



GEORGIA SOUTHWESTERN
STATE UNIVERSITY

Undergraduate
Research Symposium

Program

April 28, 2023

SYMPOSIUM SCHEDULE

<u>Time</u>	<u>Event</u>	<u>Location</u>
8:00-8:45 AM	Orientation for speakers, moderators, and judges. Refreshments	SSC Conference Rooms Hall
8:45-10:45	Oral Presentations	SSC 2410 & 2417
11:00-12:30	Poster Presentations	SSC N.W. Hall, online
12:30-1:30	Lunch	Cafeteria
1:30-2:00	Awards Ceremony	Wheatley 127

The organizing committee would like to recognize the following individuals and organizations for their support:

Sigma Mu Pi Nursing Honor Society | The GSW Foundation
Cheri Paradise | Bob Slenker

Volunteer Judges

Jim Aller	Blue Argo	Susan Bragg
Jonathan Carter	Kimberly Hasbach	Anne Jacobs
John LeJeune	Brian Mallett	Sally Merritt
Rebecca Miller	Michele McKie	Michael Moir
Debbie Palmer	Yangil Park	Christopher G. Pritchett
Jennifer Ryer	Manoj Thapa	Darrin Theriault
Irina Toteva		

Moderators

Devin Fincher	Emily Plank	John Plourde
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Many thanks to everyone who has helped make this event a success! Sincerely,

Ian Brown	Michelle Dykes	Nedialka Iordanova
Anne Jacobs, Chair	John LeJeune	Benjamin Meador
Suzanne Smith		

Time	Talks in SSC 2410
8:45 AM	Meeting with the Enemy: A Study of President Donald Trump and His Summits with North Korea Presenter: Robert Dylan Wall 1
9:00 AM	The US Congress and the Renewed Interest in Reparations for Black Americans: One Step Closer to Redressing the Wrongs? Presenter: A'Yianna Hopson 2
9:15 AM	Understanding Nose Cone Art on World War II Bombers Presenter: Avery Clements 3
9:30 AM	Randall Jarrell: A World War II Bomber Poet Presenter: Chapel Douglas 4
15-Minute Intermission	
10:00 AM	Half American: The Montford Point Marines and the Double V Campaign Presenter: Jalen Holmes 5
10:15 AM	Georgia Newspapers and World War II in America Presenter: Lakia Johnson 6
10:30 AM	Interaction Between <i>Staphylococcus aureus</i> and <i>Staphylococcus epidermidis</i> During Biofilm Formation Presenters: Arul Thason and Matthew Busby 7
10:45 AM	Break Before Poster Session

Time	Talks in SSC 2417
8:45 AM	Normandy, Staff Rides, and The Legacies of Operation Overlord Presenter: James Peavy 1
9:00 AM	The Red & Black's Coverage of Student Responses and Involvement during WWII Presenter: Larry Newberry 2
9:15 AM	How a Pandemic Changed Our Economy Forever Presenters: John Henderson; Nathan McFarlin 3
9:30 AM	The End of WWII Through the Eyes of the Georgia Newspapers Presenter: Louanna Crutchfield 4
15-Minute Intermission	
10:00 AM	Deception Based Approach Towards Securing Communication System: A Game Theoretic and Prospect theoretic Approach Presenter: Nathaniel English 5
10:15 AM	Earl Warren and Warren Burger: A Study of the Chief Justices and the Emergence of a Conservative U.S. Supreme Court Presenter: Donald Chandler Bowman 6
10:30 AM	Remembering Iwo Jima: A Controversial Legacy Presenter: Rudy Reyes 7
10:45 AM	Break Before Poster Session

Oral Presentation Abstracts

Title: Meeting with the Enemy: A Study of President Donald Trump and His Summits with North Korea

Presenter: Robert Dylan Wall

Faculty Mentor: Jason Berggren

Abstract: Donald Trump's 2016 election win shocked and alarmed the political world. His victory worried many not only for what it would mean for the country, but also for the world. One fear was that Trump's cocky and threatening behavior (like his Twitter threats) could lead the U.S. into another war, particularly, a nuclear confrontation with North Korea. As the situation with Kim Jong-un deteriorated in 2017, direct conflict with North Korea was a climbing worry in Trump's first year. But instead of conflict, Trump met with the enemy. Like other presidents before him who met with the leaders of the Soviet Union and China, Trump opted for the use of personal diplomacy and the use of summits. It was a risky, yet historic, move. Using key primary and secondary sources, this research aims investigate the purpose, the implications, and the level of success of Trump's 2018-2019 summits with Kim Jong-un.

Title: Normandy, Staff Rides, and The Legacies of Operation Overlord

Presenter: James Peavy

Faculty Mentor: Glenn Robins

Abstract: Operation Overlord was an allied invasion that took place on June 6th, 1944, on several beaches in the northern region of France called Normandy. The D-Day invasion is one of the most studied and remembered campaigns from the Second World War. There are movies covering the operation and it is taught in colleges across the United States. Operation Overlord has also been studied by the U.S. military through its Staff Ride approach. This presentation will focus on the integration phase of Staff Rides which analyzes the enduring lessons that can be drawn from the event. The research will cover the Army's Staff Ride of Overload as well as Staff Rides conducted by college programs and think tanks. This presentation looks at the uniquely American memory of D-Day and delves into how that perception is perpetuated by films such as Saving Private Ryan.

Title: The US Congress and the Renewed Interest in Reparations for Black Americans: One Step Closer to Redressing the Wrongs?

Presenter: A'Yianna Hopson

Faculty Mentor: Jason Berggren

Abstract: At the end of the Civil War and the end of slavery in 1865, racial reparations was an important topic of discussion in the United States. Today, it is still being discussed as a viable option to repair the damages that were

inflicted on the Black population by slavery and other forms of discrimination. The purpose of this research paper is to investigate how the U.S. Congress has addressed the issue over time, with particular focus on congressional efforts after the Civil War and congressional efforts today. To accomplish this, I will examine the work of key members of Congress and key legislation. Particular attention will be given to the renewed interest and legislative work of members of the Congressional Black Caucus.

Title: The Red & Black's Coverage of Student Responses and Involvement during WWII

Presenter: Larry Newberry

Faculty Mentor: Glenn Robins

Abstract: The University of Georgia's newspaper, The Red & Black, has been in existence since 1893. Since its creation, it has undergone cosmetic updates, as well as cultural updates, as it passed through more than one hundred years of history. This presentation will explore student understandings of and involvement in World War II as well as students' reactions to updates from the home front and battlefields across the globe. The research for the presentation will be based on no fewer than 20 articles from the The Red & Black. As a college newspaper, most of the contents are scholarly, but starting in 1939, it started to feature some stories about the ongoing conflicts in Europe. This presentation serves as a conduit to the past and as a vehicle to exploring World War II from a college student's perspective.

Title: Understanding Nose Cone Art on World War II Bombers

Presenter: Avery Clements

Faculty Mentor: Glenn Robins

Abstract: The bombing campaigns which characterized World War II were among the deadliest attacks ever launched. The machinery utilized in its transmission played a critical role in the daily survival of military personnel assigned to them which, in turn, fostered anthropomorphic bonds to the crafts. The most memorable result of these bonds are the artistic renderings know as nose cone art. These images reflect a uniquely American symbolism. The images depicted not only gave each craft a unique identity, but also reminded its crew of the whys of war. By studying the MacArthur Memorial's digital archive of thirty-five images, symbolic themes can be brought to light. Using a sample of fifteen images it can be ascertained that while pin-up pieces were the most popular nose cone adornment, other pieces represented American home-front dependence on their military. Ultimately, bomber groups decorated their machines with symbols of American progeny to elicit desires for honor in the protection of home from their military ranks.

Title: How a Pandemic Changed Our Economy Forever

Presenter: John Henderson; Nathan McFarlin

Faculty Mentor: Mohammad Dehzoeei

Abstract: COVID-19 was a significant pandemic that stopped the world, resulting in economic distress. Production plummeted, while unemployment soared throughout the country as businesses were constantly being shut down, and employees sent home. We will be diving into exploring four US states, New Hampshire, Georgia, California, and Hawaii, as we discover the blows that each state's economy suffered. Each of these states had similar effects, but all on different scales. Evaluating the information of the Consumer Price Index (CPI), we see a steady consistent increase, which we can attribute to inflation. We also will dive into the Gross Domestic Product (GDP), which measures the monetary value of final goods and services, bought by the final user, produced in a given period of time, of each state to understand how production was affected. This measurable will provide clarity on the downfall and recovery of each state. These states suffered greatly with production faltering as COVID-19 slammed the brakes to the economy with worldwide shutdowns. New Hampshire suffered the least, Georgia and California trailed behind, and Hawaii suffered the most with a massive spike from the huge loss in tourism. The final measurable we will be discussing is unemployment. Unemployment is a useful tool to display how the workforce was altered. These measurables help us understand the economic impact from this tormenting virus.

Title: Randall Jarrell: A World War II Bomber Poet

Presenter: Chapel Douglas

Faculty Mentor: Glenn Robins

Abstract: Upon joining the Army Air Force in 1942, Randall Jarrell, who previously worked as an English professor at the University of Texas, decided to diversify his poetry and revamp his works, using his experiences in World War Two. This presentation analyzes some of Jarrell's most famous poems as well as some forgotten pieces. My research focuses on the following poems: "Eight Air Force," "The Death of the Ball Turret Gunner," "A Pilot From the Carrier," "Pilots, Man Your Planes," "The Dead Wingman," and "Burning the Letters." Jarrell uses figurative language to paint a picture for his audience. This presentation looks at how his bomber poems could have been interpreted by readers and considers Jarrell's intent from the perspective of a World War Two combatant.

Title: The End of WWII Through the Eyes of the Georgia Newspapers

Presenter: Louanna Crutchfield

Faculty Mentor: Glenn Robins

Abstract: World War II was not fought on just one battlefield, but on many, including the home front. The end of World War II was a transformational moment in global history and soon ushered in the nuclear age and the Cold War. This presentation utilizes the vast Georgia Historical Newspaper database. My research will focus on South Georgia to include such areas as Donalsonville, Early, and Cairo. The research for the presentation will be based on no fewer than 20 articles and will cover explanations and opinions about how World War II ended as seen through local communities in Georgia.

Title: Half American: The Montford Point Marines and the Double V Campaign

Presenter: Jalen Holmes

Faculty Mentor: Glenn Robins

Abstract: During the 1940s, African Americans across the United States, especially in the South, did not feel truly American. While they were heavily discriminated against, the war effort allowed African Americans everywhere to unite through the “Double V” Campaign. The Double V stood for two victories: one across the sea against fascism, and one back home against racism. In 1942, the Marines opened enlistment to African Americans at its base in Montford Point, North Carolina. This presentation looks at the unique journey of the Montford Point Marines. My research is based on an extensive oral history collection at the University of North Carolina Wilmington. The presentation considers why African Americans volunteered for the Montford Point Marines and explores how their experiences became part of the Double V Campaign to end discrimination in America.

Title: Deception Based Approach Towards Securing Communication System: A Game Theoretic and Prospect theoretic Approach

Presenter: Nathaniel English

Faculty Mentor: Satyaki Nan

Abstract: This paper aims to characterize the game theoretic strategies of the service provider/IoBT data center and the attacker by securing communication. Specifically, the paper considers attacks such as DDoS or jamming attacks. The paper uses Prospect Theory to model the behavioral nature of the system and the attacker, and Game Theory to model the strategic interactions between them. The paper first considers the model considering N mediums and n transmitter-receiver pairs using Game theory (GT) and characteristic Nash Equilibrium (NE). Secondly, the paper considers prospect theory (PT) to characteristics the behavioral interaction between the attacker and defender. Moreover, the paper also showed the existence of the NE-based strategies. Finally, the paper presented some numerical results to provide insights into the strategic deception techniques.

Title: Georgia Newspapers and World War II in America

Presenter: Lakia Johnson

Faculty Mentor: Glenn Robins

Abstract: American soldiers fought on battlefields in Europe and the Pacific while civilians faced the consequences of war on the domestic front. This presentation utilizes the vast Georgia Historical Newspaper database and looks at the communities in such counties as Taylor, Grady, Jackson, Peach, Dade, and Newton. The research will utilize at least 20 newspaper articles. The focus will be on rationing, perceptions of the war and especially its causes, hardships, and military participation in the war. This presentation considers how local communities understood and assigned meaning to a global conflict.

Title: Earl Warren and Warren Burger: A Study of the Chief Justices and the Emergence of a Conservative U.S. Supreme Court

Presenter: Donald Chandler Bowman

Faculty Mentor: Jason Berggren

Abstract: It is undeniable that today's U.S. Supreme Court has a clear conservative majority. As illustrated by its decision to overturn *Roe v. Wade* in 2022, this majority is ideological and appears determined to revisit and perhaps overturn other landmark decisions. But when did the Court begin its turn toward conservatism? Through an examination of the judicial views and behaviors of Chief Justices Earl Warren and Warren Burger, this paper explores and examines the emergence of today's conservative Court. To accomplish this, I will review the key court decisions of their time on the critical issue of race and public education, analyze their written opinions, and discuss the presidential politics surrounding their respective nominations.

Title: Interaction Between *Staphylococcus aureus* and *Staphylococcus epidermidis* During Biofilm Formation

Presenter: Arul Thason and Matthew Busby

Faculty Mentor: Anh-Hue Tu

Abstract: *Staphylococcus aureus*, a residential bacterium of the human skin and mucous membranes, is a serious opportunistic pathogen. One factor that contributes to the virulence of *S. aureus* is the ability to form biofilm. A biofilm is a complex community of microbes encased in a protective matrix that can exist on living and non-living surfaces. Biofilms are ubiquitous in nature and can negatively impact many industries relating to human health, such as the healthcare and food industry. Previous studies have shown that *Staphylococcus epidermidis* (*S. epidermidis*), a more prevalent and less pathogenic residential bacterium of the human skin, can inhibit biofilm formation by *S. aureus*. In this study, the results showed that *S. aureus* biofilm formation is inhibited when *S. epidermidis* is the initial colonizer. Growth curve

data indicated that *S. epidermidis* grows slower than *S. aureus*; therefore, if both species are inoculated simultaneously, *S. aureus* can grow quicker and establish a biofilm before *S. epidermidis* can have an impact. Studying competitive bacterial interactions, such as that between *S. aureus* and *S. epidermidis*, could provide more information about the mechanisms of biofilm formation and ways to disrupt these harmful communities.

Title: Remembering Iwo Jima: A Controversial Legacy

Presenter: Rudy Reyes

Faculty Mentor: Glenn Robins

Abstract: The battle at Iwo Jima was one of the most important events to occur in the Pacific Theatre of World War II. During this battle, photographer Joe Rosenthal took one of the most famous images in United States Marines Corps history. The flag-raising on Iwo Jima may be one of the most iconic pictures in military history, but it is not without its own number of controversies surrounding its legacy. In 2016, the Marine Corps investigated the memorial to in its words, “to ensure that those who participated and sacrificed so much are properly and correctly recognized to the best of our knowledge at the time. This presentation will address the controversies surrounding the Iwo Jima memorial and explains why these controversies are so important in its overall legacy. This paper will also consider why remembering and (mis)remembering events is so important to our understanding of history and particularly World War II.

Poster Abstracts

Posters will be available for early viewing by the morning of April 27th.

Title: Integration of transcriptome and targeted metabolome reveal YAP1 induced bile duct proliferation in Biliary atresia

Presenter: Arul Danni Thason

Faculty Mentor: Surya Amarachintha

Abstract: Biliary atresia (BA) is a severe inflammatory and fibrosing cholangiopathy of neonates. Despite successful hepatoportoenterostomy, the liver continues to progress with fibrosis and cirrhosis towards liver failure requiring organ transplantation. We hypothesize that elevated levels of cholic acid (CA) and chenodeoxycholic acid (CDCA) in liver augment the bile duct proliferation via pathologic activation of YAP1 in cholangiocytes, resulting in disease progression. First, we analyzed publicly available curated gene expression datasets of liver biopsies collected from normal (N=7) and patients (BA=171) to identify gene signature responsible for elevated CA and CDCA in BA. Next, we compared gene datasets of cholangiocyte organoids (CO)

generated from livers of normal donor (ND=3), BA at diagnosis (Dx=5), and BA at transplant (Tx=6) to identify pathways in abnormal bile duct proliferation. We found a 2-fold increase of BAAT in BA livers, an enzyme producing CA and CDCA. Further analysis of COs' gene signature revealed, loss of CRB3, a suppressor of YAP1 and induction of YAP1 resulting in activation of YAP1 downstream targets like VIM, TEAD1, and SMAD2 in BACO-Tx. Taken together, these findings indicate that increased BAAT elevates conjugated bile acids in BA livers, inducing the bile duct proliferation via YAP1 activation.

Title: Evidence for the Long Term Establishment of Decapitating Flies [*Pseudacteon* sp. Diptera: Phoridae] for the Control of Imported Fire Ants *Solenopsis invicta* and *S. rhicteri* [Hymenoptera: Formicidae].

Presenter: Matthew Busby

Faculty Mentor: Ian Brown

Abstract: *Pseudacteon* phorid flies native to South America are parasitoids of the black imported fire ant (*Solenopsis rhicteri*) and the red imported fire ant (*Solenopsis invicta*). Given that their biology and development are restricted to *Solenopsis* spp., *Pseudacteon* phorids were chosen as a natural biocontrol agent for imported fire ants in the southeastern and south central United States. Beginning in the late 1990s, select *Pseudacteon* species were mass-released in multiple states throughout the southeastern and south central United States. The purpose of this research was to capture, identify, and assess the establishment status of *Pseudacteon* spp. in select counties in Southwest Georgia and Southeast Alabama through the use of phorid fly traps. The results of this survey showed that more than one *Pseudacteon* species are present in these select locations, suggesting that these phorids have been successfully established in the Southeastern United States.

Title: Amphibian-Biting Mosquitoes in Sumter, County Georgia

Presenter: Heather Covey

Faculty Mentor: Ian Brown

Abstract: The presence of opportunistic-feeding and amphibian-biting mosquitoes in Americus, Georgia was observed. Opportunistic-feeding mosquitoes are species which feed on a range of host species. Therefore they have the greatest potential to be bridging vectors; i.e. species capable of transmitting disease agents between species. In this study we investigated the presence of amphibian-biting mosquitoes in Americus, Georgia, using modified gravid traps containing the southern toad *Anaxyrus terrestris* as the host bait species. Traps were set-up in wetland habitats, operated overnight and the mosquitoes collected before 10:00 AM the next day. Female mosquitoes were then identified to species level. We anticipate that *Uranotaenia sapphirina* and *Culex terratins*; two known amphibian feeders and common in Southwest

Georgia, will be collected. Also the collection of two opportunistic-feeding species, *Culex erraticus* and *Culex quinquefasciatus* is likely. Both *Culex* species feed on mammals, birds, and amphibians and are therefore potential bridging vectors between amphibian and non-amphibian species.

Title: A Cohort Life Table Construction for an In situ Laboratory Culture of the Plum Curculio *Conotrachelus nenuphar* [Coleoptera: Curculionidae]

Presenter: Grace Putman

Faculty Mentor: Ian Brown

Abstract: The plum curculio, *Conotrachelus nenuphar*, is a common weevil pest of stone and pome fruit in North America. We have constructed a cohort life table for an in situ laboratory culture reared expressly for the purpose of this study. Our lifetable shows that the most vulnerable lifecycle stage is the pupa where stage specific mortality rate (qx) was 0.75 indicating that 75% of pupa fail to ecdyse. The egg stage showed the second-most vulnerability $qx=0.24$. Whereas the four larval instar stages showed a more gentle decline. First to fourth instar mortality rate values were 0.07, 0.03, 0.04, 0.2 respectively. Similar trends were evident in the Killing Power (kx) where the numbers removed from each lifecycle stage egg to pupa were 0.12, 0.03, 0.01, 0.02, 0.1 and 0.61 respectively. Life expectancy (ex) was highest for the first instar at 3.99 months. Followed closely by eggs $ex=3.92$ months and declined gradually to the pupa at $ex=0.62$. This lifetable will be a useful tool for optimizing laboratory cultures and may provide a potential model for future field based research and control of this important agricultural pest.

Title: Masked Priming and the Psychological Refractory Period

Presenter: Kayla Crisp

Faculty Mentor: Gary Fisk

Abstract: Masked priming occurs when a stimulus is made difficult to see (for example, brief presentations amid other stimuli), yet this nearly invisible stimulus still influences the perception of a subsequent stimulus. This priming may have some relation to unconscious perceptual processing. This experiment was conducted to examine the relationship between masked priming influences and the subjects' psychological refractory period (the measure of time when the second response is delayed by the processing of the first). A set of two words and/or nonwords was shown, with the first word/nonword flashing faster than the second. The differences in congruent (first and second are both words or nonwords) vs incongruent (mismatch of word and nonword) were measured to observe whether priming influenced the speed and accuracy of decision-making. There was a basic priming effect: an increase in speed and accuracy on congruent trials (matching stimulus classes) compared to the slower response on incongruent trials. The increasing

psychological refractory period as the presentations occur closer in time could be evidence that unconscious processing is occurring.

Title: Workplace Violence in the ER, When the Nurse Becomes the Patient

Presenter: Hailei Jones, Samantha Carter, Ayanna Joiner, Emily Augustave

Faculty Mentor: Laura Gosa

Abstract: Workplace Violence (WPV) refers to any act of physical, verbal, and psychological harm inflicted upon a nurse by a patient. As a healthcare worker, nurses work with people in distress constantly, which puts them more at risk for undesirable violence. WPV can take many forms, and the impact can range from psychological problems to physical injury. This can lead to ineffective working, decreased job satisfaction, and increased burnout as well as turnover rates which creates harsher staff-patient ratios. WPV is often known as part of the nursing job description, however this should not be accepted. The aim of this project is to create awareness around WPV in order to identify and prevent this from occurring, as well as the implementation of policies to promote safety in the workplace. These policies should include how to report an incident and ensure appropriate action is taken. A common objective among healthcare providers is to help people, but this is hard to do when the safety of staff is at risk. The goal is to ensure that proper interventions are set in place to combat WPV and provide protection and safety to nurses.

Title: Sepsis Prevention and Recognition

Presenter: E. McClure, H. Crosby, R. Clark, M. Liebert, N. Glomski

Faculty Mentor: Laura Gosa

Abstract: Sepsis is a life-threatening condition in which the body has an overwhelming response to a systemic infection. Sepsis is a system-wide immune response that, if left untreated, often leads to septic shock and death. Infections leading to sepsis can be systemic, such as influenza, or a localized infection that becomes systemic by entering the bloodstream. Common examples of localized infections which can become systemic are urinary tract infections, pneumonia, and infected traumatic injuries. Although sepsis is preventable, it continues to be a problem across all hospitals in the United States. This study is aimed at discussing the significance, cause and effect, preventative measures, and how sepsis is related to nursing. Three hospitals located in Central and South Georgia were researched and data was collected on preventative measures and their rates. This data was compared to current research for the purpose of examining if the hospitals were appropriately using current practices for implementation in their facilities. Specific practices researched were handwashing, discharge communication, medication communication, and staff collaboration. The rates of the facilities' preventative

practices were used for the purpose of establishing a correlation between practice adherence and sepsis scores.

Title: Avoiding Patient Agitation to Promote Patient Safety

Presenter: Brooklyn Liebert, Lydia Buice, Abigal Torres, Hunter Bunn

Faculty Mentor: Laura Gosa

Abstract: Thoroughly understanding the causes of agitation can help prevent serious secondary injuries to patient's in the hospital setting. Developing care plans in critical, acute, and emergency care units will optimize the highest standard of safety for each care setting. Patient agitation leads to improper line removal, patient falls, extubation, and loss of sterile fields. In any care setting, agitation is prevalent due to the environment of care, patient health status, and treatment by care staff. Agitation in patients can be avoided with the proper interventions in place by the use of education and prevention. Nurses do not typically get educated on de-escalation techniques to prevent safety events from occurring. Preventing patient agitation leads to better patient outcomes and a higher quality of nursing care. The goal of nursing is to provide a high level of care and safety to promote an environment of healing. Therefore, further education is needed to decrease agitation in patients thus decreasing the number of safety events at a given hospital. The overall aim for this project is to educate preventive strategies, apply trends of data, demonstrate effectiveness of different hospital policies, and promote the safest patient environment.

Title: Healthcare-Associated Infections: Infection Rates of Catheter-Associated Urinary Tract Infections

Presenter: K. Register, R. Clark, E. Wright, J. Watson

Faculty Mentor: Laura Gosa

Abstract: Urinary tract infections (UTIs) are a growing healthcare concern among hospitalized patients. UTIs are caused by bacteria from the rectum or skin invading the urinary tract, such as *Escherichia coli*. Catheter-associated urinary tract infections (CAUTIs) are a common healthcare concern, associated with about 75% of UTIs (Centers for Disease Control and Prevention, 2015). These infections are associated with poor patient outcomes, increased cost, and longer hospital stays. Healthcare professionals play an integral part in the prevention of these infections. Nurses must follow hospital guidelines for safe catheter insertion, recognize and assess patients for risk factors, and evaluate and enforce the proper interventions to reduce infection rates. The purpose of this project is to provide education on CAUTIs and how to prevent them. Three hospitals will be evaluated for this project to provide infection rates and preventative measures. The results of this project will help nurses identify risk

factors for CAUTIs, provide proper catheter care, and how to evaluate the need for urinary catheters.

Title: Nurse Turnover Rates/Nursing Shortages/Nurse competencies

Presenter: Britney Bullington, Taylor Kilgo, Hannah Hall, Anna Hyche, Christine Irwin

Faculty Mentor: Laura Gosa

Abstract: Nurses are an integral part of the healthcare system and are at the forefront of patient care. In recent years, nurse turnover rates and shortages have increased, while nurse competencies have decreased causing crisis in the healthcare field. This poster will discuss the increased workload, undercompensated wages, and long working hours accompanied by insufficient breaks contributing to turnover rates and shortages in nursing. Nursing shortages can cause dangerous patient ratios, a mean of 3.3 to 9.7 patients per nurse (Lasater et al., 2021), leading to patient safety issues within facilities which further substantiates the growing nursing shortages. Problems arise from senior nurses retiring, new graduate nurses quickly leaving the profession due to burnout and inappropriate expectations associated with inadequate clinical experiences, nurses being overworked post-pandemic, and nurses leaving staff positions to obtain more lucrative travel positions. Preventatory measures for nursing shortages to be discussed include encouraging academic institutions to add more instructors to allow more nursing students to be accepted into programs, promoting the passage of House Bill S. 1567 (Congress, 2021) to improve safe nurse-to-patient ratios, increasing the number of permanent staff positions, offering increased retention pay to staff nurses, and encouraging more realistic individual clinical experiences.

Title: Filial Cannibalism: Does Age Influence Parental Decision to Cannibalize in Ring-legged Earwigs?

Presenter: Elizabeth Taliaferro

Faculty Mentor: Anne Jacobs

Abstract: Many animals cannibalize members of their own species. Filial cannibalism occurs when the parent eats their own offspring. A female may use this strategy to adjust her investment per clutch in order to maximize future reproductive success. I predict that age influences the act of filial cannibalism. Older females may be less likely to cannibalize their offspring because their prospects for future reproduction are lower. I have studied the effects of maternal age on filial cannibalism in *Euborellia annulipes* (ring-legged earwigs). I isolated juveniles to control their mating history and assigned them to a treatment group if they eclosed to females (young or middle aged). Furthermore, I kept the adult males isolated as virgins to eliminate any external

influences. It has been shown that fecundity begins to decline around day eighty-four after eclosion in this species. Each treatment group is based on age two and six weeks determined by history of fecundity. I measured the proportion of eggs females in each group cannibalize when disturbed. The data collected to date suggests the opposite of what I predicted. However, there is not a significant difference in clutch cannibalism between the old females and young, possibly due to small sample size. Therefore, females may cannibalize regardless of age.

Title: Workplace Mentors Conversations Surrounding Sexism

Presenter: Aaliyah Smith, Alexis Jones, Amy Gary, Ashley Walker, Avondrea Singleton, Carleigh Spivey, Colton Crane, Eric Monts, Hannah Fox, Hannah Savage, Jada Dixon, Joseph Cabrera Santos, Josiah Webb, Kaleb Hudson, Kandice Nixon, Mary Barfield, Renderea Perkins, Shy'neschia Salter, Valencia Robinson

Faculty Mentor: Sally Merritt

Abstract: This study analyzes if role models attitudes and experience involving sexism within a workplace environment will affect whether people will want them as a workplace mentor. In this study participants are told we are looking to test potential mentors to a new mentor program in an industry with very few women and historically have had issues with sexism. This study uses a survey on Qualtrics to collect data while the study design is a 2x2x2 between-subjects study with gender or role model (male vs. female) x awareness of sexism (aware vs. unaware) x willingness to support (supportive or unsupportive). The survey has each participant only seeing one mentor profile and picture who is either male or female, aware or unaware of sexism in their workplace, and is willing to be supportive of victims or not. After reading the interview, participants answer questions on a Likert scale on how inspiring the mentor is, whether they would want them as their mentor, and an open-ended question about what they liked/disliked about the mentor. This study is attempting to shed light on how mentors' communication around sexism in the workplace can better assist others.

Title: Digitalization of the Supply Chain: Antecedents and Consequences for Collaboration in the Supply Chain

Presenter: Geraldine Alvarez

Faculty Mentor: Irina Toteva

Abstract: Supply chain management strategies should evolve continuously to meet the ever-changing needs of customers. Technological advances can be implemented in supply chain management to change the traditional way of operations to meet new customers' expectations and demands. There is increasing focus on the digitalization of the supply chain, which is the

introduction of advanced technology for information, goods, and capital management from the purchase of raw materials to the delivery to the final customer. The digitalization process can influence the sales, production, and logistics aspects of the supply chain, thus affecting critical points such as inventory management, supplier relationships, delivery control, and intelligent order management. The digitalization process can also eliminate or reduce tasks that lack added value in daily management. The present research conducts a literature review and identifies a framework of digitalization processes and their impact on developing management strategies in the supply chain. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: The Intersection of Technology and Ethics: Framework and Implications for Marketing Channels Strategy

Presenter: Lydia Chavers

Faculty Mentor: Irina Toteva

Abstract: In the distribution process of marketing channels consumer education, ethical behavior, and technology play a huge role in the process. Consumer education is helpful to keep the customer engaged with the products and the company. Customers appreciate companies that are there for them and willing to spend time to fulfill their needs. Additionally, it is extremely important for companies to practice ethical behavior because it allows their customers to trust them and continue to support them. There are too many opportunities for unethical practices to occur in the distribution process. The tendency toward unethical practices has gone up with the advancement of technology over the recent years. The present research conducts a literature review and identifies a framework of the combined influence of consumer education, ethics, and technological advances for the performance of marketing channels. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Drivers of the Omni-channel Customer Journey: The Role of Inertia and Hedonic Motivation

Presenter: Hannah Cook

Faculty Mentor: Irina Toteva

Abstract: The continuous development of marketing channels and the various ways in which consumers can interact within these channels have given many consumers the access to customize their journey from ordering the product to receiving it. The different customer journeys within an omnichannel environment, where customers are given freedom to view products on one

channel and order via another channel, are naturally individualistic. However, they are driven by factors that can be applied to explain and predict consumer behavior in the context of marketing channels. There is an increasing need to answer the following questions: how and why consumers choose one channel over another to order products. The importance of this research is to further investigate what truly drives and impacts the omnichannel consumer journey. The present research conducts a literature review and identifies a framework of the combined influence of the following factors - inertia, the difficulty of the buying process, and hedonic motivation - on consumer decision making through their omnichannel journey. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Antecedents to Successful Relational Management in Distribution Channels

Presenter: Jaylin Felton

Faculty Mentor: Irina Toteva

Abstract: The distribution operations of a company can make or break its long-term success. The extent of relational behaviors displayed by independent partners in channels of distribution is a critical determinant of the efficiency and effectiveness of distribution operations. Successful inter-organizational relational management in distribution channels is a vital source of competitive advantages in distribution channels. There is a need to further investigate the factors that can contribute to improving the performance in distribution channels. The present research conducts a literature review and identifies a framework of the factors of flexibility, information exchange, and solidarity, and how they influence relational management. These three factors are integral to maintaining prosperous channel relationships and shouldn't be taken for granted or abused by any channel member. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Communication and Cooperation: A Framework to Reduce Conflict in Marketing Channels

Presenter: Nehemiah Johnson

Faculty Mentor: Irina Toteva

Abstract: Resolving channel conflict is key to maintaining and establishing trust within the marketing channel. As marketing channels continue to grow and evolve, more issues are expected to arise. One main issue that marketing channels face is when different parts of the channel are competing for the same end consumer. Conflict is common throughout marketing channels. Three major factors that aid in influencing channel conflict are communication,

cooperation, and a clear establishment of goals and expectations. Each member of the marketing channel has its own set of goals and motivations. Because of this, it is important to understand each member and how they should cooperate to mitigate risks. Having a clear understanding of how each of these factors work will help individual channels understand how to reduce conflict once an issue has presented itself. The primary purpose of this research is to conduct a literature review that identifies a framework to reduce conflict among channel members. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Lean or Agile: A Framework for Supply Chain Management in the Apparel Industry

Presenter: Bradley Kitchens

Faculty Mentor: Irina Toteva

Abstract: Supply chain management is the management of the flow of goods and services that includes each process that is required to get raw materials to become the finished product. Supply chain management is one of the most important steps to success for companies. If a company lacks organization and accuracy in the supply chain they will fail. The present research investigates the debate about whether a lean or and agile supply chain is superior, particularly in the apparel and fashion industry. Lean supply chain management is when a supply chain is condensed as much as possible and has a low volume of products. An agile supply focuses on being able to respond to the constant change in demand and fashion within this industry. The present research identifies a framework of factors such as, cost, preparation, responsiveness, and convenience that will help firms determine which supply chain, lean or agile, is optimal in the apparel industry. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: A Framwork of Value Appropriation in Marketing Channels

Presenter: James (Matt) Lowe

Faculty Mentor: Irina Toteva

Abstract: In the current business environment, the impact of different marketing channels on customer behavior and purchase decisions is an important issue that requires further research. The proliferation of digital marketing channels has given rise to new opportunities and challenges for marketers, making it essential to understand how different marketing channels influence customer behavior. This research investigates how a company's channel management strategies can impact its ability to appropriate value from its marketing channels and increase its overall value. To fully capture the

value created, value appropriation strategies are needed. These strategies can be captured through profit appropriation (extraction of profit created in channels) and resource appropriation (using channels for multiple business purposes). It is important for managers to consider value appropriation in their strategic planning and marketing channels in order to gain a competitive edge. The present research conducts a literature review and identifies a framework of value appropriation. The impact of value appropriation can be influenced by factors such as channel reputation, advertising effort, and industry competition. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Dual Channel Supply Chain: A Framework for Improving Performance in the Durable Products Category

Presenter: Isabel Marcotte

Faculty Mentor: Irina Toteva

Abstract: Many durable goods manufacturers have developed dual channels to market their products. When facing encroachment from the manufacturer, the reseller of durable goods is in a tougher position than a reseller of non-durable goods because they are competing with new products from the manufacturer and dealing with used products from resellers. The question is when is it appropriate for manufacturers to open an e-channel? The dual channel supply chain involves two parallel distribution channels with one pertaining to online orders and the other working directly with on-site locations. The purpose of this research is to determine the benefits of having a dual channel supply chain for durable goods and to examine the effect of a dual channel supply chain on a company's performance. This research conducts a literature review and identifies a framework of factors such as product durability, flexibility in implementation, and conflict, and their influence on a firm's performance. This research proposes a research methodology to test the identified relationships. The findings of this research project can be used to inform firms in the durable goods industry about the benefits of implementing a dual channel supply chain strategy.

Title: Supply Chain Integration: Antecedents of Customer-perceived Quality

Presenter: Nicholas McCollum

Faculty Mentor: Irina Toteva

Abstract: Supply chain integration (SCI) happens when channel members reduce barriers in the supply chain, thus enhancing the movement of raw materials to suppliers and the shipping of finished goods to the end consumer. SCI is a determinant of a company's competitive advantage and needs more research. There is very little research on the customer-perceived quality of SCI.

Based on prior studies, more SCI does not always translate to better integration and greater customer-perceived quality. Therefore, the present research investigates the driving factors of optimal SCI. The present research conducts a literature review and identifies a framework of supply chain factors to positively influence customer-perceived quality in marketing channels. This research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: What about Webrooming: Antecedents to Cross-channel Shopping Behavior

Presenter: Brice Mortillaro

Faculty Mentor: Irina Toteva

Abstract: Due to the continuous changes in consumer behavior, the retail industry must stay focused on transforming with the goal of meeting customers' needs effectively. One recent consumer behavior phenomenon is webrooming, when consumers visit an online store before making a purchase at a physical location. Webrooming is growing as evidenced by recent studies that show 70 percent of consumers have looked online before completing their purchase in a store. This type of cross-channel shopping behavior needs more attention to help retailers understand and predict consumers' buying patterns. Webrooming has caused e-commerce giants such as Amazon to use a click-to-brick approach by opening physical stores. The present research conducts a literature review and identifies a framework of the combined influence of consumers' motivations, company factors, and shopping situation on consumer behavior such as webrooming. This research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: The Interplay of Touchpoints and Motivations to Improve the Customer Journey in an Omnichannel Environment

Presenter: Gabrielle Sainsbury

Faculty Mentor: Irina Toteva

Abstract: Consumers are going through more marketing channels and various touchpoints than they have in previous years. Thus, there is a growing importance of understanding what drives consumer behavior in an omnichannel environment. This investigation is important because marketers must anticipate consumers' wants and needs. Marketers try to understand consumers and how they can create a seamless omnichannel experience with the end goal being to improve the customer journey. Prior research has shown a higher rate of success with an omnichannel experience in comparison to a multichannel distribution. With the goal of improving the customer journey, the following main touchpoints have been identified: firm owned, partner-

owned, and social/ external touchpoints. The present research conducts a literature review and identifies a framework of antecedents that includes touchpoints and factors, including consumers' motivations along the customer journey in an omnichannel environment. The present research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: Antecedents to Brand Messaging Consistency across the Customer Journey in an Omnichannel Experience

Presenter: Hannah Savage

Faculty Mentor: Irina Toteva

Abstract: Today, most businesses employ an omnichannel strategy to reach their consumers. An omnichannel strategy is a marketing approach that requires a business to provide a consistent, seamless consumer experience across multiple digital and physical touchpoints. Prior research on omnichannel strategy has primarily focused on topics such as integration of physical stores and digital channels, all from a business perspective. Research is lacking from a consumer perspective. In an omnichannel, brand messaging should be consistent throughout the customer journey. The omnichannel experience is a key element for creating consumer touchpoint consistency and brand messaging consistency along the customer journey. Researchers have identified several touchpoints such as traditional media, in-store, catalogs, email, loyalty programs, etc. The present research conducts a literature review and identifies factors that will improve consistent brand messaging across a firm's touchpoints with a customer in the omnichannel retail mix, and proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: Factors to Improve Customer Satisfaction in the Auto Industry: An Omnichannel Perspective

Presenter: Jack Tharrington

Faculty Mentor: Irina Toteva

Abstract: The auto industry has been slow to implement an omnichannel experience. Many car makers use a distribution strategy consisting of only one or two marketing channels, when implementing an omnichannel experience would attract a broader market. Although the auto industry functions efficiently, there is still more to be learned about how to offer a seamless omnichannel experience to their customers. Technology plays an important role in enhancing the omnichannel experience by creating a more efficient way for consumers to receive information. Thus, technology is identified as one key factor for improving customer satisfaction in an omnichannel experience in the context of the auto industry. It is also important for car makers to identify the

optimal communication and omnichannel experience for specific customer segments in each company's target market. Thus, market segmentation is another important factor. The main purpose of this research is to determine factors for improving customer satisfaction through an omnichannel journey in the auto industry. The present research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

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Title: Antecedents to Customer Satisfaction for Financial Services: A Marketing Channels Perspective

Presenter: Jennifer Avery

Faculty Mentor: Irina Toteva

Abstract: The information era, which started five decades ago, was spurred on by the invention of digital computer technology. This was the beginning of an economic transformation into digital economies. To dive into the customers' digital experience, recognition of the many sources of digital devices available is imperative. The Internet is the most visible. Others include touch screen kiosks, handheld devices, smart cards, robots, virtual reality screens, electronic signage, body scanners, heart rate monitors, watches, and wireless devices. The present research will focus on consumer experiences with digital financial services. The traditional brick and mortar bank has evolved into banking apps with full scale traditional banking options to digital payment services. This research is based on a literature review of the consumers' experience with digital platforms. This research will identify a framework in the context of online financial transactions by exploring the influence of usefulness, convenience, and security, and their combined effect on customer satisfaction with financial services. The present research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: Trust, Company Reputation, and Customer Loyalty: A Framework of Antecedents of Omni-channel Success

Presenter: Edmund (Chase) Bozeman

Faculty Mentor: Irina Toteva

Abstract: Building trust in business relationships is critical to the success of an

omni-channel business because trust can positively impact customer loyalty, engagement, and satisfaction. An omni-channel business operates across multiple channels, such as brick-and-mortar stores, e-commerce websites, mobile apps, and social media platforms. By building trust with customers, an omni-channel business can provide a consistent and seamless customer experience across all channels. Overall, trust and business relationships are essential for an omni-channel business to establish a positive reputation, increase customer loyalty, and build a sustainable business. A commitment to trust and building strong business relationships can help an omni-channel business stand out in a crowded and competitive marketplace, ultimately leading to greater success and growth. The present research identifies a framework of important antecedents to omni-channel success and proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: A Framework for Supply Chain Management during Disasters in Third-world Countries

Presenter: Brelyn Cagle

Faculty Mentor: Irina Toteva

Abstract: Supply chain management is crucial to all companies because it can be a source of competitive advantage. Supply chain management creates a system for sourcing raw materials, creating products, and transporting goods to the end consumer. There are challenges for supply chain management in third-world countries. When these countries experience disasters and the means of transportation are no longer available, companies need to react quickly and effectively. The extensive planning that is done for supply chains in disaster scenarios is often not effective due to several chains of events. For example, time is a critical issue when it comes to delivering supplies needed for survival. Waiting for communication to go through and permission to be granted can have detrimental effects on the survivors of the disaster. The present research conducts a literature review and identifies a framework of factors that will influence successful supply chain management in third-world countries during natural disasters. The present research proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: The Effects of Sustainability Innovations on Power Relationships between Manufacturers and Retailers

Presenter: Keershton Camara

Faculty Mentor: Irina Toteva

Abstract: Sustainability is important because it shows that companies care. Sustainability is growing in importance in supply chain management. As

customers are beginning to seek out the most sustainable products that do the least amount of harm, retailers and manufacturers must work together to seek out the most sustainable solutions for their current supply chain systems. In addition, "going green" in supply chain management focusing on environmental issues can result in lower costs for customers. Innovativeness within the manufacturing process is one area of opportunity to implement sustainability. Creative strategies that use sustainability can benefit both the manufacturers and their retailers. Changes to environmentally-friendly practices in the manufacturing process is challenging because such changes could cause friction and power shifts within the supply chain. The present research proposes a framework of sustainability innovations and their effects on the power relationship between the manufacturers and the retailers. The present research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: Are Brick-and-mortar Stores Becoming Obsolete: Factors for Improving Performance

Presenter: Matthew Darby

Faculty Mentor: Irina Toteva

Abstract: Most brick-and-mortar stores have been significantly and negatively affected by the decrease of in-person customers. This decrease is largely due to the tremendous growth of technology in the past decade combined with the 2020 pandemic. Online shopping is easier, faster, more reliable, and sometimes cheaper than going to a brick-and-mortar store. However, there are ways brick and mortar stores can combat the lower volume of sales. Potential strategies for brick-and-mortar stores include: increasing digital marketing, adopting new technology, and building value to the brick-and-mortar experience. The present research discusses the factors that brick-and-mortar stores need to consider in their competition with online retailers. The present research conducts a literature review and identifies a framework for the success of brick-and-mortar stores. The present research proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: Antecedents of Product Demand and Customer Loyalty: a Distribution Channels Perspective

Presenter: Katherine Dennard

Faculty Mentor: Irina Toteva

Abstract: All successful businesses understand that consumers must feel appreciated in order to stay loyal. Providing extra services before, during, and after a purchase can significantly help consumer loyalty. Implementing

advance selling is one approach that retailers can use to improve consumer loyalty. Developing a strong e-commerce infrastructure is another strategy to help a business become more successful. Overall, companies that provide services through their distribution channels can positively influence product demand and customer loyalty. The present research conducts a literature review and identifies a framework of distribution-related as well as customer-related factors that predict product demand and customer loyalty. The present research proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: Last-mile Delivery in Distribution: Antecedents of Customer Loyalty

Presenter: Rebekah Guthrie

Faculty Mentor: Irina Toteva

Abstract: The world of distribution and supply chain management revolve around one common denominator -- the consumer. In today's age, the consumer wants products faster, and with a smoother delivery process. With methods of delivery, such as last-mile distribution, companies can gather supplies quicker, thus reducing the wait time for the consumer. While getting the product to the consumer in the fastest way possible is the most desired outcome for many companies, last-mile distribution techniques are only feasible if the company knows how to strategically plan out its distribution routes. Due to the overwhelming consumer demand for quicker products, last-mile delivery is the most expensive form of delivery for companies and simultaneously the most impactful to customer loyalty. The present research conducts a literature review and identifies important factors associated with last-mile delivery and distribution that can impact customer loyalty. The present research proposes a research methodology to test the relationships. Implications for marketing theory and practice are also addressed.

Title: Antecedents to Optimal Advance Selling Implementation in the Supply Chain

Presenter: Catherine Hepperla

Faculty Mentor: Irina Toteva

Abstract: Advanced selling is when a manufacturer sells a pre-determined quantity of products to a retailer before the demand for the product is realized. Advance selling happens for seasonal products such as Halloween costumes or seasonal decor. Advanced selling can be detrimental to the end consumer because of the manufacturer and retailer having to add margins when setting their prices thus resulting in higher prices for the end consumer. It is important to further investigate advance selling to understand how to improve efficiency in distribution while also offering good value to the end consumer. The present research identifies a framework of important antecedents to advance selling

and proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Title: A Framework for Improving Supply Chain Management and Omni-channel Strategies: the Role of Technology

Presenter: Caroline Radcliff

Faculty Mentor: Irina Toteva

Abstract: Effective supply chain management (SCM) and omni-channel strategies are essential for companies' success. Due to the transformative and integrative powers of technology, supply chains and the retail industry have become increasingly dependent on technological advancement. The present research conducts a literature review of existing SCM approaches to identify important factors for success and those factors that could be barriers to productivity. The purpose of this research is to examine the impact of new technology trends on supply chain processes and omni-channel strategy to identify the components indicative of success and determine technology's role to further advance SCM and omni-channel productivity. The results of this study will provide an integrative framework, that utilizes technology's abilities to produce further alignment and collaboration between channel players to lessen existing weaknesses and channel conflict and to improve performance. The present research proposes a research methodology to test the proposed relationships. Implications for marketing theory and practice are also addressed.

Title: Antecedents to Successful Distribution Channel Relationships

Presenter: Alicia Simmons

Faculty Mentor: Irina Toteva

Abstract: Marketing channels are classified as groups, organizations, and/or corporations that are working together to produce, develop, and present products to consumers through multiple avenues. Creating marketing channels can open up opportunities that lead to developing new relationships across an industry. Distribution channel relationship is being able to compete with a rival brand and still possess the ability to beat them competitively. Research has shown that an increase in distribution channel relationships can result in an advantage over the rival of a company. The successful formation of distribution channel relationships is challenging in the cases when there are many substitutes for a product. The main purpose of this research is to determine the antecedents of successful distribution channel relationships. The present research proposes a research methodology to test the identified relationships. Implications for marketing theory and practice are also addressed.

Nothing has such power to broaden the mind as the ability to investigate—systematically and truly—all that comes under thy observation in life.

- *Marcus Aurelius*



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