, and extrapersonal stressors. Appropriate preceptor support and education can foster the development of competent preceptors. Nurse educators and managers should attain buy-in from the leadership team so that formalized structures, supports, and educational programs can be implemented in health care organizations. Several methods of education can be utilized to prepare preceptors including self-directed study, formal workshops and courses, blended learning, and one-on-one support from educators. Preceptor preparation should remain relevant with a focus on the needs of the preceptors as well as infused with evidence-based research; therefore frequent evaluation of programs and associated research studies of these programs should be conducted.

138. Samantha Asber

Sponsor: Nancy Bittner

Retention Outcomes of Nurse Residency Programs: An Integrative Review

OBJECTIVE: The purpose of this integrative literature review is to examine what effects nurse residency programs have on the retention of new graduates. **BACKGROUND:** The Institute of Medicine recommended the implementation of nurse residency programs and called for evaluations of effectiveness. Administrators need to understand if an investment into a nurse residency program is beneficial to their organization. **METHODS:** A database search was performed for research studies from 2010-2016 reporting outcomes of new graduate registered nurse residency programs relating to retention. **RESULTS:** In all articles reviewed, the 1-year retention was higher than the national average for new graduate nurses ranging from 74-100%. Higher rates were associated with national programs like UHC/AACN or Versant compared to organization-based programs. **CONCLUSIONS:** Nurse residency programs have the potential to increase 1-year retention rates. More controlled and comparative studies need to be performed to evaluate program differences, so that administrators have more guidance in deciding which are the most effective in increasing retention and return on investment.

139. Susan Darling

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Caring for Elders Who Self-Neglect: An Integrative Review

Community nurses are challenged caring for elders who self-neglect, yet have little guidance in the way of evidence-based interventions and organizational support. The incidence of this public health issue is expected to rise. The aim of this research is to determine what guidance and support is available to help the community nurse work effectively with self-neglecting elders. An integrative review was conducted using CINAHL, CINAHL with Full Text, Ageline, MEDLINE, PsycINFO, Health Source: Nursing Academic Edition, and PubMed databases; a search of *The Journal of Elder Abuse & Neglect*; and a hand search of references. Research and evidence published between 2004 and 2016 were included. Search terms used were elder self-neglect, self-neglect interventions, self-neglect, hoarding interventions, hoarding treatment, Diogenes syndrome interventions, Diogenes syndrome treatment, squalor syndrome interventions, and squalor syndrome treatment. Research was appraised for quality and other evidence was included if the authors were self-neglect experts. The nine research studies and 14 articles with evidence provided guidance for the community nurse regarding elder engagement, assessment, ethical considerations, interprofessional teamwork, and training. Hoarding was the focus of seven research studies; two research studies addressed self-neglect in general. Cognitive behavioral therapy to treat hoarding required modification to accommodate elders' needs. This review provides the available recommendations for nursing care of elders who self-neglect. It underscores the lack of research-based interventions other than for hoarding. Nursing supervisors and agency administrators must provide the training, support, policies, and resources the nurse needs to provide the complex care these elders require.

140. Marcela Jimenez

Sponsor: Nancy Bittner

Nurses' Attention to the Emotional Impact on Organ Recipients: An Integrative Review

The aim of this integrative review was to identify whether transplant nurses consider the emotional aspects that post-transplant patients experience. Articles for this review were taken from the data bases known as Cumulative Index to Nursing and Allied Health (CINAHL), OVID and Medline. The time frame for the search was from 1990 to January of 2017. Each article was assessed with an appraisal tool. The appraisal tool used is by Hawker, Payne, Kerr, Hardey and Powell (2002) from "Appraising the Evidence: Reviewing Disparate Data Systematically." The search yielded 11 articles that were included. The main topics found in the articles were coping strategies of post transplant patients, the transplant patients' perception of their experience and clinical factors that may affect patients' emotions. The review provides

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a clear picture of the post-transplant patients' emotional experience, but does point out the gap in literature as far as nurses considering these frequent emotional aspects, while caring for this patient population.

141. Carrie Lill

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The Effect of Noise and Distraction on Patient Safety in the Operating Room

Aim: To quantify the noise levels found in the Operating Room as well as identify the sources of distraction and interruption during surgical procedures. The secondary aim is to explore whether excessive noise and distractions impacts patient safety. **Background:** The level of noise generated in the Operating Room not only challenges effective communication, but also potentially results in distractions and failures in concentration. The Joint Commission indicated communication errors as a contributing cause to adverse anesthesia events, medication errors, operative and postoperative complications and delays in treatment. **Methods:** An electronic search was conducted using The Cumulative Index to Nursing and Allied Health Literature (CINAHL) plus full text and Medline. The search was conducted during the period from September 2016 through February 2017. Search terms used included music, noise, and distraction. The search yielded 396 articles of which 16 were included in the integrative review. **Results:** Average noise levels in the Operating Room measured 85 decibels, which is equivalent to the noise generated by a lawnmower. Several simulation studies demonstrated a decrease in performance when presented with auditory and visual distraction. Despite contributing to the overall noise level, music playing was strongly preferred by both surgical and nursing staff to help reduce stress and anxiety during surgical procedures. **Conclusions:** None of the studies included in this review linked noise or distractions to a specific patient safety event. However, the simulation data supports decreases in performance due to excessive noise, distractions and interruptions during surgical procedures. There is a need for future research tying noise and distraction to patient safety events. There is also an opportunity for clinical education regarding noise reduction strategies as well as minimizing distractions in the Operating Room. **Keywords:** Operating Room, Noise, Distraction, Patient Safety

142. Jesse MacKinnon

Sponsor: Nancy Bittner

Effects of End-of-Life Simulation: An Integrative Review

Nurses throughout the clinical spectrum recognize their lack of skill, knowledge, and experience with end-of-life care. End-of-life simulation is an effective strategy to educate nurses and provide the knowledge needed to effectively care for those nearing death. The purpose of this paper is to critically review the literature related to end-of-life care and the effect simulation education has on the enhancement of nurse competency. Sixteen articles met the inclusion criteria and were included in this integrative review. From the articles reviewed, 3 main themes emerged surrounding the effects of end-of-life simulation on nursing care. These themes included symptom management skills, therapeutic communication techniques, and confidence when performing end-of-life care. In conclusion, the integrative review revealed that end-of-life simulation is a viable strategy to enhance symptom management skills, improve therapeutic communication, and increase confidence for nurses performing end-of-life care.

143. Madina Musse

Sponsor: Nancy Bittner

Occurrence of Falls among Elderly Nursing Home Residents with Cognitive Impairment

Occurrence of Falls among Elderly Nursing Home Residents with Cognitive Impairment Abstract Purpose: This study investigates the risk of falls among elderly nursing home residents with Alzheimer's disease and dementia. **Background:** Frequent falls are one of the main causes of accidental injuries and death among elderly nursing home (NH) residents with Alzheimer's disease and dementia. **Methods:** This research uses an integrative review of pertinent literature related to the risk of falls among elderly NH

residents with Alzheimer's disease and dementia in order to shed light on this problem. In addition, peer review board consisting of two independent investigators was used to analyze the data and address the issues of validity/reliability. Results: The results of this study suggest that cognitive impairment was one of the main causes of falls among elderly NH residents with Alzheimer's and dementia. The study indicates that due to cognitive impairment, elderly residents with Alzheimer's and dementia cannot perceive their environment the same way as those who are cognitively intact are able to. Likewise, this study indicates that some medications, such as anti-depressants, increase the risk for falls among elderly NH residents with Alzheimer and dementia. Limitations/Recommendation: There are not enough resources available that correlate cognitive impairment of individuals with the incidence of falls, so there is currently a gap in the literature. Conclusion: In terms of clinical implications, the results of this study underscore the need for nursing professionals to teach everyone who works with elderly NH residents to reduce the risk of falls by removing any objects that would cause them to trip and fall while in their immediate environments. To avoid the needless act of wondering and trying to reach for commonly used objects, which might lead to frequent falls, care providers should place pertinent objects where elderly NH residents can easily find them. Based on the research findings, it is important to carefully monitor elderly NH residents who use different types of medications to avoid syncope and sudden falls.

144. Kathryn Ohman

Sponsor: Nancy Bittner

The Impact of Alarm Fatigue and Patient Safety: An Integrative Review

Over the past two decades, medical errors that have occurred within healthcare have increased. Research has found that clinical alarms are safety issues for patient care. The high number of alarms has led to alarm fatigue. Alarm fatigue is when healthcare works are exposed to an excessive amount of alarms, which results in desensitization to alarms and critical alarms can be missed. Patient safety and alarm fatigue have been a focused for healthcare works, which was noted by the Joint Commission National Patient Safety Goal. Ranging from minor to catastrophic events. There is clearly need for a common understanding of alarm fatigue and the development of effective strategies and policies to help reduce and even eradicate alarm fatigue. Implication for nursing practice are complex and of great importance given the patient safety. Nurses must prompt initiative to tackle and mitigate alarm fatigue. Participation at a system level between nurses, nurse manager and clinical engineers is necessary to review current practice standards and policies in order to drive change necessary to improve the patient care environment. Nurses overseeing the monitoring systems are in a unique position to work with clinical engineers in order to help produce sophisticated capabilities for the monitoring systems that will help decrease nuisance alarms. The purpose of this integrative review is to synthesize research findings to help find the common understanding. Research evidence was organized into six main themes: lead placement; hospital policy and alarm settings; alarm tone; collaboration between clinical engineering and nursing; and education. Keywords: Alarm fatigue, patient safety

145. Kristin O'Rourke

Sponsor: Nancy Bittner

Communication Barriers in School Nursing

Abstract: School Nursing is a specialized practice of professional nursing that advances the health and well-being of students. Collaborating with pediatricians, school staff, and families is critical to optimal health care for students. A school nurse promotes a healthy, and safe environment for students. Unfortunately, a primary school nurse challenge is working with student's families. The purpose of this integrative review is to determine what the barriers are for school nurses, when dealing with parents. Analysis of the data focused on communication issues with children's families. Thorough investigation will examine communication barriers. Communication barriers examined include low health literacy, difficulty accessing parents, non-English speaking families, lack of parental support, and poor knowledge

Framingham State University Student Poster and Presentation Day

of the school nurse role. A purposeful sampling of nine research articles was reviewed to assess the multiple communication barriers. The data focused on the challenges faced by school nurses. Critical analysis of this ongoing problem will investigate what strategies can be implemented to improve communication? Keywords: school nurse, communication, barriers, parents, students