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A STUDY OF ONLINE SHOPPING ORIENTATIONS AND BEHAVIORS IN VIETNAM

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ABSTRACT

Vietnam is one of the fastest growing economies not just in the Asian region but in the world. Although online shopping in Vietnam is on the verge of rapid growth, relatively little is known about most aspects of Vietnamese consumer behavior. This study begins to build a foundation of knowledge of Vietnamese online shopping. Surveys from 276 consumer panel members were collected. Seven online shopping orientations were identified by factor analysis which were then regressed on demographic and purchase behavior variables. A bipolar profile of Vietnamese online shoppers emerged – those that are extremely concerned about online security and protection of personal information who use the internet for low-risk transactions such as paying utility bills, and those that view online shopping as a pleasurable and recreational activity which leads to purchases of high quality and reputed brands. Besides revealing these orientations of Vietnamese consumers, our study suggests that consumer conceptualizations of online shopping have not yet undergone full elaboration. Thus, this cross-sectional study could be extended with longitudinal research to reveal how Vietnamese consumers' perceptions of the marketplace change with increasing omnichannel retailing and growing consumer sophistication.

Key Words: Vietnam, Online Shopping Orientations, Online Shopping Behaviors, Survey Research

Vietnam: A Brief Overview

Political and economic reforms since the mid-1980s have transformed Vietnam from a centralized economy to a “socialist-oriented market economy”; since then, the country has grown to a middle-income country and become an emerging

market (CIA World Factbook, 2020). From 1997 to 2018, Vietnam's average annual GDP growth was 6.42 percent, and its inflation rate was fluctuating, but stabilized, at around 2 percent from 2016 to 2019 (Macrotrend, 2020). In terms of GDP growth prospects, Vietnam will outperform the other Southeast Asian economies (Do, 2020). Vietnam's disposable income per capita was \$1,909 in 2019, which was lower than other Southeast Asian economies, but expected to catch up with them to reach \$3,062 in 2023 (McKinsey, 2019). Moreover, Vietnam's total consumer spending is growing at the highest rate in the region- 7.2% a year, rising from \$76 billion in 2008 to \$167 billion in 2018. Service and industry sectors are contributing the majority of the economic growth with 41.12 percent and 32.23 percent respectively in 2018. The rest 14.68% is from the agricultural sector (Statista, 2020).

Online shopping and the entire eCommerce sector in Vietnam have been developing at a very rapid pace. Vietnam ranked 75th in the world on the UNCTAD e-Commerce Index in 2016; by 2019, its rank had improved to 64th. The percentage of the Vietnamese population using the internet has exceeded 70% since 2018 (ITU, n.d.). According to the Vietnam Internet Commerce Association (VECOM), retail online sales have increased at a compound annual growth rate (CAGR) of 30% from 2016 to 2019. In comparison, the global average compound rate of growth for online shopping was 16.1% during the same period (US International Trade Administration, n.d.).

Vietnamese Consumer Research

There is very limited empirical research focusing on Vietnamese online shopping. One recent study focused on the influence of consumers' attitude, subjective norms, perception of behavioral control, perception of usefulness, perceived risks and trust on online shopping (Ha *et al*, 2021). Another study examined the direct and indirect influence of the dimensions of online shopping convenience on repurchase intention of Vietnamese consumers through customer-perceived value (Pham *et al*, 2018). Another study investigated the impacts of factors (responsiveness, trust, convenience, delivery, information quality and perceived website usability) on customer satisfaction and repurchase intention (Nguyen *et al*, 2021). Troung *et al* (2014) identified factors that may influence Vietnamese customers' online shopping satisfaction from the perspective of total online shopping experience.

Shopping Orientation Research

A consumer's approach to the act of shopping is referred to as shopping lifestyle or shopping orientation. The basic premise of shopping orientations is that people take many different approaches to the act of shopping. Thus, this type of analysis determines the variety of shopping styles that individuals adopt and how these styles relate to purchase intentions (Gehrt *et al*, 2007). Shopping orientations are usually studied by using factor analytic techniques to identify latent patterns among subjects' responses to AIO (activities, interests, and

opinions) statements and are interpreted by summarizing the individual statements that load on each orientation. In addition to the powerful insight gained from interpreting shopping orientations, the use of correlational methods to characterize consumers with respect to factors in addition to shopping orientations can provide further insight (Gehrt *et al*, 2012).

Website Design and Attributes in Online Shopping

Wolfenbarger and Gilly (2001) introduced the concept of goal focused online shopping which views online shopping as convenient and accessible, providing rich information, offering extended selection and inventory without contact with others. In an empirical study they identified the dimensions of website design (usability, information availability, product selection, and appropriate personalization), fulfillment/reliability, customer service, and privacy/security (Wolfenbarger and Gilly, 2003). These factors provide a competitive edge to retailers who are sensitive to goal-focused shoppers on their websites.

RESEARCH METHODOLOGY AND DATA COLLECTION

Data for this study were collected via an online survey of students at the University of Economics and Law in Ho Chi Minh City in May of 2020. The student sample was selected as a way to augment access to internet-native consumers and, consequently, to augment respondent exposure to online shoppers. Three hundred and thirty-six submissions yielded 276 complete responses, for an 83% response rate.

Data Analysis

The analysis involved two primary procedures. First, factor analysis was used to identify underlying shopping orientations. Second, dummy variable regression analysis was used to characterize shopping orientations in terms of demographics and online shopping behavior.

Factor Analysis: Identifying Shopping Orientations

Responses to the 39 shopping orientation statements were factor analyzed. Measures examined to determine the number of factors to interpret were the percentage of variance explained and eigenvalues. Statement loadings on a factor that are greater than greater than .50 are considered moderately meaningful, and greater than .70 highly meaningful (Hair *et al.*, 2010). Varimax extraction was chosen due to its tendency to provide an easily interpretable factor matrix (Kim and Mueller, 1982). Orthogonal rotation was chosen because the factor matrix was to be subjected to subsequent data analysis (Hair *et al.*, 2010). Cronbach's alpha was computed to assess the reliability of each factor.

Factor Analysis: Identifying Website Dimensions

Responses to the 20 website attribute statements were factor analyzed. The procedure paralleled that of the shopping orientation factor analysis.

RESULTS

Factor Analysis: Shopping Orientations

Factor analysis of the 39 shopping orientation statements yielded seven factors/shopping orientations with an eigenvalue ≥ 1.00 on which three or more statements loaded at $\geq .50$. Twenty-four of the statements came into play as shown in Table 1. The procedure yielded factors with Cronbach coefficient reliabilities ranging from .703 to .867 (above the minimum recommended .70 critical value). The solution's KMO measure of sampling adequacy was .934, with measures $\geq .90$ being considered at the highest standard. Bartlett's test of sphericity was 8940 (df = 1653) which was significant at the .000 level, indicating that the assumption of multivariate normality was met (Norusis, 2005). Table 1 shows that interpretation of the shopping orientation factors was straightforward. They included security, careful shopper, website design, recreational, product awareness, hesitant shopper, and product aspects orientations.

Results for regression analyses of the shopping orientations on the various demographic variables and their significance levels are reported in Table 2.

Security Orientation: Of the five statements that load on the Security factor (Cronbach Alpha .867), three of the first four overtly suggest a theme of security and safety. This includes the statement with the highest loading (.635), "I must feel safe making purchases on the web" and well as "The website has adequate safety measures" (.565), and "I feel safe using my credit cards" (.561). The other two statements suggest a collateral route to security via the responsiveness of the online retailer to customer needs. Those statements include "The website responds well to customer needs" (.634) and "Inquiries are handled promptly by the website" (.555).

TABLE 1 – Factor Analysis & Shopping Orientations

Regression analysis showed the Security Shopping Orientation was

	Security Orientation	Careful Shopper Orientation	Website Design Orientation	Recreational Shopper Orientation	Product Awareness Orientation	Hesitant Shopper Orientation	Product Aspects Orientation
I must feel safe making purchases on the web	.635						
The website responds well to customer needs	.634						
The website has adequate safety measures	.565						
I feel safe using my credit cards	.561						
The website responds well to customer needs	.555						
The website provides products with good values		.636					
The website protects my privacy		.584					
The website is committed to solving problems		.527					
Products purchased from the website are securely packaged		.503					
The website is very user friendly			.705				
The website provides informative information			.642				
The website has good atmospheric qualities			.557				
I prefer retailers that allow me to shop anytime				.785			
Shopping puts me in a good mood				.690			
Shopping is one of my favorite leisure time activities				.624			
I enjoy shopping				.555			
Once I find a brand, I like to stick with it					.643		
When my intention is merely to browse, I sometimes make a purchase					.631		
I like having the very newest products					.604		
Even for small items I check prices						.676	
I sometimes make careless purchases that I later regret						.568	
I like to buy retailer brand products						.534	
My expectations for the products I buy are very high							.635
I take time to shop carefully for good prices							.618
Attractive styling is important to me							.502

demographically characterized by gender (male = .007), higher levels of education (.017), and higher purchases per year (.020). In terms of their purchasing proclivities, the Security Orientation was inclined to purchase clothing and accessories (.001), one of the product categories that is perhaps not so daunting to purchase online compared to other categories such as electronics or furniture.

TABLE 2 – Regression Analysis & Demographic Variables

	Security Orientation	Careful Shopper Orientation	Website Design Orientation	Recreational Shopper Orientation	Product Awareness Orientation	Hesitant Shopper Orientation	Product Aspects Orientation
Age					.036	.024	.007
Gender	.007	.013	.001		.031	.023	.006
Education	.017				.051		
Income							
Years on Internet			.051				
Internet Hours per Day							
Purchases per Year	.020		.003	.006			.004
Dollars per Year		.584					
Purchase Intention next Year		.001					
Home Furnishings			.007				.000
Paying Utility Bills		.000	.000		.001		
Travel Related Purchases		.000					
CD/Video/DVD		.002	.000		.012		
Consumer Electronics		.000	.031				
Computer Hardware		.000	.000		.013		
Fashion Jewelry		.032					.000
Clothing/Accessories	.001						.006
Books							

Careful Shopper Orientation: The four statements that load on this second factor include items that clearly reflect a cautious theme - i.e., “The website provides products with good values” (.636), “The website protects my privacy” (.584), “The website is committed to solving problems”, (.527), and “Products purchased from the website are securely packaged” (.503). The Cronbach reliability coefficient for the Careful Shopper Orientation was .848.

Gender (female $\leq .02$), and higher levels of purchase intention ($\leq .02$) were the only demographic variables that were significant for the Careful Shopper Orientation. These respondents were most likely to purchase Computer Hardware (.000), Travel Related purchases (.000), Consumer Electronics (.000), pay Utility Bills (.000), CD/Video/DVD (.002), Home Furnishings (.007) and Fashion Jewelry (.032), which were all significant for this factor.

Website Design Orientation: Three statements loaded on the “Website Design Orientation” including “The website is very user friendly” (.705), “The website provides informative information” (.642), and “The website has good atmospheric qualities” (.557). The Website Design Orientation had a Cronbach reliability coefficient of .862.

Gender (female = .001), fewer years on the Internet (.051), and lower purchases per year (.003) were the significant demographic variables. Paying Utility Bills (.000), buying CD/Video/DVD (.000), Computer Hardware (.000), Home Furnishings (.005), and Consumer Electronics (.031) were the significant online activities for this factor.

Recreational Shopper Orientation: With a Cronbach’s score of .824, four statements loaded on the “Recreational Shopper Orientation”. These included “I prefer retailers that allow me to shop anytime” (.785), “Shopping puts me in a good mood” (.690), “Shopping is one of my favorite leisure time activities” (.624), and “I enjoy shopping” (.555).

Lower purchase frequency per year (.006) and lower purchase intention next year (.000) were significant for this factor.

Product Awareness Orientation: This “Product Awareness Orientation” had statements such as “Once I find a brand, I like to stick with it” (.643), “When my intention is merely to browse, I sometimes make a purchase” (.631), and “I like having the very newest products” (.604). The Cronbach reliability coefficient factor for the Product Awareness Orientation was .705.

Gender (male = .031), Age (younger = .036), and lower Education (.051), were the significant demographic variables for this Orientation and these respondents were likely to pay Utility Bills (.001), and purchase CD/Video/DVD (.012), and Computer Hardware (.013).

Hesitant Shopper Orientation: This “Hesitant Shopper Orientation” had statements such as “Even for small items I check prices” (.676), “I sometimes make careless purchases that I later regret” (.568), and “I like to buy retailer brand products” (.534). The Cronbach reliability coefficient factor for the Hesitant Shopper Orientation was .737.

Gender (female = .023) and Age (older = .024) were significant for this factor, and they were not inclined to purchase any of the categories that were listed on the questionnaire.

Product Aspects Orientation: This “Product Aspects Orientation” had statements such as “My expectations for the products I buy are very high” (.635), “I take time to shop carefully for good prices” (.618), and “Attractive styling is important to me” (.502). The Cronbach reliability coefficient factor for the Product Awareness Orientation was .703.

Gender (male = .006), Age (younger = .007), and higher Purchase Frequency (.004) were the significant demographic variables for this Orientation. These respondents were most likely to purchase Fashion Jewelry (.000), Home Furnishings (.000), Clothing/Accessories (.006), and Books (.038) which were all significant for this factor.

Results in the Vietnamese Context

The orientations of online shoppers in Vietnam may be seen in the light of a central unifying theme of Cyber-security and fraud risk management. The online shopper orientations show a spectrum of perceived risk, risk tolerance and attendant behaviors. These range from shoppers who actively participate online, to those who do so in a limited fashion, finally to those who do not clearly indicate that they make any online purchases.

Security, Careful Shopper and Website Design Orientations

At the top of the spectrum are the three orientations Security, Careful Shopper, and Website Design. These orientations demonstrate more active online shopping behavior, with a much wider variety of goods purchased. Still, there is the overarching theme of managing risk. Security Orientation makes clear the importance it attaches to feeling safe while making a purchase and using a credit card online. Careful Shopper, as the title indicates, is more careful than Security Shopper, for example paying utility bills online, which is a relatively safe transaction. This is a less risky online activity because it does not involve the use of an online shopping platform, and the payment is for something that has already been received. There is no good to inspect, to verify its quality. Careful Shopper also showed a stronger response for Years on the Internet, and it is possible that more experience leads to greater sense of confidence in dealing with online risks. Website Design Orientation is more focused on website user friendliness. An ecommerce website must have an attractive design, with appropriate content that engender trust and interacts effectively with the users (Gefen, 2000; Wolfenbarger and Gilly, 2003). Further an ecommerce website can be personalized to specific customers’ needs (Gefen, 2003).

Another, all too common type of online criminal activity is fraudulent shopping websites, which often closely imitate the appearance of well known, reputable shopping platforms. Overall, there is also a low level of trust regarding online shopping platforms (Nguyen 2022). Website Design Orientation may be

particularly sensitive to subtle issues of website appearance that raise doubts about authenticity and therefore increased perceived risk.

Recreational, Product Awareness, and Product Aspects Orientations

These next three orientations show responses for certain types of goods they like to purchase online, although fewer than Security, Careful and Website Design. Recreational Shopper shows indications that online shopping is an enjoyable leisure activity in and of itself, and that it generates a good mood. Product Aspects references investing time online to find stylish goods that meet high expectations and are at good prices. Product Awareness orientation involves browsing behavior, such as visiting shopping websites for recreational purposes, which may result in a purchase. Recreation and Product Aspects have significant purchase per year indications, but Product Awareness does not. Further Product Awareness has a very limited selection of goods purchased, including utility bill, which are low-risk transactions. Recreational, Product Awareness and Product Aspects Orientations exhibit online shopping activity for leisure, or for reconnaissance, gathering information on products and their prices, which may result in an online purchase. It is also possible that price and availability information is gathered in preparation for purchasing at retail outlets. Some shoppers may prefer buying in a physical store. Besides avoiding online risks, brick and mortar stores allows for faster gratification, as buyers can avoid time spent waiting for delivery.

Hesitant Shopper

At the other end of the spectrum from orientations that reflect less restrained online spending is Hesitant Shopper. This orientation is particularly price conscious, carefully checking prices even on small items, but still sometimes regretting purchases. But most notably, the Hesitant Shopper does not clearly indicate purchasing activity in any product category, not even payment of utility bills. Further, the Hesitant Orientation exhibits no significant response regarding purchases per year or intent to buy in the future. The Hesitant Shopper Orientation may involve using shopping websites for reconnaissance, to gather price and other useful information prior to making purchases in brick-and-mortar retail venues. A compelling motivation may be required for the Hesitant Shopper Orientation to involve an actual online purchase.

DISCUSSION AND IMPLICATIONS

The data indicates a range of online shopping orientations and attendant behavior patterns. This spans from orientations which reflect active online shopping activity in spite of security concerns, to those that shop less, and finally to orientations that reflect minimized shopping activity.

Concerns about fraud, cyber-security, and privacy are front of mind for online shoppers in Vietnam (Lala *et. al*, 2022). As mentioned previously, online shopping in Vietnam has demonstrated impressive rates of growth in the face of a

daunting cyber-security environment. Vietnam has had the highest rates of fraud in its region (BIIA, 2019). At times, Vietnam has been ranked number 1 in the world for various cybersecurity issue metrics (Kaspersky, 2014; GASA, n.d.). In Vietnamese online shopping, trust, or rather the lack of trust, is a serious issue in e-Commerce (Hanoi Times, n.d.; Ngo and Gim, 2014; Choi and Mai, 2017). Thanks largely to government campaigns, great strides have recently been made to reduce the amount of online fraud and the number of online shoppers who fall victim to these schemes. However, the typical Vietnamese online shopper is still very security conscious and exhibits risk-averse attitudes and risk management behaviors.

One outstanding example of risk management behavior is the prevalence in Vietnam of the use of Cash-on-Delivery (COD) as a means of payment. This method allows for the buyer to inspect goods and verify their quality prior to actual payment. According to the Department of Industry and Trade of Ho Chi Minh City 95.1% of online purchases were by COD in 2019 (Tuoi, 2019). In comparison, in the US, the largest online shopping platform, Amazon, does not even offer COD as an option. Note that the term “cash on delivery” is not completely accurate in Vietnam. In many COD transactions, payment is not actually in cash. Couriers often carry mobile card reader devices, or the buyer may pay using a mobile app.

Demographics

In Vietnam, it is quite common for women to manage the majority of everyday household purchases (Ha, 2020). There is evidence that female online shoppers play a greater role in Vietnamese eCommerce than male shoppers (Statista, 2021). In this study, the two shopping orientations that show significant factors for the greatest number of purchase categories are Careful Shopper and Website Design, which also show significant factors for female gender. Duong & Liaw (2021) found that almost 63% of online shoppers among university students were young females. Incidentally, on average, 89% of women across the world reported controlling or sharing daily shopping needs, compared to only 41% of men. In general, women seem to be more careful and hesitant online shoppers but could be swayed to shop online by attractive and user-friendly website features.

Significant response for the male gender was exhibited by Product Aspect, Product Awareness and Security orientations. These orientations also exhibit significance for several purchase categories. Men seem to be more concerned about cybersecurity issues but also show greater interest in product features as well as in product awareness. In general, they tend to be more highly educated, younger and have higher purchase frequency for certain product categories. These findings are not surprising given that in high-context and masculine/male-dominated societies such as Vietnam, men tend to play more dominant roles in society, are generally more educated and likely to be more tech oriented than women.

Product Aspect and Product Awareness also showed significance for younger in the age demographic variable (and were the only orientations to do so). It should come as no surprise that younger shoppers seem to be more savvy shoppers with regards to product knowledge and preferences.

For Recreational Shopper, women and men both seem to enjoy online browsing and shopping activities indicating that this is a gender-neutral orientation.

Implications for Practitioners

The importance of prompt, responsive customer service, good website design, user friendliness and positive overall user experience (UX) in e-Commerce are well known. What this study highlights is the importance of reducing perceived risk of online shoppers, addressing needs for security, safety and privacy. Providing assurances, and generous return policies and post-purchase warranties can be of benefit.

Identifying shoppers whose behavior profile corresponds to Security Orientation, Careful Shopper or Website Design could also be of benefit. In particular, the Careful Shopper orientation gives significant signs of purchasing the widest variety of products.

Limitations

This research relied on a pool of respondents that was heavily weighted towards young people in their late teens and early twenties. Basically, they are members of Vietnam's "Generation Z", those born from 1998-2010. A smaller portion are of Vietnam's Millennial generation (born between 1984 and 1997) or older. The average age of the population of Vietnam was approximately 32 in 2022 (US Census Bureau). Therefore, while the sample reflects the overall population, improved representation of older age groups could provide a more comprehensive view of online shopping behavior.

Future Work

More investigation is needed into how to reduce perceived risk by Vietnamese online shoppers and address their needs for enhanced e-Commerce safety.

Comparative studies will also add to the field of knowledge. Direct comparisons between Vietnam and highly developed economies in Europe or the U.S. will surely reveal differences that are currently unknown and provide enhanced perspective.

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AN ANALYSIS OF THE ONGOING CLINICAL LABORATORY SCIENCE WORKFORCE SHORTAGES IN THE U.S

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ABSTRACT

Laboratory medicine and the services provided throughout the healthcare system remain critical components in the ability to deliver quality patient care. Over the years and as of recently, due to COVID-19, delivery of proper care has been challenged with continual staffing constraints within the clinical laboratory. While this is not a new issue, its exacerbation poses an ongoing threat to clinical laboratories nationwide and has many healthcare administrators and executives searching for viable solutions. This paper focuses on exploring the depth and breadth of the issue to get to the root of the cause(s) of the critical shortage. Once these key issues are identified, then realistic and effective solutions can be proposed and implemented throughout the laboratory field.

Key Words: Workforce shortage, clinical laboratory, high rate of retirement, COVID-19 Pandemic effect

INTRODUCTION

Laboratory medicine is an integral and vital part of our healthcare system. While the conducting of basic lab tests can be dated as far back as ancient Egypt, it was not until the early 1920s that laboratory medicine found its foothold within the United States (Hanenberg, 2021; Berger, 1999). In 1928, the establishment of the American Society for Clinical Pathology (ASCP) brought forth the very first requirements and regulations for practicing laboratory medicine. Eight years later in 1936, the term medical technologist would be coined for the laboratory professional. (Hanenberg, 2021). Over the next 20+ years, the formation of various professional societies would establish prerequisites, education and training requirements, and licensure requirements in certain states. With the growing momentum and need for allied health services, such as laboratory medicine, brought about a shortage of educated and trained personnel (Hanenberg, 2021). Lack of training and advancement opportunities in the

clinical laboratory led to poor career visibility and this needed to be addressed quickly.

This need for medical technologists and other allied health care workers led to the introduction of the Allied Health Professions Personnel Training Act of 1966, which was implemented to enhance training of medical technologists and personnel in other allied health professions (CQ Almanac Online Edition, n.d.). Almost 60 years later, the field of laboratory medicine continues to toil in the same struggle. Advancements in technology and professional and academic requirements have continued, as has the demand for more complex services, resulting in the ongoing struggle between demands and capacity (Garcia et al., 2019). The most common issue plaguing the lab profession is the constant shortage of qualified personnel (ASCP, 2020). To understand this shortage, one must first understand the hierarchy of a standard medical laboratory and what takes place beyond the collection of the test tube.

Usually, the first and only interaction a patient has with the laboratory is the collection of a sample, typically blood or other bodily fluids. This collection of blood is usually, more often than not, performed by a qualified and trained phlebotomist (PBT). Other samples, such as stool and urine, are either collected by a nurse or nurse assistant or bought directly to the lab by the patient. For most, this is as far and as in-depth as their knowledge goes regarding the medical laboratory. What happens beyond this collection of specimens is a systematic and complex process involving a vast array of instrumentation and work provided by highly trained and educated personnel. Also, these laboratorians conduct all tests appropriately by following rigorous standards and procedures.

Once the specimen is in the laboratory, it is usually received, processed, and prepped for testing by a laboratory assistant/technician (LA), or a PBT with on-the-job training in specimen handling and processing. Once the specimen is received and prepped, it is delivered to either a Medical Laboratory Technician (MLT) (an individual with an associate degree) or a Clinical Lab Scientist (CLS)/ Medical Technologist (MT)/ Medical Lab Scientist (MLS) (an individual with a bachelor's degree) to any one of the various departments within the laboratory. Those departments include but are not limited to: Clinical Chemistry, Hematology, Coagulation, Microbiology, Urinalysis, or Transfusion Services/Blood Bank. Depending on the test, results can take anywhere from a few minutes to a few weeks to complete. These results are usually reviewed and resulted in the patient's chart by a CLS/MT/MLS. If further review is required or complicated cases need review, they are then delivered to a Pathologist (M.D. or D.O. with specialized training) for a consult.

CLINICAL WORKFORCE SHORTAGES

In the United States, medical laboratories must have a medical director, usually a pathologist with a background in clinical and anatomical pathology. Depending

on the laboratory's size, it can also have an administrative director (AD), usually a seasoned CLS/MT/MLS with an advanced degree in business or management. However, within the last 10 years an individual with a Doctorate of Clinical Laboratory Science (DCLS) degree can be the administrative director and/or become certified for high complexity laboratory testing which qualifies this person as a medical director. As one goes further down the administrative ladder, typically there is a laboratory manager (LM), then there are supervisors, and lastly on the frontlines is the shortage of CLS/MT/MLS laboratorians conducting the bulk of the day-to-day operations. (Garcia et al., 2019).

With the growing demand for more diagnostic tests, there is a need for an increase in laboratory professionals, specifically certified CLS/MT/MLS. Overall laboratory vacancies across the United States have averaged just over 8% (Garcia et al., 2019). The highest vacancy rate is in the clinical chemistry department (>13%); whereas the lowest vacancy rate was within the microbiology department (6.9%) (Garcia et al., 2019). For most laboratories, evening shifts and night shifts are the hardest to fill (Garcia et al., 2019). While various factors contribute to the growing vacancy rates, some of the most prominent reasons appear to be the ever-increasing retirement rates within the career field (Garcia et al., 2019; Kaplan & Burgess, 2010). Another reason that further exacerbated this vacancy problem and testing problem was the COVID-19 virus. As of August 2022, statistics show that the U.S. has conducted over 1 billion COVID tests, in addition to the already 7 billion other tests routinely performed in the medical laboratory yearly (Elflein, 2022).

Unfortunately, data and projection rates only shed more light on the dire and critical situation that lies ahead for the medical laboratory. Retirement rates within the next five years are projected to reach over 40% in some areas, with the lowest rates hitting 10% (Garcia et al., 2019). These rates are cause for grave concern because losing up to 50% of staffing will force labs to either close, severely limit their services, or outsource testing to other laboratories altogether. Laboratories and the testing conducted are critical for correctly diagnosing and treating patients. Much of a patient's medical record is laboratory values and information (Centers for Disease Control and Prevention). According to the Centers for Disease Control and Prevention (CDC), over 70% of medical decisions are based on laboratory test results. Failing to address such a need can have disastrous consequences.

LITERATURE REVIEW

Laboratory shortages have been an ongoing issue throughout the years, with various solutions proposed and implemented to combat the problem. However, the problem is far from singular, and while attempts are made to address current issues, new ones continue to arise. Much like our healthcare system, the laboratory personnel shortage remains multifaceted and highly fragmented, involving multiple and continually changing variables (Bennett et al., 2014). The

one constant remains the same: the continual need to fill vacancies throughout the United States.

These shortages and vacancies are attributed to multiple reasons. Fewer people to perform the job creates a high vacancy rate and thus creates a high turnover rate, as employees seek to find a workplace that better suits their personal needs (Nadeau, 2021). Still, the most common reasons are high retirement rates and the Affordable Care Act (ACA) implementation, which brought about an increasing and overwhelming influx of laboratory needs and testing (Bennett et al., 2014). As with any workforce shortage, it is only a matter of time before employee burnout sets in due to having to do more with less. Burnout brings a whole new set of problems and only adds fuel to the fire regarding staffing levels, and while the need for personnel remains constant, education and training programs continue to close their doors and dwindle (ASCP, 2020; Garcia et al., 2020).

Additionally, the career field often has little visibility, as programs across the nation continue to close due to a lack of funding and lack of interest (ASCP, 2020; Garcia et al., 2020). Adding insult to injury, meager salaries and small pay raises continue to detract personnel from the career field and is even causing those in the career field to leave (ASCP, 2020; Garcia et al., 2020). With educational requirements and prerequisites comparable to or even more rigorous than that of a registered nurse, physical therapist, or radiologic technologist, what is the incentive to join the career field, let alone stay in it? If this alone is not enough to frighten the average college student looking to enter the field, reports have recently shown an increase in psychological distress and heavy mental health burden on the laboratory professional (Garcia et al., 2020).

On top of these ongoing struggles, the COVID-19 pandemic further exacerbated the lab workforce shortage issue. Personnel and laboratories were already operating at a peak output with minimal staffing levels, yet hospital executives and the federal government were asking even more (Bennett et al., 2014; Stone, 2022). For many near or at retirement age, this would be the straw that broke the camel's back, causing them to hang up their lab coat for good during a time when the need was at the highest. Labs were rushed into purchasing, setting up, and validating COVID-19 instrumentation. They were required to have staff work overtime across the board, sometimes going days, if not weeks on end, without a day off (Paxton, 2022; Zanto et al., 2021). All the while, many suffered in silence due to the stress and burden of being overworked (Miller, 2021). If one good thing came out of such a crisis, it was the exposure of the medical laboratory and the need for CLS/MT/MLS's to the rest of the healthcare system and the public.

Exposure to the career field is essential because no exposure means no funding. Without funding, difficulties arise in recruiting, training, and retaining the next generation of laboratory professionals. Studies found that in 2009 under the American Recovery and Reinvestment Act that of the \$200 million allotted to

healthcare training programs, little to no money was given to laboratory training programs (Bennett et al., 2014). While much debate among policymakers continues, some feel the laboratory field will find means other than additional staffing in combatting such a crisis. In contrast, others think that waiting even longer will only create an unprecedented demand in the future (Bennett et al., 2014).

Lack of recognition, lack of funding, and lack of workforce create an environment where it is challenging to remain satisfied. In 2018, the ASCP conducted surveys to measure job satisfaction, well-being, and burnout. In 2020, they published their findings. Out of 4,613 respondents, data found the average age to be 45 years old, with a bulk of respondents between the ages of 55 and 64 years old (Garcia et al., 2020). When it came to job satisfaction, over one-third of respondents, 37.2%, felt “very dissatisfied” with their current job in the laboratory (Garcia et al., 2020). The age group showing the highest dissatisfaction levels were between the ages of 35 to 44. Over half of the respondents, 53.4%, reported feeling “a lot” of stress in the career field (Garcia et al., 2020).

In comparison, only 3.8% reported feeling “no stress at all,” and 53.3% reported disagreeing or strongly disagreeing as to whether they felt excited about their job as when they first started (Garcia et al., 2020). When respondents were asked if they felt appreciated by their institution, only 39.7% reported either to agree or strongly agree; the vast majority felt otherwise. While attitudes tend to change with age and experience, length in the career field had very little to any effect regarding job satisfaction as all levels of dissatisfaction remained above 30% from individuals with 0 to 41+ years of experience (Garcia et al., 2020).

When asked about burnout, over 85.3% of participants responded as having felt burnout by working in the laboratory. At the same time, over half of all respondents reported having a fair to poor work-life balance (Garcia et al., 2020). In evaluating the findings, one thing appears to be prominent and that is laboratory professionals are unhappy with the career field no matter how long they have invested. They are tired, they are burned out, and something has got to give. What is even more concerning is that the data is pre-COVID. If respondents felt stressed and dissatisfied pre-pandemic, one can only imagine the results post-pandemic.

With dissatisfied laboratory professionals at record levels, the pandemic gave way to the “Great Resignation”, causing many in the healthcare field that already suffered from burnout to pursue other passions and leave the field altogether (Gordon, 2022). Many are forgoing the large salaries to pursue a better and healthier work-life balance with greater flexibility, which further cripples an already dire career field (Gordon, 2022). All the while, lab tests continue to be placed with the expectation that someone, somewhere has the responsibility to

complete and report in a STAT manner. These expectations are becoming even more difficult to meet.

PROPOSED SOLUTIONS

Time and time again, multiple surveys, reports, and various studies have found that the ability to fill laboratory vacancies is a constant problem. So, in order to try and combat the shortage, numerous proposed solutions have been made throughout the career field by various subject matter experts, laboratory agencies, and special interest groups (Garcia et al., 2020). While some solutions have succeeded, even if momentarily, others have failed to produce any real long-term success. So once again, year after year, the laboratory continues to find itself in the same predicament and asking the same question. Where do we go from here, and how do we address this constant problem?

One school of thought is that filling these vacancies will be extremely difficult, if not impossible as time goes on, and the best way to alleviate that strain is to require fewer people to do the job (Richards, 2018). One solution that continues to gain ground in the market is the advancement of technology, specifically in the automation field. The medical laboratory field in its infancy was overwhelmingly manual, involving many complex steps and processes and requiring many people to complete the job. Today it is quite the opposite, as much of the work runs on advanced instrumentation requiring little human involvement (Lippi & Rin, 2019). Manufacturers and biotech industries could spot the shortage from a mile away and started to develop hardware and software that allowed the instrumentation to perform many of the tasks that required people to do it (Richards, 2018).

The introduction of line automation technology was developed to automate the receiving, processing, aliquoting, archiving, and disposal of specimens. Automation tracks allowed a sample to be placed on a track or a processing line and alleviated the need to be handled again. Further advancements such as having an instrument conduct on-board quality control (QC) testing and calibrations freed up the lab professional to tend to actual patient care (Richards, 2018). Additionally, the introduction of auto-validation or the ability for laboratory software to automatically release and validate patient results that fell within normal parameters allowed the CLS/MT/MLS to only focus on patients with abnormal values instead of reviewing every single result (Lippi & Rin, 2019). Technology also standardized many manual techniques and skills, such as having instrumentation perform automatic blood smears for complete blood counts (CBC), stain them, and read them microscopically (Lippi & Rin, 2019).

While technology has alleviated many of the monotonous and repetitive tasks within the laboratory, there are still areas it cannot cover. Areas such as microbiology or transfusion services require high complexity testing and trained professionals to make judgment calls and investigate laboratory findings further.

Technology is, in no doubt, a key player when it comes to finding solutions for the laboratory shortage but is not a catch-all solution. Laboratory sites, especially those in rural areas, are finding it increasingly challenging to find a solution to fill their vacancy problem (CLMA, 2020).

Viable solutions require that we seek feedback from those individuals working in shortage areas and then use this feedback to help create change. For example, a survey by ASCP asked respondents to provide information as to what would alleviate burnout, a known contributor to the shortage. Most responded with higher salaries and better and fairer wages (Garcia et al., 2020; Nadeau, 2021). The second highest response informed the researchers that the laboratory field should do a better job of raising awareness of the profession outside of the field itself (Garcia et al., 2020). Failure to make the issues known outside of just lab professionals and administrators has already proven to render little, if any, support for the current critical and ongoing shortage.

When survey respondents were asked to specify key sources of their stress other than the job itself, the most common answer was that administration and management lack the understanding of actual laboratory necessities and lack open communication (Garcia et al., 2020). This involves more than just soliciting feedback; it should be followed up with active listening. Part of effective communication is simply genuinely listening to what the respondent has to say. If we are to propose any real solutions, then executives, administrators, and managers need to pay attention to their employees. Laboratory professionals on the front lines have provided input. Clinical laboratorians want upper management to listen and advocate their concerns, which includes better pay, and greater career exposure to the general public and medical field, outside of the lab profession.

While the laboratory workforce shortage is and continues to be an ongoing problem, it is simply a symptom of an even more critical issue. If over 85.3% of a career field responds that they feel burnt out, there is a much deeper-rooted issue (Garcia et al., 2020). Solutions need to address the root of the problem and not focus on the symptoms of the problem. Laboratory professionals have provided input, but many of the solutions have failed to materialize, either due to a lack of funding or the absence of a collected and concentrated effort on all fronts (ASCP, 2020).

If these solutions are ever to be implemented, it will require work, not only from executives, administrators, and managers but also from the field itself. Simply responding to a survey or venting to a colleague will not bring about real change for a career field in dire need. Sometimes we need to be the change we want to see, which means lab professionals at all levels must come together and actively pursue solutions. Pressure needs to be applied to organizations, professional societies, states, and the federal government so that all may not only hear but also

see the vital role the laboratory plays in patient care throughout an entire healthcare system. Continually relying on reactive approaches that focus on damage control will in no way be an answer to this problem.

IMPLEMENTING PROPOSED SOLUTIONS

Solutions for addressing the workforce shortage have been proposed, but there has often been an inability to implement those solutions. One of the solutions constantly sought after by laboratory professionals is the increase in wage and salary due to the significant pay disparity (Garcia et al., 2020; Castanho, 2022). Laboratory professionals tend to use registered nurse (RN) salaries and wages as an example to highlight the growing pay gap. However, RNs require licensure in every state within the US, which is only possible by successfully passing the NCLEX-RN (Krippaehne, 2022). For RNs, this is a critical component of their salaries because it creates standardization throughout the career field. Lack of standardization means variability, resulting in a lack of consistency in quality.

If laboratory professionals are ever going to see an increase in pay across the board, it will have to require licensing and one standardized test throughout the US. Currently, there are only 11 states that require licensing for CLS/MT/MLSs and three different accrediting bodies that issue and administer three separate tests. The three agencies are: ASCP, American Medical Technologists (AMT), and the American Association of Bioanalysts (AAB). Some laboratories require one certification over another, while others have no requirements. This lack of standardization creates a very fragmented system that allows room for a great deal of inconsistency. The ASCP certification is considered by most, if not all, the gold standard by laboratory professionals (The Joint Commission). Knowing this, should there be only one standardized testing agency and accrediting body? Such a change would require lab leaders at the highest levels to come together and work on developing a transition plan to better the field.

Visibility to a career field that has very little patient interaction requires that we reach students early in their academic pursuits. It also means that we leverage qualities unique to the laboratory field that may pique a student's interest; for example, being able to help a patient without providing direct patient care or working alone and independent. Laboratory leaders in the community must reach out to local colleges and universities to highlight the growing need for STEM students. Biology, chemistry, physics, and other life science professors can highlight the clinical lab as a potential career choice. This could plant seeds in the minds of students from which the laboratory could potentially yield a harvest in the future. Active canvassing of local universities may be the first step in the right direction to showcase the need for lab services and the role the lab plays in the healthcare system. With more and more clinical lab programs closing, it is crucial that the field highlight the growing need for people and interest (ASCP, 2020).

Of all the solutions, the easiest one to implement starts right at the center of the lab and that is for administrators and managers to listen to their lab employees. The people working in these laboratories understand that change does not come overnight and realize that their job is essential to the patient's well-being. However, they want administrators and managers to learn that (Garcia et al., 2020). People often do not quit an organization or a company; rather, they quit due to a bad manager. So, when an individual is already burnt out from a heavy workload, a shortage of personnel, and a lack of fair pay, the last thing they want is a manager that fails to acknowledge their concerns and make an active stride in finding and implementing a solution. If the very individuals overseeing laboratory operations fail to have the staff's best interests at heart, then who can the lab trust, believe, or rely on to fight for them? Leaders must bridge the gap that exists between administrators and lab professionals. Failing to do so only further divides the rift within the laboratory and further delays any type of real progress and advancement in the field.

CONCLUSION

Laboratory services will always be a vital part of patient care. An increasing patient population and constant political push to ensure healthcare for most, if not all citizens, puts great strain on the healthcare system and the clinical laboratory. Without lab services, physicians would struggle with assessing, diagnosing, and adequately treating their patients. While laboratories can provide these services now, it may only be a matter of time before all that changes. And while the laboratory has been able to hobble through decade after decade with minimal staffing and funding, it is unrealistic to expect it to last this way forever. Failing to make changes soon and implement realistic working solutions will only leave an entire healthcare system left to guess what is wrong with their patients. The lab takes the guesswork out of patient care, and the last thing our patients and patient's families need is someone guessing what is wrong.

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NON-SCHOOL E-BEHAVIOR OF UNDERGRADUATE BUSINESS STUDENTS: PANDEMIC EFFECTS AND TRENDS

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ABSTRACT

Positive undergraduate student e-behavior has long been a goal of business faculty. This study was therefore conducted to empirically examine if non-school electronic behaviors, excluding social media, were affected by the Covid-19 pandemic. E-behaviors included both social/communication and recreational activities. Specifically, data collected during the three years prior to the pandemic were compared to data collected during the pandemic years of 2020-2021. Findings demonstrate with respect to seven of the nine behaviors examined, participation percent and participation minutes increased during the five-year study time frame and, in particular, increased greatly after the start of the pandemic. Further analysis found correlations between the usage minutes of various activities and variables such as gender, academic class, and study year.

Key Words: e-behavior, Internet recreation, undergraduate students, empirical study

INTRODUCTION

The explosion of the social use of the Internet, in particular social media usage and communication, has been well documented. In October 2021, for example, it was estimated that 57.6% of the world's population used social media, with the average daily usage of two hours and 27 minutes (Chaffey, 2021). The most common popular sites in the world are Facebook (2.895 billion users), YouTube (2.291 billion users), WhatsApp (2 billion users), Instagram (1.393 billion users), Facebook Messenger (1.3 billion users), Weixin/WeChat (1.251 billion users), and TikTok (1 billion users) (Statista, 2021). In the U.S, the Pew Research Center (2021) found that 72% of Americans use social media to connect with one another, engage with news content, share information, and entertain themselves.

There are, however, other less researched online activities that are utilized for communication, socialization, and entertainment. These include e-behaviors such as chatroom visitation, texting with friends/family, online gambling, online

gaming, downloading pornography, cybersex, online shopping, online surfing, and downloading music. For example, according to data from DataReportal, worldwide, the average person spends six hours and 55 minutes looking at a screen every day for Internet-related activities (Moody, 2021). This includes an hour and a half of streaming music.

While these activities may have beneficial effects, there are also negative consequences. For example, data collected between 2010 and 2015 from more than 500,000 adolescents in the U.S. found that children who spent three hours or more a day on smartphones or other electronic devices were 34% more likely to suffer at least one suicide-related outcome, including feeling hopeless or seriously considering suicide, than children that used devices two hours a day or less (Heid, 2017). Among children that used electronic devices five or more hours a day, 48% had at least one suicide-related outcome. Similarly, an American Psychological Society study found that 65% of individuals believe that periodically unplugging would improve mental health (Edwards, 2018).

From a business perspective, cyberloafing can occur. Cyberloafing has been defined by Lim (2002) as the act of employees using their companies' Internet access for personal purposes during work hours. For instance, a digital.com survey of 1,250 Americans even found that 62% of employees admit to shopping online during virtual meetings (Nguyen, 2021).

Given the potential negative consequences of online activities, this study was conducted to determine participation with respect to university business students, the future regulators, policy makers, and users of these technologies. Because social media participation has been previously documented, it was excluded from this study. This empirical study, therefore, examines several questions. What activities are most common? How much time is utilized for each activity and what are the trends? And, has the March 11, 2020 World Health Organization declaration of the novel coronavirus (COVID-19) as a global pandemic changed the activity participation and time levels (Cucinotta & Vanelli, 2020)? Finally, is there a relationship between factors such as gender, academic class, and study year with respect to time spent for each online e-behavior? Results are important in better understanding the state of e-behavior and determining if there is a need for further reactive and/or proactive efforts with respect to student online education.

PREVIOUS RESEARCH

Previous research has explored negative Internet activities, workplace Internet leisure, and cyberloafing. Cyberloafing has been further examined both in the workplace and in the academic setting.

An initial study conducted in 2003 by the authors found that e-behavior varied considerably among academic class with seniors less involved and spending less than half as much time as freshmen in negative Internet activities (Case and King, 2003). For example, the percentage of students playing games (other than gambling) decreased in each academic class from 60% of freshman to 30% of seniors and downloading music/movies decreased in each academic class from 82% of freshman to 50% of seniors. When comparing average minutes per activity, total minutes decreased considerably by academic class. Freshman, sophomores, juniors, and seniors spent approximately 569, 464, 400, and 247 minutes per week, respectively.

Another study examined whether workplace Internet leisure is a vice or virtue (Mohammad, et.al, 2019). Data collected in the Malaysian banking sector revealed that workplace Internet leisure, workplace Internet leisure policy, and workplace autonomy orientation affect employee satisfaction. Findings suggest that moderate use of workplace Internet leisure can have a positive and significant effect on workplace outcome variables such as employee satisfaction and employee productivity.

A review of cyberloafing research has been shown by some researchers to be perceived as essential in maintaining mental health as a stress reducer, often playing roles in enhancing job performance and in stimulating creativity, especially in workplaces in which long hours and intense focus are the norm (Oravec, 2018). Other researchers and practitioners, however, have stressed the potential hazards cyberloafing presents in terms of decreases in productivity as well as increases in safety concerns as individuals are distracted or disoriented.

Finally, Soh, et.al, (2018) examined cyberloafing in the academic setting. Data from 238 university students showed that both habit and intention were significantly related to cyberloafing behavior. Attitude, prescriptive norms, and perceived behavioral control were significant in predicting students' intention to cyberloaf. Prescriptive norms are defined as what is socially acceptable behavior by referent groups. Descriptive norms are what referent groups actually do. Students were more likely to cyberloaf when they perceived they had absolute control over behavior. The controlling factors included their mastery over the Internet, availability of electronic devices, perceived proximity between students and lecturers, and the degree of concentration required for lessons. However, descriptive norms were not significantly related to intention. Finally, class engagement played an important role in determining students' attitude towards cyberloafing, descriptive norms, and perceived behavioral control.

RESEARCH DESIGN

This study employs a survey research design. The research was conducted at a private, northeastern U.S. university. A Student E-Behavior instrument was

developed by the authors and administered each semester during a five-year period (from spring 2017 through fall 2021) to undergraduate students enrolled in a School of Business course. However, because the university did not anticipate face-to-face instruction discontinuance midway through the spring of 2020, no data were collected during that semester. The courses included a variety of subjects such as Business Information Systems, Introduction to Financial Accounting, Introduction to Managerial Accounting, Macroeconomics, and Business Policy. A convenience sample of class sections and faculty members was selected and to ensure consistency, the same questions were asked during each of the semesters. Because of the sensitivity of the subject and to encourage honesty, no personally identifiable data were collected and respondents were informed that surveys were anonymous, participation was voluntary, and responses would have no effect on his/her course grade. Prior to the pandemic, the surveys were completed via paper in an academic classroom. Subsequent to the beginning of the pandemic, the surveys were completed via an online link.

The survey instrument was utilized to collect student demographic data such as gender and academic class. In addition, the survey examined student Internet behavior regarding non-school related activities. These activities could be considered either social/communication or recreational in nature. The social/communication activities include chatrooms, texting with friends/family, and online gaming (other than gambling). The recreational activities include downloading pornography, online gambling, cybersex, online shopping, other non-school related surfing, and downloading music. Students were asked to estimate the average number of minutes spent weekly on these nine electronic activities. Results were summarized by activity and correlations were calculated to determine potential relationships between study factors (i.e., gender, academic class, and study year) and usage minutes. To examine potential trends, the data was segmented by calendar year.

RESULTS

A sample of 1,007 usable surveys was obtained. As indicated in Table 1, 60% of the respondents were male and 40% were female. This 60/40 ratio remained fairly consistent over the identified five-year period and was consistent with the study university's School of Business student population.

TABLE 1
Gender Response Rate by Year

	2017	2018	2019	2020	2021	Total
Male	58%	59%	60%	67%	58%	60%
Female	42%	41%	40%	33%	42%	40%
Count	167	261	344	80	155	1007

The response rate by year, with the exception of freshmen participation during the pandemic 2020-2021 years, was relatively equally distributed among academic class. Table 2 illustrates that overall 19% of respondents were freshmen, 35% were sophomores, 29% were juniors, and 17% were seniors.

TABLE 2
Academic Class Response Rate by Year

	2017	2018	2019	2020	2021	Total
Freshmen	17%	25%	28%	0%	4%	19%
Sophomore	36%	39%	32%	23%	41%	35%
Junior	31%	21%	17%	70%	46%	29%
Senior	17%	15%	23%	7%	9%	17%

Responses were first examined with respect to the percentage of students indicating the nine non-school electronic behaviors per year. Table 3 illustrates that in 2017, 7% of students visited a chatroom, 61% texted with friends/family, 23% downloaded pornography, 8% gambled online, 41% engaged in online gaming (other than gambling), 3% participated in cybersex, 69% shopped online, 83% did other non-school related surfing, and 50% downloaded music

TABLE 3
Percent of Students Indicating Behavior by Year

Behavior	2017	2018	2019	2020	2021
Chatroom	7%	11%	12%	37%	45%
Texting with friends/family	61%	74%	78%	99%	92%
Downloading pornography	23%	17%	19%	4%	8%
Online gambling	8%	6%	9%	25%	12%
Online games (other than gambling)	41%	48%	47%	58%	50%
Cybersex	3%	1%	2%	0%	1%
Online shopping	69%	71%	65%	70%	75%
Other non-school related surfing	83%	83%	82%	94%	86%
Downloading music	50%	48%	49%	64%	53%
Overall Average	96%	98%	98%	100%	99%

. In terms of behavior percentage of students by year, all activities, with the exception of downloading pornography and cybersex, increased by 2021. Chatroom visitation increased from 7% to 45% of students, texting with friends/family increased from 61% to 92% of students, online gambling increased from 8% to 12% of students, online gaming (other than gambling) increased from 41% to 50% of students, online shopping increased from 69% to 75% of students, other non-school related surfing increased from 83% to 86% of

students, and downloading music increased from 50% to 53% of students. Downloading pornography decreased from 23% to 8% of students and cybersex decreased from 3% to 1% of students. Overall, the percentage of students exhibiting at least one of the behaviors increased from 96% to 99% of students. Results illustrate that for every year of the study, there are five behaviors exhibited by most students. These include texting (61-99% of students per year), online gaming (41-58% of students per year), online shopping (65-75% of students per year), non-school related surfing (82-94% of students per year), and music downloading (48-64% of students per year). Four activities were less common. The least exhibited activities are chatroom visitation (7-45% of students per year), download pornography (4-23% of students per year), online gambling (6-25% of students per year), and cybersex (0-3% of student per year). Overall, the percentage of students exhibiting at least one behavior each year was between 96-100% of students.

Table 4 presents the volume of minutes per week that a student indicated he/she participated in each behavior during each of the study years. In 2017, for example, participants of each of the activities reported spending 103 minutes per week in chatrooms, 130 minutes texting with friends/family, 39 minutes downloading pornography, 34 minutes gambling, 77 minutes online gaming (other than gambling), 90 minutes participating in cybersex, 45 minutes shopping online, 124 minutes on other non-school related surfing, and 49 minutes downloading music.

TABLE 4
Minutes per Week for Behavior by Year

Behavior	2017	2018	2019	2020	2021
Chatroom	103	91	75	77	112
Texting with friends/family	130	164	123	174	286
Downloading pornography	39	50	46	32	28
Online gambling	34	30	45	105	89
Online games (other than gambling)	77	107	115	161	162
Cybersex	90	41	59	0	60
Online shopping	45	48	46	56	47
Other non-school related surfing	124	107	110	221	157
Downloading music	49	54	45	56	136
Overall Average	304	350	325	604	660

By 2021, the number of minutes per week in chatrooms increased by 9 minutes, texting increased by 156 minutes, downloading pornography decreased by 11 minutes, online gambling increased by 55 minutes, online gaming increased by 85 minutes, cybersex decreased by 30 minutes, online shopping increased by 2

minutes, other non-school related surfing increased by 33 minutes, and downloading music increased by 87 minutes. Overall, the average minutes per week increased from 304 minutes (5 hours) to 660 minutes (11 hours), an increase of 117%. Of note, the average minutes peaked during the second year of the pandemic.

Finally, Spearman Rho correlations were calculated to determine if there are correlations between study factors (i.e., academic class, gender, and study year) and the participation minutes per week of the nine behaviors. As indicated in Table 5, academic class and user minutes each had a statistically significant correlation (significant at the .05 level or significant at the .01 level) with respect to three behaviors. Texting was more likely with freshmen, online shopping increased with class, and other non-school related surfing increased with class. In terms of gender, six behaviors were correlated at the .01 significance level. Males were more likely to download pornography, gamble online, participate in online gaming, perform non-school related surfing, and download music. Females, on the other hand, were associated with online shopping. In terms of study year, six behaviors were correlated at either the .01 or .05 significance level. Chatrooms, texting, gambling, gaming, and music downloading increased during the five-year study period while downloading pornography decreased.

TABLE 5
Spearman Rho Correlations between Activities and Study Variables

Behavior	Academic Class	Gender	Study Year
Chatroom	-.040	.034	.306**
Texting with friends/family	-.077*	-.006	.316**
Downloading pornography	-.016	.263**	-.116**
Online gambling	.060	.196**	.106**
Online games (other than gambling)	-.019	.335**	.097**
Cybersex	.042	.039	-.038
Online shopping	.066*	-.312**	.051
Other non-school related surfing	.098**	.148**	.048
Downloading music	-.033	.132**	.073*

* Correlation is significant at .05 level (2-tailed).

** Correlation is significant at .01 level (2-tailed).

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Results demonstrate that in terms of the majority of the nine studied non-school related e-behaviors, there has been a consistently large participation of university business students during each of the past five years and, in particular, after the beginning of the pandemic. Moreover, for every year of the study, there are five behaviors exhibited by most students: texting, online gaming, online shopping, non-school related surfing, and music downloading.

Furthermore, there have been generally large increases in participation percentage from year one to five. Specifically, during the five year study, the social/communication activities of chatroom visitation increased by 543% to 45% of students, texting with friends/family increased by 51% to 92% of students, and online gaming (other than gambling) increased by 46% to 50% of students. While the recreational activities of downloading pornography and cybersex were uncommon and both decreased (by 65% to 8% of students and by 67% to 1% of students, respectively), online gambling increased by 50% to 12% of students, online shopping increased by 9% to 75% of students, other non-school related surfing increased by 4% to 86% of students, and downloading music increased by 6% to 53% of students.

The number of minutes per week also grew. The social/communication activities of chatroom visitation increased by 9% to 112 minutes per week, texting with friends/family increased by 120% to 286 minutes per week, and online gaming (other than gambling) increased by 110% to 162 minutes per week. While the recreational activities of downloading pornography and cybersex both decreased (by 28% to 28 minutes and by 33% to 60 minutes, respectively), online gambling increased by 162% to 89 minutes per week, online shopping increased by 4% to 47 minutes per week, other non-school related surfing increased by 27% to 157 minutes per week, and downloading music increased by 178% to 136 minutes per week. Overall, total minutes per week increased by 117% from 304 minutes (5 hours) to 660 minutes with texting, online gaming, non-school related surfing, downloading music, and chatrooms accounting for the majority of the minutes per activity.

Finally, correlation analysis suggests that academic class, gender, and study year impact the minutes spent on the various social/communication and recreational activity time. For example, while texting was less likely as student increased in class years, online shopping and other non-school related surfing increased with class level. Moreover, in terms of gender, males were more likely to download pornography, gamble online, participate in online gaming, perform non-school related surfing, and download music while females were more associated with online shopping.

There are two important implications from the study. First, findings illustrate that non-school e-behavior participation and minutes have dramatically increased, especially during the two pandemic years. Chart 1 displays the participation percent per activity pre-pandemic and during the pandemic. Chart 2 depicts the corresponding volume of minutes expended. These findings suggest that the undergraduate business student population adapted to the pandemic and modified their electronic behavior. Face-to-face restrictions and the transition to online learning, for example, likely have increased the reliance on electronic devices for entertainment, communication, and social interaction. It will be

Case and King

interesting to see if the behavior reverts to pre-pandemic levels after the pandemic ends or if this will be the new normal.

APPENDIX

Based on the survey instrument, the following 4 charts were developed by the authors, which may provide additional insights on e-behavior of undergraduate students before, during and after the Pandemic.

CHART 1
E-Behavior Percent of Students Pre-Pandemic and During Pandemic

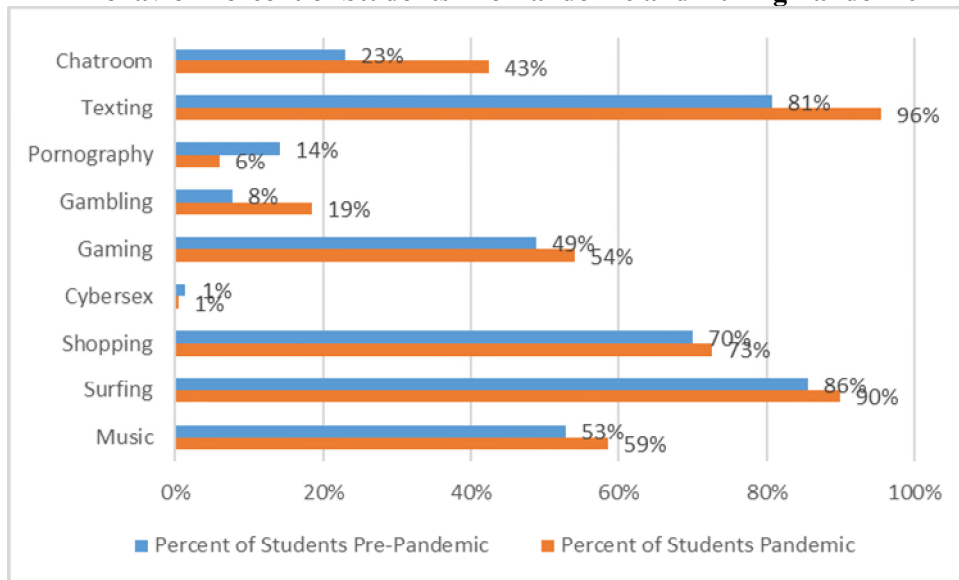


CHART 2
Minutes per Week Pre-Pandemic and During Pandemic

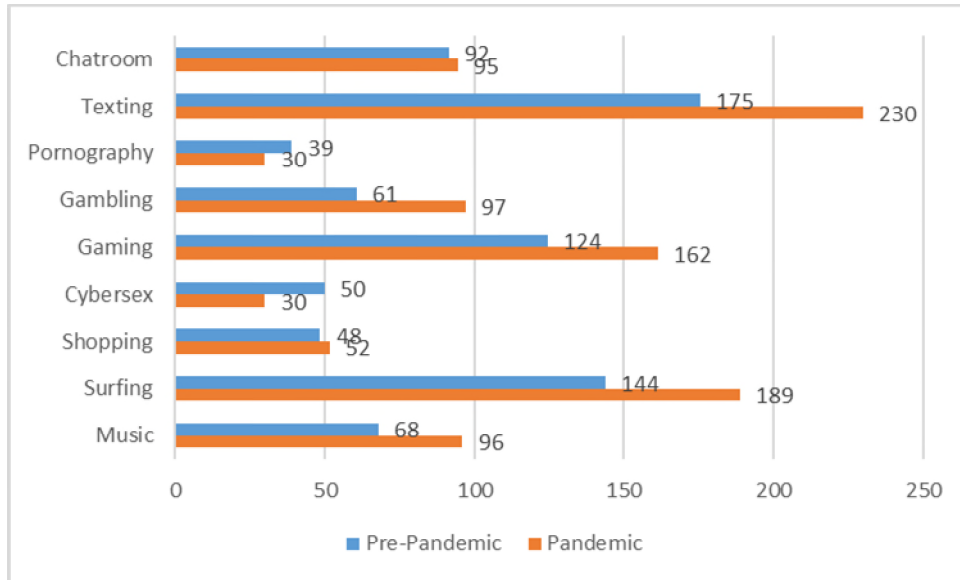


CHART 3
Percent of Students Socializing

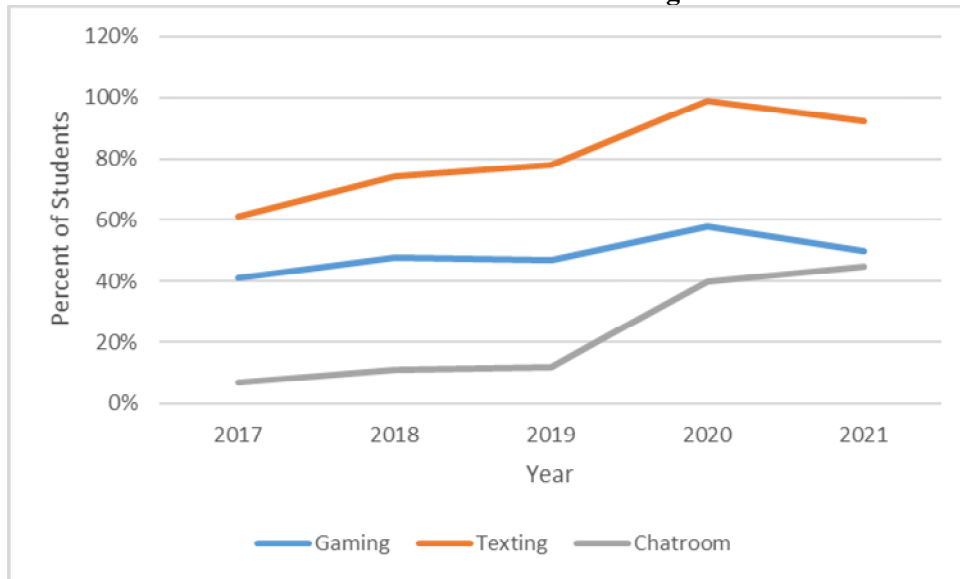
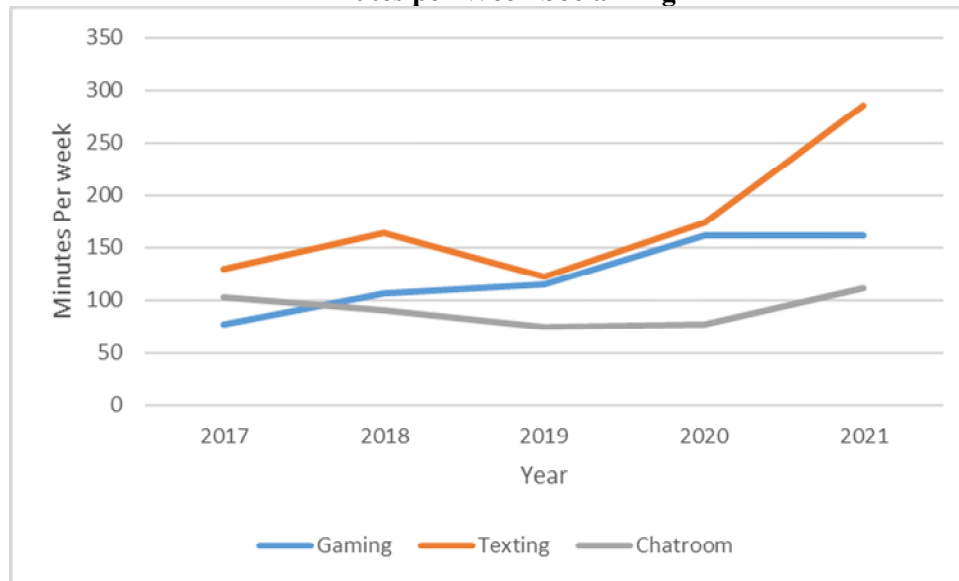


CHART 4
Minutes per Week Socializing



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AT YOUR SERVICE: OPPORTUNITIES IN THE OIL CHANGE SERVICE CENTER INDUSTRY

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ABSTRACT

Studies suggest consumers want quick convenient and low-cost service for automotive maintenance. The automotive oil change service industry provides oil change services as well as other complimentary maintenance services to customers. This industry has remained profitable during the pandemic and the post-pandemic times. We analyze the financial requirements and ongoing fees associated with the oil change service industry. These financial requirements and ongoing fees consist of the initial investment, number of units, initial franchise fee, net worth required, cash required, royalty fee, and terms of agreement. Our analysis of three leading brands, namely, Jiffy Lube, Valvoline Instant Oil Change and Grease Monkey suggest that profit across the oil change service industry is stable and there is potential for new franchise.

Key Words: automotive oil change franchise, entrepreneur, small business

INTRODUCTION

According to Joiner, Dittfurth, and Lewis (2020), as entrepreneurs decide to start a small business, franchising is a logical option. Entrepreneurs are a driving force for innovation and change. Franchises create new ventures and are important to entrepreneurship (Entrepreneur, 2021). Even during the pandemic, the franchise business model continued to flourish. Pinnacle (2022), stated that in 2021, the franchise industry grew by over 16% for a total of nearly \$788 billion. In addition, in 2021, franchisees increased their hiring by 8.8%, adding more than 46,000 jobs to the economy per month.

Due to the pandemic, the automotive industry saw a reduction in consumer's purchasing new vehicles. Instead, consumers are protecting their automobile by having repairs and service completed on a scheduled basis. During times of economic growth, the average vehicle age tends to decline as consumers typically have more disposable income and the opposite occurs during economic recessions (IBIS, 2023). More families than any time in U.S. history own two or

more vehicles and there are more teenage drivers as well (2023). Given the slowdown in the production of automobiles experienced during the pandemic, combined with a slowing economy and an increase in more drivers, the automobile service industry should realize significant growth.

According to Hoover's Business Research, automotive oil change service franchises make an average of \$600,000 in annual revenue. According to research conducted by HIS Markit, in 2020 the average vehicle was 12.1 years old. In addition, 25% of cars were 16 years or older.

Coming out of the COVID epidemic, thousands of new cars were completed and ready for shipment except for a computer chip. Supply chain challenges and delay of shipments of microchips prevented automobile manufacturers from completing many vehicles. This challenge further compromised the availability of new vehicles. In turn, simple supply and demand caused new vehicle prices to climb. Dealerships needed inventory to offer their customers. Because new vehicles were not being readily available, used cars became the focus of dealers to develop their own inventory. This demand caused used car values to increase. Car owners found themselves needing to keep their vehicles longer because replacements could not be found or could not be afforded.

As the global economy experienced significant shutdowns beginning in the spring of 2020, consumer demand for automotive services and repair diminished due to substantially reduced travel (Global Market Insights, 2021). However, the increased demand for essential necessities and transportation of these goods helped to offset some of the losses experienced by the automobile services industry (2021). As more businesses returned to normalcy post-pandemic many workers returned to work, vacations and other leisurely travel activities. Like most industries the vitality of the quick lube industry is correlated to the overall strength of the economy (Gaille, 2018).

The automotive oil change service industry in the United States has increased from about \$7.3 billion to approximately \$10.6 billion from 2010 to 2023 (IBIS World, 2023). The market for the industry has witnessed a five percent increase over the past five years (IBIS World, 2023). According to Hoover's Business Research, oil change franchises make an average of \$600,000 in annual revenue. According to Parth (2022), the automotive industry supports "a total of 9.9 million American jobs, about 5.1% of private-sector employment." (para. 2). The automotive oil change franchise is being productive in both the urban and suburban areas. According to Franchise Direct (2023), families own more vehicles in these residential areas. One must note that in rural communities, people are more likely to change their own oil possibly due to fewer oil change franchises in these remote locations.

According to Franchise Direct (2023), families own more vehicles in these residential areas. Abrams (2019) reported that the next generation of car owners will be substantially unlikely to change their own oil and will seek out the conveniences of oil changes and maintenance services. Gil (2022) reported quick lube service shops experienced approximately a 10 percent increase in sales in the United States from 2021 compared to 2020.

Plumer, B. (2021), posited that analysts expect to see a rise in electric vehicles. They predict that by 2035, a quarter of the new car sales will be electric but this will only account for approximately 13% of the vehicles on the road. It is important to note that although electric vehicles will still need services and repairs. A few of the examples are break fluid, coolant, break pads, tires, air filters and other routine maintenance.

Table I lists key researched financial data for Jiffy Lube. Table II lists key researched financial data for Valvoline Instant Oil Change. Table III lists key researched financial data for Grease Monkey. These tables will identify different initial investments, number of units available, initial franchise fee, net worth required, cash required, royalty fee, and lease agreements.

JIFFY LUBE AUTOMOTIVE OIL CHANGE – TRADITIONAL FRANCHISE-FEES & MONTHLY BOTTOM LINE

Jiffy Lube ranks first and second in the top Automotive Oil Change Franchises of 2022 (depending on the source). Jiffy Lube was founded in 1979 and is an indirect wholly-owned subsidiary of Shell Oil Company and is now headquartered in Houston, TX. Jiffy Lube offers a variety of services beyond oil changes which includes tire rotation and engine tune-ups. In addition, the services have expanded and includes operations in battery, brakes, engine, exterior and glass, filter, fluids, inspections, and suspensions.

Jiffy Lube is an American automotive oil change service company that has over 35 years of experience and is currently led by W James Hindman as CEO. On the company website, Jiffy Lube states “Jiffy Lube Company history pioneered the fast oil industry in 1979 with the opening of the first service center. In fact, you can say we have a history of innovation and a mission to help our customers Leave Worry Behind®.” Jiffy Lube was ranked #1 as Entrepreneur’s 2022 Franchise 500.

Jiffy Lube continues to be a profitable franchise for those who would like to pursue the entrepreneurship arena. Jiffy Lube’s retained earnings of \$1.9 billion in 2022 Quartile 1 compared to a loss of \$133 million in 2020 Quartile 1. Jiffy Lube services over 22 million customers each year in the automotive oil change industry. Over the last several years, 12 units a year have been opened. As of April 2021, there were 2,006 units in the United States and 163 in Canada. Jiffy Lube saw an increase in sales growth of 11.2% and a unit growth of 2.3%.

The Jiffy Lube franchise offers award-winning support. Both in-store and online training is available through Jiffy Lube University, an Automotive Service Excellence (ASE) accredited program. This program helps employees earn the skills and knowledge necessary to make their franchise successful. Jiffy Lube also offers program support to help grow your business by providing support in rent deferment and waived royalties in some instances.

Table I outlines financial requirements and ongoing fees for Jiffy Lube. In order to own this automotive oil change franchise, the financial requirements include the initial investment, startup expenses, licenses, supplies, working capital, and the franchise fee. The total estimated initial investment of Jiffy Lube varies from \$232,000 – \$423,000 according to their website. The initial franchise fee is \$17,000 - \$35,000. In addition to the purchase cost and franchise fee, Jiffy Lube must also pay ongoing monthly fees. A monthly royalty fee of 3-4% of the monthly sales/revenues for that particular store is required. In addition, an ongoing advertising/marketing fee of 1.5% of monthly sales/revenues per store and 2.5% local advertising fee is paid to Jiffy Lube. This money is used for promotion and marketing efforts. The net worth required is \$500,000 with \$250,000 cash required.

TABLE I	
FINANCIAL REQUIREMENTS AND ONGOING FEES	
JIFFY LUBE	
Initial Investment	\$232,000 – \$423,000
Units	2,190 in 2022 (up 4.6% over 3 years)
Initial Franchise Fee	\$17,500 - \$35,000
Net Worth Required	\$500,000
Cash Required	\$250,000
Royalty Fee	3-4%
Terms of Agreement	20 years

**VALVOLINE -TRADITIONAL FRANCHISE-FEES & MONTHLY
BOTTOM LINE**

Valvoline Instant Oil Change ranks first and second in the top Automotive Oil Change Franchises of 2022 (depending on the source). Valvoline Instant Oil Change was founded in 1986 and began franchising in 1988. Valvoline Instant Oil Change offers a variety of services other than oil changes which include transmission fluid, radiator coolant, headlight/tail light replacement, air filter replacement, fuel system cleaning, battery replacement, and tire rotation to name a few.

Valvoline, Inc. was established in 1866 with more than 150 years’ experience in the automobile oil lubricant business. Valvoline Instant Oil Change is

headquartered in Lexington, Kentucky with over 1,400 units in the United States. According to Valvoline website, it is the number 2 chain by number of stores in the United States under the Valvoline Instant Oil Change SM brand and number 3 chain by the number of stores in Canada under the Valvoline Great Canadian Oil Change brand.

Valvoline Instant Oil Change prides itself in taking care of people. “At Valvoline Instant Oil Change people are our greatest asset.” Valvoline Instant Oil Changes serves over 9 million customers a year. Valvoline Instant Oil Changes reported in 2021, a revenue of \$1.97 billion in U.S. dollars.

In addition to benefits, Valvoline Instant Oil Change provides support for franchisees in various areas. The franchisee receives tested systems, tools, and support teams. Valvoline Instant Oil Change also aids in recruitment efforts, marketing development, training, and guides franchisees to become as successful as they can in the oil change industry.

Table II outlines the financial requirements and ongoing fees Valvoline Instant Oil Change. Using the same approach that was used in analyzing Jiffy Lube, Valvoline Instant Oil Change reviews the fees and expenses of franchising. The purchase price of Valvoline Instant Oil Change varies from \$178,500 - \$3,300,000 per store. The franchisee must pay an initial franchise fee of \$30,000 to Valvoline Instant Oil Change for a 15 year legally binding franchise agreement with an option of two consecutive terms of 5 years each, one 10-year term or one 15-year term. In addition to the purchase cost and franchise fee, Valvoline Instant Oil Change must also pay ongoing monthly fees. A monthly royalty fee of 4-6% of the monthly sales/revenues for that particular store is payable to corporate Valvoline Instant Oil Change. In addition, an ongoing advertising/marketing fee of 2% of monthly sales/revenues per store is paid to corporate Valvoline Instant Oil Change. This money is used to support advertising and marketing efforts. The net worth required is \$1,000,000 with \$600,000 cash required.

TABLE II	
FINANCIAL REQUIREMENTS AND ONGOING FEES	
VALVOLINE INSTANT OIL CHANGE	
Initial Investment	\$178,000 - \$3.3 million
Units	1,573 in 2022 (up 25.6% over 3 years)
Initial Franchise Fee	\$30,000
Net Worth Required	\$1,000,000
Cash Required	\$600,000
Royalty Fee	4-6%
Terms of Agreement	15 years

**GREASE MONKEY -
TRADITIONAL FRANCHISE-FEES & MONTHLY BOTTOM LINE**

Grease Monkey is headquartered in Denver, Colorado with over 475 units location internationally and ranks fourth in the Top 10 Oil Change Franchise Businesses in USA for 2021. Unlike Jiffy Lube and Valvoline Instant Oil Change, Grease Monkey has operations beyond the United States in Mexico, China, Colombia, and Saudi Arabia.

Grease Monkey provides oil changes but also provides additional services to customers. Grease Monkey offers car-care services which include air conditioning, air filters, alignments, batteries, brakes, fuel filter replacement, and radiator services to name a few.

Grease Monkey was founded in 1978 and began franchising in 1979. Grease Monkey was the only oil changing franchise that also offers a carwash (Monkey Shine). According to FranchiseRankings.com, Grease Monkey was named the Best Oil Change of 2022.

Grease Monkey is known for their fast, reliable oil changes as well as their 16-point inspection of the vehicle. Grease Monkey informs customers of any issues found during the inspection and offer an opportunity to provide additional services. According to Grease Monkey website, “Their motto is ‘Only what you need. Guaranteed’. Grease Monkey franchisees provide services that are “right for the customer and right for the customer’s vehicle, and when in doubt, do the right thing.”

Grease Monkey provides incentive programs for veterans, first responders, or franchisees who plan on converting an existing business into Grease Monkey. This Incentive Royalty Rebate program provides a 50% royalty rebate on royalties during the first year of operation and a 25% rebate in year two.

Grease Monkey maintains that owning an automotive oil change franchise is a profitable business opportunity because more than 99% of the vehicles on the U.S. roads need regular oil changes. Grease Monkey Franchise (2023) suggests that although electric vehicles are slowly gaining market share, it will be years before electric vehicles overtake the traditional gas-powered automobile. Franchise Gator (2023) noted that Grease Monkey is the only independent quick lube franchise opportunity available to franchisees. Grease Monkey is able to negotiate oil prices for their franchises which benefits the franchisee’s bottom line.

Table II outlines the financial requirements and ongoing fees for Grease Monkey. Using the same approach as Jiffy Lube and Valvoline Instant Oil Change, fees and expenses of franchising batteries was used to determine potential bottom line profits for Grease Monkey. The purchase price of Grease Monkey varies between

\$187,000 - \$688,452. The franchisee must pay an initial franchise fee of \$39,900 to Grease Monkey for a 15 year legally binding franchise agreement with the option of one renewal term of 15 years or one renewal term of 5 years with automatic extension for 5 additional years.

In addition to the purchase cost and franchise fee, the Grease Monkey franchise must also pay ongoing monthly fees. A monthly royalty fee of 6% of the monthly sales/revenues for that particular store is payable to corporate Grease Monkey. In addition, an ongoing advertising/marketing fee of 0.5% of monthly sales/revenues per store and 5.5% local advertising/marketing fee is paid to corporate Grease Monkey. This money is used for promotion and marketing efforts for Grease Monkey. The net worth required is \$450,000 and the cash required is \$150,000.

TABLE III	
FINANCIAL REQUIREMENTS AND ONGOING FEES	
GREASE MONKEY	
Initial Investment	\$187,000 - \$688,452
Units	502 in 2022 (up 49.9% over 3 years)
Initial Franchise Fee	\$39,900
Net Worth Required	\$450,000
Cash Required	\$150,000
Royalty Fee	6%
Terms of Agreement	15 years

SUMMARY

Investing in any franchise has many benefits. If you become a franchisee, you have access to a business that has already been formed to a specific customer base. The supply chain, marketing function, and infrastructure is already set. The franchisee does not have to worry about logo and branding because the franchise provides both.

Jiffy Lube prides their business as being more than an oil change. They expanded their services to what the consumer wants and needs. According to their website, Jiffy Lube provides complimentary fluid top-off services on all vital fluids within 3,000 miles of the consumer's service mileage. These fluids consist of motor oil, transmission, power steering, differential/transfer case and washer fluids. Jiffy Lube is known for being quick in their oil changes but they also provide battery and brake services. Franchise Help (2023) reports that Jiffy Lube uses a signature four step plan when performing oil changes for consumers: Change, Inspect, Check/fill, and Clean. Jiffy Lube was ranked #99 in 2023 Franchise 500. According to Entrepreneur (2023), in 2022, Jiffy Lube was ranked #1 in the Oil Change Services category. Jiffy Lube was also ranked #64 in 2022 in the Fastest Growing Franchise category. Finally, Jiffy Lube was ranked #54 in 2022 in the Top Global Franchise category.

In 1986, Valvoline Instant Oil Change launched the first drive through oil change. Valvoline Instant Oil Change was ranked #21 in 2023 Franchise 500 Ranking according to Entrepreneur (2023). In 2022, Valvoline Instant Oil Change was ranked #32 as the Fastest Growing Franchise. In addition, in 2021, Valvoline Instant Oil Change was ranked #1 in Oil Change Services, Best of the Best.

According to Grease Monkey website, this franchise loves veterans and first responders. They state, “Grease Monkey actively seeks veterans who are ready to be in business for themselves, not by themselves.” They state that first responders display a level of commitment and sacrifice that is second to none. First responders will be successful due to the traits they possess and with Grease Monkey’s expertise. In addition to Grease Monkey automotive oil change franchise, when you open a Grease Monkey franchise, you have the opportunity to add a Monkey Shine® Car Wash. This could give you the opportunity of additional revenue, as well as add convenience for your customers.

CONCLUSIONS

The United States automotive oil change service industry is thriving with an annual revenue of \$7 billion, according to Franchise Direct (2023). Oil changes alone account for 24% of services performed. This environment placed a higher priority for keeping existing vehicles. In order to keep an aging vehicle, the owner has to pay close attention to maintenance. This higher demand for maintaining existing vehicles can prove to be very profitable for an oil service center.

Statistics reveal that preventative maintenance can prevent major catastrophic failure of a vehicle. Long haul trucks routinely log over a million miles on an engine. The equipment in commercial vehicles are made from the very best high-performance material. This impacts the longevity of the vehicle and combined with preventative maintenance permits high mileage to be obtained. This level of performance is only possible by a high-quality maintenance program. Passenger vehicles, if properly maintained, can continue to perform potentially well over 150 thousand miles.

Best practices for preventative maintenance in vehicles are to change oil and filter every 3,000 to 5,000 miles. At this time, the fluid levels for power steering and coolant are checked. Any fluids that are not at the correct levels have product added to insure the vehicle functions at its maximum performance.

In 2019, the global oil market profited \$8 billion in the United States in revenue alone (Admin, 2021). According to Statista, the Middle East hold approximately 48.1% of the global oil market and the market is unevenly distributed. Oil

franchises remained profitable even in 2020 during the pandemic bringing in nearly \$250,000 a year and as the owner, a net profit of \$75,000 - \$80,000 a year. Employment rates continue to grow at an average rate of 3% yearly growth. Garage Plug (2021) stated that in 2016, globally there were 1.32 billion cars, trucks, and buses on the highways. Analysts suggest in the past few years the number has climbed to 1.4 billion. According to Cars Guide (2023), there were 342 million vehicles between 1976 – 1996 and has grown to 670 million. If this rate continues, in 2036 it is estimated that there will be 2.8 billion vehicles on the road. This increase in the number of automobiles indicates significant profit for the automotive industry and potential for new franchises.

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CHINA’S “GOING OUT” POLICY IN NUMBERS: ECONOMIC IMPACTS AND POLITICAL IMPLICATIONS

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ABSTRACT

Although China’s “going out” policy started with Den Xiaoping in 1979, the successive regimes in Beijing have gradually moved the economic management towards the “market-economy,” despite a strong control of political power. This liberalization manifested in three ways: A controlled injection of foreign funds into the Chinese economy that allowed for efficiency, the increase in imports and exports that allowed increases in both the gross domestic product (GDP) and its growth rate, and the increase in oversea direct investment that carved the way for China’s political influence on the global stage. Foreign direct investment (FDI) equipped the Chinese worker through the adoption of western technologies, which led to greater efficiency and productivity. Consequently, China's GDP increased 64-fold between 1980 and 2020, leading to an improved standard of living. However, during its economic development, China’s economy maturation has led to an impasse that is common to all maturing economies. To maintain or to improve the living standards of its people, China must break new grounds in technology and find new markets for its products and labor, as it can no longer rely on the availability of technologies newly discovered by its competitors who perceive it to be a threat. Therefore, China increased its presence on the world stage through investment projects designed to secure resources for its industries, markets for its products, and markets for its labor. As predicted by many, the “Going Out” policy has had economic impacts on the world economy, but more importantly, on the balance of power in the world.

Key Words: China, going-out policy, FDI, reform, economy, trade.

INTRODUCTION

The 9th National Congress of the Chinese Communist Party (CCP) held in Beijing between April 1st and April 24th, 1969, was a political victory against the reformists and their ideologies even though the Chinese Communist Party had not been able to meet the needs and aspirations of the population. This congress solidified the stance of Chairman Mao’s allies and their ideology of “continuous revolution” which was ingrained in the political and economic life of the typical Chinese person as it was institutionalized (Party Constitution). It also resulted in

the purge against Deng Xiaoping and Liu Shaoqi who, in the previous congress (8th) advocated for political and economic reforms. At the death of Mao Zedong (September 9th, 1976), Deng Xiaoping and his allies increasingly gained influence in the party because of a growing need for the party to respond to the basic demands of the population that was living in precarity and difficult conditions. Although Mao's chosen successor was Hua Guofeng, the political "infights" continued through the third plenary session of the 11th Central Committee meeting which finally elected Deng Xiaoping as the Supreme leader of the party and, by default, the Paramount Leader of the People Republic of China.

Deng Xiaoping, a reformist, started the "Boluan Fenzheng, program," which means "Eliminating Chaos and Returning to Normal" as a remedy to the ideological, political, and structural guidelines of the 9th congress that he deemed wrong and misguided. Although this program was vast and contained many sectorial plans, the economic plan was interesting and undoubtedly impactful on the lives of the Chinese people. The "China Going Out" Policy commonly known in China as "The Reform and Opening-up of China" policy was soon implemented in December 1978 as a part of "Boluan Fenzheng," in a controlled and progressive manner.

CHINA'S SYSTEMIC REFORM

As noted by Mantzopoulos and Shen (2013), the CCP meeting under Deng Xiaoping in 1978 concluded that there was a need to implement reform based on "controlled liberalization and decentralization" and to adopt a gradualism approach to the implementation process. China was supposed to gradually introduce the market economy system, which had proven to work in the West, in its overall economic fabric. Starting with the farming industry and finishing with manufacturing, China rolled its plan through the mixture of both systems, socialism, and market economy. The leadership first allowed the de-collectivization of the farming industry, which was the result of the policies of Mao's "Great Leap Forward" program. Mantzopoulos and Shen (2013) noted the example of the 18 farmers in Anhui province who were the first to be allowed to produce more than their prescribed quotas. Although the surplus production could only be sold to the authorities at predetermined prices, this was nevertheless beneficial to farmers as the proceeds increased their overall income. The principles and notions of material incentive and self-interest were then implemented slowly within the farming industry and eventually in other industries as well, as they proved to be congruent with efficiency and productivity. Consequently, they also allowed individuals to venture into entrepreneurships whereby they could keep the profits (after taxes and dues) generated by their efforts and risk-bearings for their own well-being.

The second step of the "Going Out" policy consisted of allowing foreign investment across China's economy. China's controlled liberalization of its economy continued by allowing foreign direct investments within the country and allowing it in industries that they deemed not too sensitive to their national

security. China, under the leadership of Deng Xiaoping, figured that the injection of foreign capital in a controlled and gradual manner with multiple extensive audits of their performances and their impacts on the CCP and on Chinese people's lives would be best for the economy.

Yasheng Huang et al argued in their book "*Selling China: Foreign Direct Investments During the Reform Era*" that "the primary benefits China FDI inflows have less to do with the provision of marketing access and know-how transfers, technology diffusion, or access to export channels, the kind of firm-level benefits often touted in the literature. Instead, the primary benefits associated with China's primary FDI inflows have to do with the privatization functions supplied for foreign firms in a context of political opposition to an explicit privatization program, venture capital provisions to private entrepreneurs, in a system that enforces stringent credit constraints on a private sector, and promotion of interregional capital mobility in a fragmented economy."

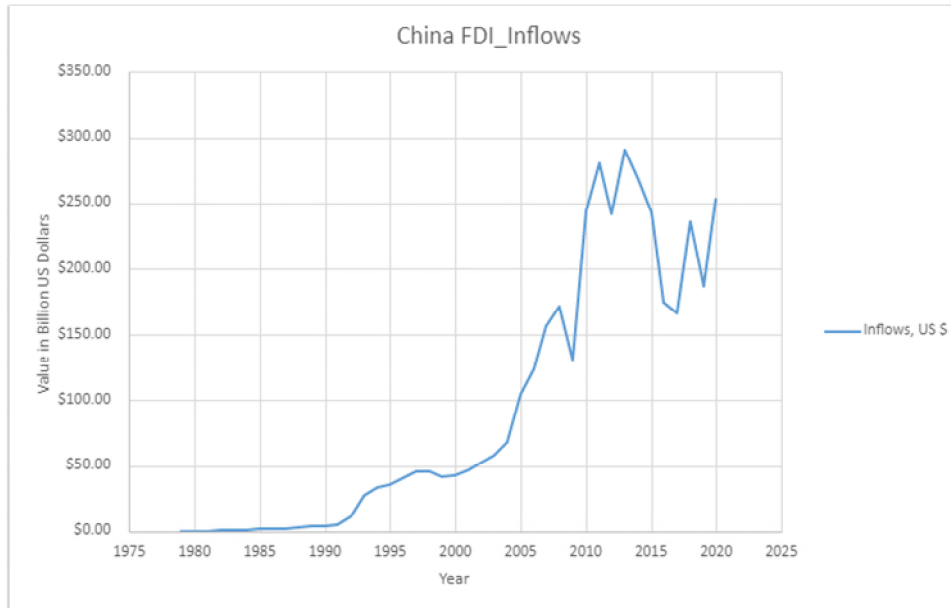
Shen and Mantzopoulos (2013) also noted that the Communist Party's central planning led to reforms in the labor sector to allow for wage flexibility and labor mobility. Central planning also led to reforms in heavy manufacturing industries and the financial system. The ultimate step of the "Going Out" policy consisted of the opening of the Chinese economy to trading with other nations. As Autarky has proven to be limiting, opening the country to trade worked for the western nations. Therefore, in 1985, China finally moved away from price controls, which were the legacy of earlier socialist policies. These price controls, as explained by theory, led to serious "misallocation" of resources as well as to "irrational prices." In fact, China experienced some periods of serious inflation prior to the implementation of the "going-out" policy. Between 1935 and 1949 China experienced hyperinflation due to the existence of three leaderships (Japanese, Nationalists, Communists) with each applying its own monetary policy. Lifting these controls would finally allow China to buy goods at market prices below domestic prices, and to sell goods at market prices above domestic prices. Besides its efficiency, international trade would allow the country to have access to a variety of products and most importantly to have access to world technologies. These technologies were both for the direct consumer and for the production processes.

FOREIGN DIRECT INVESTMENT IN CHINA

Foreign Direct Investment (FDI) in a non-matured economy should lead to greater efficiency in the allocation of its resources. This creates competitiveness as all the involved parties (capital owners, workers, managers) want to make sure they capitalize on the given market or industry opportunities. Prior to China's 9th National Congress, the CCP did not allow foreign direct investment in its territory. China, as it opened to the world, started accepting foreign funds into multiple sectors of its economy. However, at the onset of the implementation of the "Going Out" policy, which was encouraging to outside investors and

particularly to western investors, the Chinese economy experienced a gradual upward uptick in the inflow of outside funds.

Figure 1: Foreign Direct Investment of China, 1975-2020



This started in 1980 with about 60 million US dollars invested in all sectors combined, although most of it was concentrated in agriculture and manufacturing. Between 1980 and 1990, China accepted an increasing amount of FDIs year to year at an average growth rate of 67%. By the end of year 1990, the amount of FDIs inflows to China had grown 58-fold (5,718% increase) to approximately 3.49 billion USD. It is important to also note that FDIs grew from 60 million USD in 1980 to 270 million USD in 1981 (350% increase) as the Chinese government became confident of the potential success of the new program.

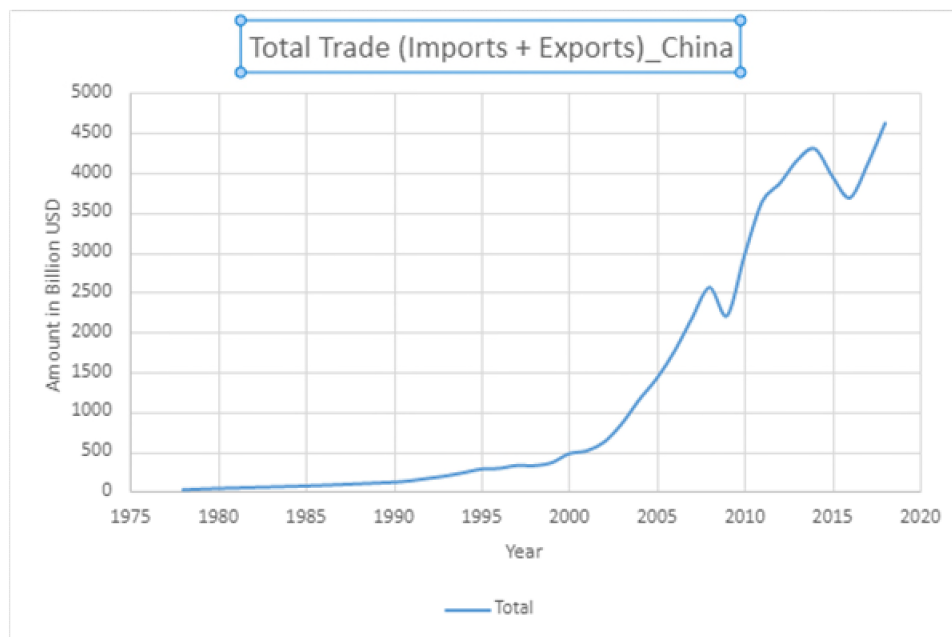
As it continued to absorb foreign funds concentrated in agriculture and manufacturing, China economy's appetite grew for more funds, especially between 1990 and 2000. The growth rate of FDIs was approximately 37.42% while the most notable growths happened between 1991 and 1993. But 1999 saw a decrease of about 10%. However, the level of investment grew 12-fold (1,106% increase) from 3.49 billion USD in 1990 to 42.1 billion USD in 2000.

The Chinese leadership implemented the last portion of its plan by China joining the World Trade Union in 2001, which allowed the country access to a large array of countries and partners for all trade related relations including FDIs. On average FDIs increased by 22.14% year-on-year with the total amount going from 42.10 billion USD in 2000 to 243.70 billion USD in 2010 with a notable decrease of 29% in 2009. This drop could be due to the state of the global economy, namely the great recession of 2008.

The maturing of the Chinese economy and the state of the market for funds finally pushed the FDIs to start to level off with only an average growth rate of 2.78% between 2010 and 2020. Although the great recovery post 2010 saw a sharp increase (from 243 billion in 2010 to 290 billion USD in 2013) in FDI inflows to China, it was significantly reduced by 2015.

TRADE: IMPORTS AND EXPORTS

Figure 2: Total Trade of China, 1975-2020



Prior to 1979, China's economy and its industries operated based on the local markets. This obviously prevented China from consuming most of the products that the rest of the world was enjoying at the time. It also limited the earning potential of China's workers as well as its enterprises. The "Going Out" policy's implementation led China to opening its borders to the outside world through FDIs and naturally through trade of goods and services.

Figure 3: Exports and Imports of China, 1975-2020



In 1978, China’s imports and exports were respectively estimated at 10.89 and 9.75 billion USD for a total trade volume of 20.65 billion USD. At the onset of the “Going Out” policy, these figures all increased by more than 80% by 1980. Although exports and imports continued to grow in the next decade, the total trade volume increased to 115 billion US in 1990 and 474.29 billion USD in 2000. This is a 12.5-fold increase from the inception of the “Going Out” policy. Besides this remarkable result, China’s economy experienced even a better performance that should be naturally expected once a nation moves from autarky to full trade. China’s adherence to the World Trade Organization permitted to trade with multiple nations in multiple sectors. Imports and exports increased exceptionally well as the total trade volume attained nearly 3 trillion USD by the end of 2010. Despite this exceptional performance, China’s trade volume again nearly doubled between 2010 and 2020 with a total of a little above 4.6 trillion USD in 2018.

Figure 4: Balance of Trade of China, 1975-2020



Equally important is the improvement of China’s trade balance since the inception of the “Going Out” policy in 1979 that may have led to the accumulation of considerable amounts of foreign reserves. The late 1970’s and the 1980’s were characterized by trade deficits despite the implementation of the “Going Out” policy. This is coherent with the fact that the “controlled” rollout of the policy categorically excluded any sudden opening of the economy to the outside world. Therefore, the trade deficit had reached 14.9 billion USD by 1985. As the country slowly opened, and considering the lag effect of the policy, the trade deficit started to improve by the end of the 1980’s at which time China reached a surplus of 8.74 billion USD. From that point on to 2018, the trade balance had been positive and generally increasing, except for 1993 when China had not joined the WTO yet. The trade balances in 1990, 2000, and 2010 were respectively +8.74, +24.11 and +181.51 Billion USD while that of 2018 was approximately 351 billion USD.

Moreover, even though the trade deficit allowed China to increase its stock of foreign reserves, which had been used in many instances to buy foreign debts including that of the United States, one should note that the percentage of exports over total trade had not significantly changed. In the early years of the “Going Out” policy, exports represented between 39 and 47% of the total trade. Since 1990, this figure has consistently varied between 51 and 56% except for 2015 when it reached 57%. This means that in the global context, China may have been enjoying a trade surplus that is between 2 and 14% of its total trade volume.

USA-CHINA TRADE

Even though China's total exports are less than 55% of its total trade volume, the trade relation between the US and China is contentious as the US has consistently denounced China to resort unfair trade practices such as "dumping" and currency manipulation. Normally, as two nations trade with one another because of comparative advantage, the currencies are supposed to appreciate or depreciate with respect to one another based on the trade balance. A nation experiencing a trade deficit this year should see its currency depreciate while the currency of the other appreciates. Consequently, goods become relatively cheaper in the nation that sees its currency depreciate while the opposite happens in the other nation. Therefore, exports will increase for this given nation. This process is difficult to follow in the case of a relationship whereas one currency is free floating (USD) and the other one is virtually controlled by the government or pegged to the USD (China RMB). Even in this latter case, the currency should be revaluated afterwards, which however does not occur frequently enough as far as the United States is concerned.

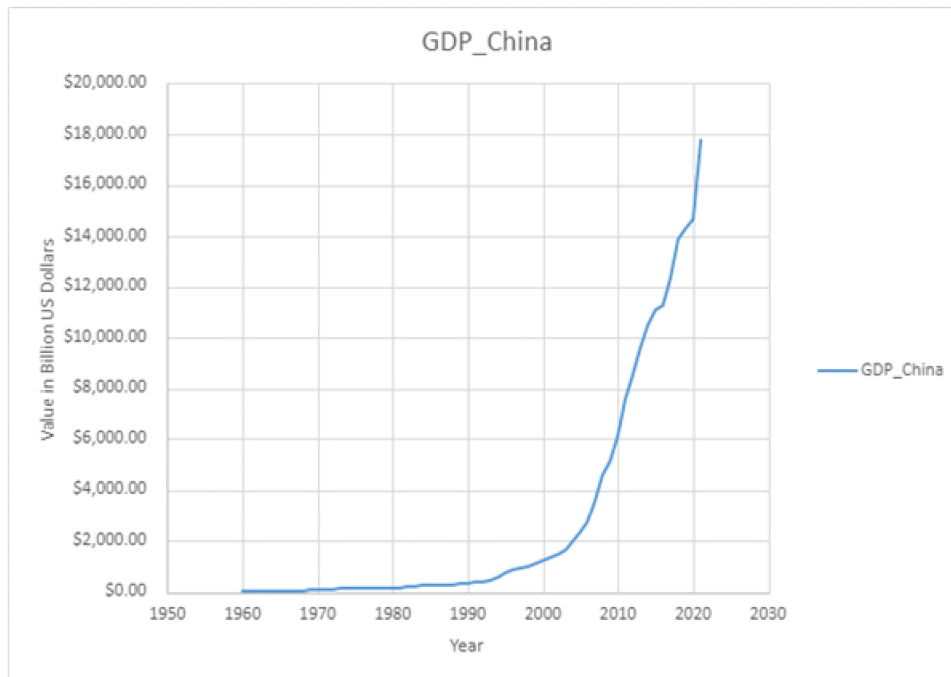
The "controlled" liberalization of China's economy led to the establishment of exchanges in goods and services between China and many nations around the world. In 1985, the trade in goods and services balance was estimated to be only negative 6 million USD in favor of China, which increased to negative 1.6 billion USD in 1986. Up to the late 1980's the trade balance was below 10 billion USD. From 1990, as China capitalized on its comparative advantage, and through the "pegging" of its currency, the trade balance continued to grow to and reached an estimated negative 83 billion USD. Despite the array of political opposition to "open-trade" with China, the US-China trade volume increased as the US trade deficit reached 273 billion USD in 2010. In the last decade, though the trade deficit has increased, it has been on average negative 340 billion USD. In fact, for most of those years, the US-China trade deficit improved as the US government imposed economic sanctions on China. Although China's retaliation was more of a political posture, China's sanctions on the US were minimal and effectively symbolic. After all, China, enjoying a trade surplus of more than 300 billion USD with the US, would not want to go to a trade dispute with the US, at least not at this time.

GDP AND GDP GROWTH

In the early 1950's and in the first decade after World War II, China's economy was highly labor intensive while its gross domestic product (GDP) was restrained by Chairman Mao's "closed door policy." As the political and economic plan was based on communist ideology of autarky, China's economy could not operate on its production possibility frontier, let alone allow for effective growth. The nominal GDP in 1952 was at only 31 billion USD while the GDP per capita was approximately 54 dollars per inhabitant per year. At the same time, the Western world including the United States was experiencing higher GDP and GDP per capita. Between the early 1950's and the year 1977, when Xiaoping's policies started to be implemented, China's GDP grew from 31 billion USD

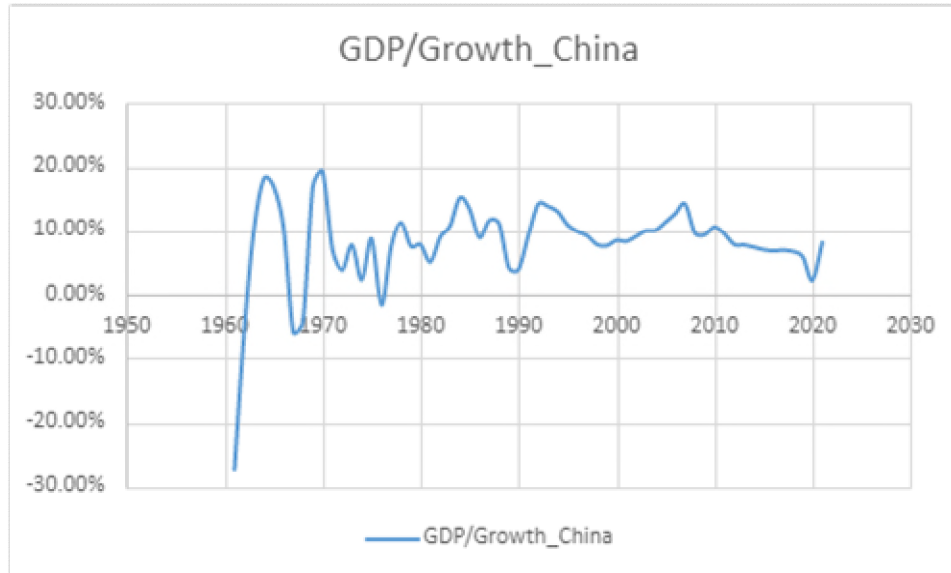
(1952) to 174.94 billion USD, which was nearly a 6-fold increase. The GDP per Capita increased from 54 US dollars to 185 dollars per individual inhabitant per year which was an increase of 243% over the period. Although this increase and improvement in both the GDP and GDP per capita could have been seen as a good achievement, the Chinese new leadership’s ambitions of realizing its “Going Out” policy trumped this “ineffective” achievement for the Chinese people were still relatively poor with respect to their western counterparts. However, this ambitious plan potentially signaled future competitive and adversarial relationship for the West.

Figure 6: GDP of China, 1960-2020



After the roll-out of the “Going Out” policy, China’s economy experienced tremendous growth with average GDP growths of 9.25%, 10.45% and 10.57% respectively by 1990, 2000, and 2010. With these considerable growth rates, China’s economy leaped to the second largest economy surpassing Japan in 2010 when its GDP reached 6.087 trillion USD which was a 31-fold increase over its value in 1980. During the same time, the GDP per capita grew from 195 USD in 1980 to 4,550 USD in 2010, which was a 23-fold increase over the three decades. Although these growths were reduced to single digits in the following decade (2010-2020), China was able to lift more than 800 million people out of poverty (Congressional Research Service) and continued to have strong yet icy trade relations with the United States.

Figure 7: GDP Growth Rate of China, 1960-2020



In managing to lift more than half of its population out of poverty, China improved their living standards through number of indicators including consumption, access to tap water, access to gas, number of hospital beds per 10,000 persons, the number of doctors per 10,000 persons, and the number of university students per 10,000 persons. These indicators, among many, attest to the strides the country has made in improving the living conditions of the residents.

IMPACTS ON LIVING STANDARDS

In 1978, the per capita living expenditure for non-agricultural residents in China was 405 Yuan, which would almost double by 1985 after the implementation of the first phases of the “going out” policy. These figures would sustain continuous growth over the following decades. Between 1990 and 2000, the annual per capita living expenditure for urban households would increase from 1,211 Yuan to 4,998 Yuan, which indicates higher disposal income and savings. The following decade was even more significant after China joined the World Trade Organization in 2001. The annual per capita expenditure for urban households would reach 13,471 Yuan in 2010 and 21,392 Yuan in 2015 thus a 17-fold increase between 1990 and 2015.

Equally important in measuring the living conditions is the access to tap water and to gas as an energy source. The rates of people who have access to tap water and to gas increased over the last 4 decades. In 1989, the rates were respectively 47.4% and 17.8%. By 2010, these rates jumped to 96.7% and 92%, and by 2015 most of the population had access to tap water (98.1%) and gas (95.3%).

As important as the previous indicators are, access to healthcare is also important in measuring the living conditions of people. The number of hospital beds and

the number of doctors per 10,000 persons noticeably improved over the last 4 decades. In 1979, China had 19.3 beds and 10.7 doctors per 10,000 persons. In the first two decades after the rollout of the “going out” policy, these numbers increased to 23.8 and 16.8 doctors per 10,000 persons. By 2010, China increased its number of beds and its number of doctors to 32.7 and 17.9 per 10,000 persons. The numbers for 2015 (51.1 beds and 22.2 doctors) show that both figures had more than doubled since 1978.

FOREIGN DIRECT INVESTMENT (OUTFLOWS)

As opposed to FDIs inflows, FDIs outflows were timid in the first two decades after the rollout of the “going” policy in 1979. In fact, up to Year 2000, China’s yearly investment was less than 5 billion USD. This is coherent with China’s then philosophy of “not rocking the boat” which had a focus on internal affairs. Between 1982 and Year 2000, China had spent a total of only 36.82 billion USD in overseas investment projects. After its WTO entry, and as its double-digit growth continued to move it into the ranks of economic giants, China’s agenda and philosophy changed vis a vis of world affairs. This is notable in the increase in its FDIs (outflows). China’s yearly investments overseas increase more than 12-fold from 5 billion USD in 2000 to 58 billion USD in 2010 thus a total of 245 billion USD over that decade. By the end of the following decade (2010 to 2020), the yearly figures reached 154 billion USD, with 1.3 trillion USD invested in projects over the decade in total. The impacts of such a leap will be illustrated in the next section.

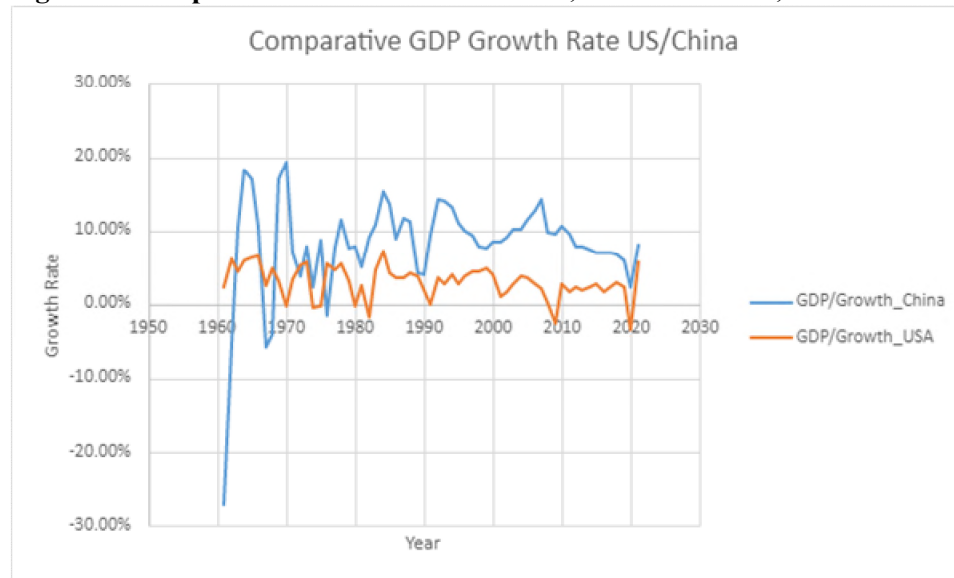
POLITICAL IMPLICATIONS OF THE “GOING OUT” POLICY CHINA’S ECONOMIC MATURATION

By the eve of the “Going Out” policy, China economic growth was impeded by many restrictive policies of Mao’s era including the autarky conditions that most markets were operating under. These were the subjects of great inefficiencies and low productivity. In fact, the GDP growth rate between 1960 and 1970 was approximately 4.96%, which was found to be exceptionally low compared to its growth in the following two decades. China’s economy took a leap after investing heavily in agriculture and manufacturing, and by allowing considerable funds from investors from the rest of the world. Its growth rate increased to 6.24, 9.35 and 10.45% respectively by 1980, 1990 and 2000. By 2010, this growth rate had reached 10.57% that allowed China to become the second largest economy thus surpassing Japan, one of its staunch economic, political, and strategic rivals. It is important to also note that during those 3 decades, China experienced many years with double digits growth with some rates as high as 19.3% (1970).

This realization was possible because China still had room to grow and because it still could benefit from all the advances in technology realized both in the West and internally. Transfers of technology and “know-hows” coupled with high investments in education and infrastructure allowed China’s economy to exploit its comparative advantages and to grow rapidly. Particularly, by the end of the 1990’s, as labor costs were rising in the West including in the United States, China increasingly became a haven for manufacturing businesses. They found in

China cheaper and less organized labor force and, therefore, increased their profit opportunities. This became an excellent opportunity for China’s leadership as they could find employment for a good portion of the labor force. It was estimated that over three million U.S jobs were eliminated or displaced between 2001 and 2013 (Will Kimball, 2014).

Figure 8: Comparative Growth Rate of GDP; U.S. and China, 1960-2020



However, between 2000 and 2010, when China was surpassing many major economies including Great Britain, Germany, and France, China no longer could be characterized as this soft economic giant. China became an economic and political rival to the major powers. China’s new economic and political position on the world stage obligated major economies to seriously consider not sharing newly discovered technology with it as this could continue to give it a competitive edge. Therefore, China, to improve or maintain its status, will have to deal with a new set of realities only common to matured economies. Matured economies must break new ground in technologies, find new sources for raw materials, and find markets for their products and labor, to fuel growth. In these new circumstances, China’s GDP growth finally took a considerable hit and was reduced to single digits in that decade (2010-2020). The average growth was 6.84% with a 2.20% growth in 2020 which was partially due to the Covid-19 pandemic crisis.

CHINA’S GLOBAL POLITICAL POSTURING

After outranking Japan as the second largest economy, China obviously became a big player on the world stage, as the West must pay close attention to it at the risk of losing its leadership position. This has prompted China to use “Investment Diplomacy” to build commercial relationships with nations around the world including those in Africa and Asia. China’s offensive consisted in increasing its presence in nations with smaller economies by financing projects such as roads,

hospitals, schools, etc. Although these loans may not be the best option for some of these nations, they take it anyway because of its simplicity in processes, which is not the case for loans disbursed by Western nations or international organizations such as the World Bank and the IMF (International Monetary Funds). In the latter case, loans are attached to conditions such as human rights records, good governance, democracy, etc. In the process, China does not preclude the option of completing the project by using not only its own expertise, but also its own labor force even for the most basic tasks. It is not unusual to see the correlation between project contracts and China's access to raw material sources within the same country, which increases competition for the West in those markets. When one looks at the amount of net oversea investment, China has increased its economic footprint on all six continents including in North America. However, while the United States and Europe are aware of the risks that this poses to their economies and their competitiveness, the more vulnerable economies including Africa, Latin America, and Asia may not be, despite the overt warning given by the US and its allies. For instance, Africa received over 3 billion USD on average per year between 2008 and 2018 while Asia and Latin America received 77 and 12.1 billion USD on average. The rationale for all these investments is access to raw materials, energy, technology, brands, "know-hows," and potential markets (US-China Economic and Security Commission, March 30, 2011).

With these investment projects, China has opened not only new markets for its products, but also employment opportunities for its excess labor force in mainland. Chinatowns have sprung up in Africa with the major ones in Nigeria, South Africa, Namibia, and Madagascar. The country of Guinea along with Nigeria, South Africa, Madagascar, and Sudan received the bulk of these investment funds thus Chinese products as well as firms and workers are present. They provide services in Guinea in building roads, schools, and hospitals. They also provide communication services such as cable TV services and telephone products and accessories. This phenomenon is also prevalent in Latin America (Mexico, Brazil, Argentina, and Venezuela) and Asia as well.

As it intends to secure more resources and markets in those nations, China's competition with the West has resulted in commercial and trade disputes. China and the US have had disputes over copyright law violations, anti-dumping law violations, and currency manipulations whereas China is accused of systematic theft and cheating. They also have had issues over the status of Taiwan and the status in the South-China Sea where China uses diplomatic, administrative, and military means to consolidate its claims and to deter others (Fravel, 2011). Moreover, China's position vis a vis of the war in Ukraine is notable as it did not agree to enforce the sanctions imposed on Russia by the US/Europe, but on the contrary, is able to purchase, along with other nations such as India, Russian sanctioned goods at prevailing. China's influence was also notable at the onset of the Covid-19 outbreak when the dispute led to problems at the World Health Organization in its investigation of the sources of the infection. China's businesses (energy, construction, mining) operating overseas are accused by

media and civil society of social, environmental, and human rights violations (Business & Human Rights Resource Centre, August 2021). Keith Johnson (2015) noted also that China is now involved in deployment of peacekeeping troops in Africa (Mali) as well as in deployment to secure shipping routes for ships to and from China mainland.

Finally, China's extremely ambitious "Belt and Road Project," which is supposed to link Asia, Europe, and Africa may be unraveling through the purchasing of stakes in port authorities throughout those continents. This is already creating tensions as the European Union wants to prevent it from happening. In the NPR (National Public Radio) series "China Unbound," it was reported that by 2018 Chinese companies had invested in more than a dozen port authorities through Europe including in France (Marseille, Nantes), Italy (Genoa), Greece (Piraeus), Belgium (Antwerp, Bruges), Netherland (Rotterdam), Spain (Valencia, Bilbao), Turkey (Istanbul), Egypt (Port Said), Morocco (Casablanca, Tangier), etc.

CONCLUSION

From its inception to the present, China's "Going Out" policy may have seemed to center on the improvement of the well-being of the Chinese people. In terms of the amelioration of the population's living conditions, the results are quantifiably remarkable. With exceptional growth from its debut to a modest growth after 4 decades, the "Going Out" policy has been credited to lift hundreds of millions of individuals out of poverty. However, the intended goals may have morphed into something that challenges global power structure. China is now invested in Africa, Latin America, and Asia so much that it is becoming the largest trading partner in many of the nations on those continents. It is also one of largest buyers of American as well as European debts. China is an important trade partner for both the European Union and the United States. As predicted by many, the "Going Out" policy's long-term implications are being felt through many trade, political, and security disputes around the world. Based on the evolution of the quest for global power and influence, and because a high-level US-China contention could be catastrophic (David M. Lampton, 2012), this may inevitably lead to further implications whereas the relationship must be reevaluated.

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**FROM *PORTLAND TERMINAL* TO *BENJAMIN*:
A REVIEW OF FEDERAL JUDICIAL RULINGS
AND THE EVOLUTION OF EMPLOYMENT
CLASSIFICATION FOR TRAINEES/INTERNS**

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ABSTRACT

The question of whether trainees/interns should be classified as employees, and therefore must be paid, has been adjudicated throughout the court system for over three-quarters of a century. The most recent United States Department of Labor Wage and Hour Division Fact Sheet #71 cites judicial rulings spanning from 1947 through 2017, including: *Walling v. Portland Terminal* (U.S. 1947), *Solis v. Laurelbrook Sanitarium & Sch.* (6th Cir. 2011), *Schumann v. Collier Anesthesia* (11th Cir. 2015), *Glatt v. Fox Searchlight Pictures* (2nd Cir. 2015), and *Benjamin v. B&H Education* (9th Cir. 2017). These cases provide useful rationale for analyzing the proper classification of the relationship between trainees/interns and employers. This paper summarizes several of the federal cases that have played an integral role in answering the employment classification question including those noted on the most recently updated Department of Labor Wage and Hour Division Fact Sheet #71. This paper also discusses the evolution of the factors considered in evaluating employment relationships and provides insight into judicial influences on the Department of Labor's guidance on determining proper employment classifications, including the incorporation of text from legal cases within the publications of the Wage and Hour Division Fact Sheet #71. Finally, this paper explores contemporary workplace situations that will conceivably impact future internship programs and employment related situations.

Key Words: employee, intern, internship, student, training

INTRODUCTION

The question of whether participants in internship/training programs reach the classification of employees, and therefore must be paid, has been argued in the court system for over 75 years. The legal arguments, court decisions, and supporting analyses have helped clarify the United States Department of Labor's (DOL) guidance in answering this question. The DOL Wage and Hour Division (WHD) publishes its Fact Sheet #71: Internship Programs Under The Fair Labor Standards Act that "provides general information to help determine whether interns and students working for 'for-profit' employers are entitled to minimum wages and overtime pay under the Fair Labor

Standards Act (FLSA).” <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>. While this fact sheet does not “have the force and effect of law,” it can “provide clarity to the public regarding existing requirements under the law or agency policies.” *Id.* Moreover, the Fact Sheet #71 is used as an “interpretive guideline in response to requests from employers asking for clarification of minimum wage requirements for unpaid internships.” (Malik, 2015: 1195).

This examination starts with a chronological review of the cases that are cited in support of the most recent updates to the Department of Labor Wage and Hour Division Fact Sheet #71: Internship Programs Under The Fair Labor Standards Act, updated January 2018, including: *Benjamin v. B & H Educ., Inc.*, --- F.3d ---, 2017 WL 6460087, at *4-5 (9th Cir. Dec. 19, 2017); *Glatt v. Fox Searchlight Pictures, Inc.*, 811 F.3d 528, 536-37 (2d Cir. 2016); *Schumann v. Collier Anesthesia, P.A.*, 803 F.3d 1199, 1211-12 (11th Cir. 2015); see also *Walling v. Portland Terminal Co.*, 330 U.S. 148, 152-53 (1947); *Solis v. Laurelbrook Sanitarium & Sch., Inc.*, 642 F.3d 518, 529 (6th Cir. 2011). <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>. Following a summary of these cases, the analysis continues with a discussion of the evolution of the factors considered in evaluating employment relationship, the court influences on the DOL, and finally a look at the ongoing considerations in the workplace and the impact on future internship programs.

CASES CITED ON DOL WAGE AND HOUR DIVISION FACT SHEET #71

***Walling v. Portland Terminal* (U.S. Supreme Court, 1947)**

Numerous court decisions and the Department of Labor’s guidance on analyzing the relationship between interns/trainees and employers have long been based on the 1947 U.S. Supreme Court *Portland Terminal* decision. *Walling v. Portland Terminal Co.*, 330 U.S. 148, 1947. In *Portland Terminal*, prospective applicants were required to first complete a weeklong pre-training course, and if successful in this initial training, they could then receive further training for railyard positions. The successful completion of this unpaid training allowed the trainees to be added to a prospective employment pool. The Department of Labor’s Wage and Hour Administrator unsuccessfully argued that the railroad was in violation of the Fair Labor Standards Act (FLSA) by not paying minimum wages to these trainees. The U.S. Supreme Court affirmed the district and appellate courts in the decision that these trainees were not employees; therefore, the railroad was not required to compensate. *Id.* See also *Walling v. Portland Terminal Co.*, 155 F.2d 215, 1st Cir. 1946; and *Walling v. Portland Terminal Co.*, 61 F.Supp. 345.

While *Portland Terminal* did not specifically address the role of interns but instead was concentrated on unpaid trainees in the 1947 railyards, it has long been applied to unpaid intern related cases and relied upon by the DOL’s guidance on internship programs. The other cases cited by the Department of Labor are more recent, dating from 2011 through 2017; however, 1947’s *Portland Terminal* remains binding case law. The underlying facts and workplace terminology of *Portland Terminal* are outdated when compared to today’s educational and employment settings; however, the significance of this ruling remains as it is the only U.S. Supreme Court decision cited on this workplace issue.

***Solis v. Laurelbrook Sanitarium & Sch.* (Sixth Circuit, 2011)**

In *Laurelbrook*, the Department of Labor investigated a faith-based nonprofit corporation's use of student labor within its boarding school and associated sanitarium. The DOL determined that Laurelbrook Sanitarium and School had violated the child labor provisions of the Fair Labor Standards Act of 1938. *Solis v. Laurelbrook Sanitarium & Sch.*, 642 F.3d 518, 6th Cir. 2011. Based on these findings, DOL Secretary Solis sought "prospective injunctive relief against future violations" *Id.* at 519. The district court's decision that the "Laurelbrook students are not 'employees' for purposes of the FLSA, thus rendering the Act's prohibitions on child labor inapplicable to Laurelbrook's operations" was affirmed by the Sixth Circuit. *Id.*

The Sixth Circuit agreed with the district court's reasoning that "although there is benefit to the school and sanitarium from the students' activities, the totality of the circumstances shows that the primary benefit is to the students, who learn practical skills about work, responsibility, and the dignity of manual labor in a way consistent with the religious mission of their school." *Id.* at 529. Moreover, the court stated that the "benefits Laurelbrook derives from its students are 'secondary to its religious mission' of providing academic and practical training" and that those "benefits are 'much less' than those received by the students." *Id.* at 521.

***Schumann v. Collier Anesthesia* (Eleventh Circuit, 2015)**

In *Schumann*, former master's degree seeking student nurse anesthetists "sought to recover unpaid wages and overtime under the Fair Labor Standards Act, 29 U.S.C. § 201, et seq. ("FLSA"), for their clinical hours." *Schumann v. Collier Anesthesia*, 803 F.3d 1199 at 1202, 11th Cir. 2015. Under Florida law, the students were required to complete a "clinical curriculum" as part of their degree program. *Id.* The students "filed suit alleging that they served as 'employees'" of the defendant-clinical site and that the defendant "unlawfully failed to compensate them with wages and overtime pay." *Id.* at 1204. Both parties filed for summary judgment, and upon guidance from the DOL (based on *Portland Terminal*), the district court ruled that the students were not employees and thus entered judgment in favor of the defendants. However, this decision was vacated and remanded on appeal because "Eleventh Circuit case law leaves clear that the employment status becomes a mixed issue of law and fact to be resolved by a jury." *Schumann v. Collier Anesthesia, P.A.*, Case No: 2:12-cv-347-FtM-29CM, 7, M.D. Fla. Apr. 3, 2017.

***Glatt v. Fox Searchlight Pictures* (Second Circuit, 2015)**

In *Glatt*, unpaid interns working on the Fox Searchlight *Black Swan* film and at Fox Entertainment Group in New York City sought compensation claiming Fox "violated the Fair Labor Standards Act (FLSA) 29 U.S.C. §§ 206-07, and New York Labor Law (NYLL), N.Y. Labor Law § 652, by failing to pay them as employees during their internships as required by the FLSA's and NYLL's minimum wage and overtime provisions." *Glatt v. Fox Searchlight Pictures, Inc.*, 811 F.3d 528 at 532. These plaintiffs did not receive college credit for the internship experiences, however, two of the named plaintiffs had previously graduated from multimedia and film studies degree programs and were seeking related experience. The plaintiffs performed a wide range of general office, accounting, and production department duties often working long hours during the process. The Second Circuit remanded the district court's ruling that the plaintiffs were "improperly classified as unpaid interns rather than employees." *Id.* at 533. The parties eventually settled out of court, but this case prompted renewed attention to the issue of unpaid internships. As reported in Reuters, "the accord marks a quiet end to a lawsuit that

forced companies to rethink how they use interns, and whether failing to pay students and recent college graduates looking for practical experience violated minimum wage laws.” (Stemple, 2016).

Benjamin v. B&H Education (Ninth Circuit, 2017)

In *Benjamin*, plaintiff-cosmetology students filed suit against B&H Education claiming that the for-profit school “offers discounted cosmetology services to the public through salons staffed by vocational students who do not receive compensation.” [*Benjamin v. B & H Education, Inc., No. 15-17147, 9th Cir. 2017 at 4*](#). Operating in California and Nevada, the school “provides both classroom instruction and clinical experience for students” *Id.* The students were required by state law to “take part in hundreds of hours of classroom instruction, including observing demonstrations, and practical training that includes performing services on a person or mannequin” in order to be eligible to take the examination required to become a licensed cosmetologist. *Id.*; also citing Cal. Code Regs., title 16, §§ 950.2, 928(a); Nev. Rev. Stat. §§ 444.200, 644.204, 644.400(2). Furthermore, “the licensing exam tests sanitation and cleaning knowledge as well as cosmetology skills.” *Benjamin at 4*; also citing Cal. Bus. & Prof. Code § 7338; Nev. Rev. Stat. §§ 644.240, 644.244. The plaintiff-students claimed that “rather than properly educate and train them in cosmetology, B&H exploited the Plaintiffs for their unpaid labor.” *Benjamin at 5*. The District Court’s ruling in favor of B&H which reasoned “the Plaintiffs, not the schools, are the primary beneficiaries of their own labors because at the end of their training they qualified to practice cosmetology” was affirmed on appeal. *Benjamin at 2*.

FACTORS CONSIDERED IN EVALUATING EMPLOYMENT RELATIONSHIPS

The factors considered when evaluating the employment relationship issues have evolved significantly in cases from 1947’s *Portland Terminal* through 2017’s *Benjamin*. The cases referenced on the WHD Fact Sheet #71 are based on different training and internship experiences, but each of the cases involve questions over the legality of not paying for workplace performance by trainees and students.

Portland Terminal provided the initial roadmap for the Department of Labor’s rigid six factors for evaluating the status of trainees/interns “have appeared in Wage and Hour Administrator opinions since at least 1967” and in the Wage and Hour Division Field Operations Handbook providing guidelines for evaluating the status of trainees/interns. *Reich v. Parker Fire Protection District*, 992 F.2d 1023 at 1025-1027, 10th Cir. 1993; see also www.dol.gov/whd/FOH/FOH_Ch10.pdf. The guidelines extracted from *Portland Terminal* provided:

Whether trainees are employees under the Act, according to the WH Administrator, will depend upon all of the circumstances surrounding their activities on the premises of the employer. If all six of the following criteria apply, the trainees are not employees within the meaning of the Act:

1. The training, even though it includes actual operation of the facilities of the employer, is similar to that which would be given in a vocational school.
2. The training is for the benefit of the trainee.

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3. The trainees do not displace regular employees, but work under close observation.
4. The employer that provides the training derives no immediate advantage from the activities of the trainees, and on occasion operations may actually be impeded.
5. The trainees are not necessarily entitled to a job at the conclusion of the training period.
6. The employer and the trainees understand that the trainees are not entitled to wages for the time spent in training.
See *Parker Fire Protection District* at 1025-1026.

In an attempt to ensure employer compliance with federal law in relation to unpaid internships, the DOL Wage and Hour Division issued Fact Sheet #71 “to clarify the *Portland Terminal* test and to remind employers of the criteria for determining whether or not an internship is to be considered an unpaid position.” (Burke & Carton, 2013: 113). The 2010 Fact Sheet #71 updated the DOL Handbook by replacing the words “training/trainees or students” in item numbers one through six with “internship/intern” and replacing “vocational school” in item number one with “educational environment” – which better reflected the modern learning environment terminology. Item number three was also updated to more clearly inform employers that the intern is not to replace regular employees by replacing the wording “work under their close observation” with “works under close supervision of existing staff.” The updated six-part test included:

1. The internship, even though it includes actual operation of the facilities of the employer, is similar to training which would be given in an educational environment;
2. The internship experience is for the benefit of the intern;
3. The intern does not displace regular employees, but works under close supervision of existing staff;
4. The employer that provides the training derives no immediate advantage from the activities of the intern and on occasion its operations may actually be impeded;
5. The intern is not necessarily entitled to a job at the conclusion of the internship; and
6. The employer and the intern understand that the intern is not entitled to wages for the time spent in the internship.

https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/FOH_Ch10.pdf;

see also 2010 Fact Sheet #71 image at

<https://www.clemson.edu/business/academics/career-global-engagement/documents/fact-sheet.pdf>.

Courts have applied various interpretations to *Portland Terminal's* six-part test, and the DOL has worked with the court findings in adjusting its guidelines in an attempt to lessen the uncertainty around the intern versus employee analysis. Following *Glatt* and *Benjamin*, the DOL made the most recent updates to the Fact Sheet #71, updated January 2018. (<https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>). In *Glatt*, the Second Circuit declined to side with the DOL's stance that the six-part test from *Portland Terminal* and the WHD's six factors from its Fact Sheet #71: Internship Programs under

the Fair Labor Standards Act (April 2010) supported the plaintiffs. The Court determined that the question should focus on “whether the intern or the employer is the primary beneficiary of the relationship.” *Glatt* at 536. The Court also reversed the lower court’s grant of class action status and provided that these decisions should be on a case-by-case basis. *Id.* Here the Court provided “a set of non-exhaustive factors to aid courts in determining whether a worker is an employee for purposes of the FLSA.” *Id.*

In *Benjamin*, the Ninth Circuit also relied on *Glatt*’s updated seven-factor test in determining the intern versus employee relationship, stating:

“*Glatt* in particular provides a helpful list of factors for courts to consider in the specific context of student workers. We agree with those decisions that the primary beneficiary test best captures the Supreme Court’s economic realities test in the student/employee context and that it is therefore the most appropriate test for deciding whether students should be regarded as employees under the FLSA.” *Benjamin* at 15.

After the *Glatt* and *Benjamin* rulings, the DOL updated its guidelines on Fact Sheet #71 to reflect the exact wording found in the Second Circuit’s seven-factor test from *Glatt* including:

1. The extent to which the intern and the employer clearly understand that there is no expectation of compensation. Any promise of compensation, express or implied, suggests that the intern is an employee – and vice versa.
2. The extent to which the internship provides training that would be similar to that which would be given in an education environment, including the clinical and other hands-on training provided by educational institutions.
3. The extent to which the internship is tied to the intern’s formal education program by integrated coursework or the receipt of academic credit.
4. The extent to which the internship accommodates the intern’s academic commitments by corresponding to the academic calendar.
5. The extent to which the internship’s duration is limited to the period in which the internship provides the intern with beneficial learning.
6. The extent to which the intern’s work complements, rather than displaces, the work of paid employees while providing significant educational benefits to the intern.
7. The extent to which the intern and the employer understand that the internship is conducted without entitlement to a paid job at the conclusion of the internship.

Glatt at 536-537; see also <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>.

The following table summarizes the Department of Labor Wage and Hour Division’s factors used for determining the trainee/intern relationship with the employer, showing minor wording changes between the 1967 field operations handbook and the 2010 Fact

Sheet #71 [emphasis added for textual updates] with more, and notably flexible, changes in the 2018 Fact Sheet #71:

WHD Field Operations Handbook (1967)	WHD Fact Sheet #71 (2010)	WHD Fact Sheet #71 (2018)
1. The <i>training</i> , even though it includes actual operation of the facilities of the employer, is similar to that which would be given in a <i>vocational school</i> .	1. The <i>internship</i> , even though it includes actual operation of the facilities of the employer, is similar to training which would be given in an <i>educational environment</i> ;	1. The extent to which the intern and the employer clearly understand that there is no expectation of compensation. Any promise of compensation, express or implied, suggests that the intern in an employee – and vice versa.
2. The <i>training</i> is for the benefit of the <i>trainee</i> .	2. The <i>internship</i> experience is for the benefit of the <i>intern</i> ;	2. The extent to which the internship provides training that would be similar to that which would be given in an education environment, including the clinical and other hands-on training provided by educational institutions.
3. The <i>trainees</i> do not displace regular employees, but work under <i>close observation</i> .	3. The <i>intern</i> does not displace regular employees, but works under <i>close supervision of existing staff</i> ;	3. The extent to which the internship is tied to the intern’s formal education program by integrated coursework or the receipt of academic credit.
4. The employer that provides the training derives no immediate advantage from the activities of the <i>trainees</i> , and on occasion operations may actually be impeded.	4. The employer that provides the training derives no immediate advantage from the activities of the <i>intern</i> and on occasion its operations may actually be impeded;	4. The extent to which the internship accommodates the intern’s academic commitments by corresponding to the academic calendar.
5. The <i>trainees</i> are not necessarily entitled to a job at the conclusion of the <i>training</i> period.	5. The <i>intern</i> is not necessarily entitled to a job at the conclusion of the <i>internship</i> ; and	5. The extent to which the internship’s duration is limited to the period in which the internship provides the intern with beneficial learning.
6. The employer and the <i>trainees</i> understand that the <i>trainees</i> are not entitled to wages for the time spent in <i>training</i> .	6. The employer and the <i>intern</i> understand that the <i>intern</i> is not entitled to wages for the time spent in the <i>internship</i> .	6. The extent to which the intern’s work complements, rather than displaces, the work of paid employees while providing

		significant educational benefits to the intern.
		7. The extent to which the intern and the employer understand that the internship is conducted without entitlement to a paid job at the conclusion of the internship.

JUDICIAL INFLUENCE ON DOL EMPLOYMENT CLASSIFICATION GUIDANCE

Portland Terminal's unpaid railyard trainees, *Laurelbrook's* unpaid student labor at its faith-based nonprofit boarding school, *Schumann's* unpaid student nurse anesthetists completing legally required clinical hours, *Glatt's* unpaid post-graduate interns seeking experience rather than college credit, and *Benjamin's* unpaid cosmetology students completing clinical experience legally required for eventual licensing, provide a good sampling of the educational and training environments encountered in the workplace. These cases also present a good mix of rulings across the federal court system as well as across many decades. The judicial decisions and commentary from among these cases provided support for the U.S. Department of Labor Wage and Hour Division guidance on employment classifications and wage requirements under the Fair Labor Standards Act (FLSA). These cases were instrumental in the evolution of the DOL's employment classification guidance, ranging from the 1967 DOL WHD Field Operations Handbook through the 2010 and 2018 updates to the DOL WHD Fact Sheet #71.

The Department of Labor should not expect the courts to automatically defer to its interpretation of interns as employees without providing more persuasive arguments than it presented in *Glatt*. The DOL failed in its attempt to support the *Glatt* plaintiffs (interns) argument that they should be considered employees by declaring "(1) its views on employee status are entitled to deference because it is the agency charged with administering the FLSA and (2) [the Second Circuit] should use the six factors . . . [that] come directly from *Portland Terminal*." *Glatt* at 535-536. The Second Circuit somewhat harshly rebuked the Department of Labor, reminding it that the DOL issues guidelines, not law. Here, the Court stated that "an agency has no special competence or role in interpreting a judicial decision" *Glatt* at 536. It appears that the DOL received the message from the court. Following *Benjamin*, the DOL updated its Fact Sheet #71 to include the exact wording found in the Second Circuit's *Glatt* (and cited by the Ninth Circuit's *Benjamin*).

Moreover in *Glatt*, the Second Circuit's position on the intern versus employee analysis is more flexible and provides employers more leeway in its hiring decisions. Here the Court found that the DOL's six-factor test (based on the facts from *Portland Terminal*) was too rigid and not the appropriate test for all workplace situations stating:

"Because the DOL test attempts to fit *Portland Terminal's* particular facts to all workplaces, and because the test is too rigid for our precedent to withstand, see,

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e.g., *Velez*, 693 F.3d at 326, we do not find it persuasive, and we will not defer to it.” *Glatt* at 536.

In addition to acknowledging the necessity of a more flexible test, the *Glatt* decision included updated terminology that better reflects the current education environment than was revealed in *Portland Terminal*, including:

“The approach we adopt also reflects a central feature of the modern internship--the relationship between the internship and the intern's formal education--and is confined to internships and does not apply to training programs in other contexts. The purpose of a bona-fide internship is to integrate classroom learning with practical skill development in a real-world setting, and, unlike the brakemen at issue in *Portland Terminal*, all of the plaintiffs were enrolled in or had recently completed a formal course of post-secondary education. By focusing on the educational aspects of the internship, our approach better reflects the role of internships in today's economy than the DOL factors, which were derived from a 68-year old Supreme Court decision that dealt with a single training course offered to prospective railroad brakemen.” *Glatt* at 537-538.

The Department of Labor (DOL) guidelines are now consistent with several federal appellate courts’ use of the primary beneficiary test when determining “whether interns are employees under the FLSA.” <https://www.dol.gov/newsroom/releases/whd/whd20180105>. As of early 2018, and after consistent rulings across several federal appellate courts, the DOL reported, “The Wage and Hour Division will update its enforcement policies to align with recent case law, eliminate unnecessary confusion among the regulated community, and provide the Division’s investigators with increased flexibility to holistically analyze internships on a case-by-case basis.” *Id.*

The following table provides additional *Glatt* commentary examples on cases decided post-DOL WHD Fact Sheet #71 January 2018 updates (using Circuits not included on the DOL update):

Federal Circuit Court	Continue to follow <i>Portland/Reich</i> (Six-factor analysis)	Follow <i>Glatt</i> (Seven-factor analysis)
First Circuit		“The Court flexibly considers both the six DOL factors and the primary beneficiary test to determine whether student drivers are employees . . .” citing <i>Glatt</i> among other cases. However, the DOL had been updated to seven factors by the time of this case. See <i>Montoya v. CRST Expedited, Inc.</i> , 404 F. Supp. 3d 364 at 385,

		September 6, 2019.
Third Circuit		Concluding after a detailed analysis of the seven-factors that “Complaint plausibly alleges that Plaintiffs are employees . . . under the <i>Glatt</i> test.” See <i>Johnson v. Nat’l Collegiate Athletic Ass’n</i> , 556 F. Supp. 3d 491 at 512, August 25, 2021.
Eighth Circuit		“. . . leading authorities in difficult cases have deemed it appropriate to examine who is the ‘primary beneficiary’ of an arrangement between parties in a potential employer-employee relationship . . . This court has cited this ‘primary beneficiary’ test favorably . . .” referring to <i>Glatt</i> . See <i>Fochtman v. Hendren Plastics, Inc.</i> , 47 F.4th 638 at 645, August 25, 2022.
Tenth Circuit	“Indeed, even if we were inclined to adopt <i>Glatt</i> , “under stare decisis, this panel cannot overturn the decision of another panel of this court.” See <i>Nesbitt v. FCNH, Inc.</i> 908 F.3d 643 at 648, November 9, 2018.	

For the workforce, the seven-factor update provides a more modern, flexible test for the internship program stakeholders. Additionally, the congruence of the language used by the judicial system and the DOL can help reduce future conflicts. However, the updated DOL Fact Sheet #71 notes that the determination of “whether an intern or student is an employee under the FLSA necessarily depends on the unique circumstances of each case.” <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>. This case-by-case analysis and the ever-changing workplace scenarios, especially considering the post-COVID impacts, virtual workplace, gig employment, etc., open the door for continued debate on this topic.

The Department of Labor’s January 2018 press release “*U.S. Department of Labor Clarifies when Interns Working at For-Profit Employers are Subject to the Fair Labor Standards Act*” was perhaps a bit overzealous with its use of the word “eliminate.” The DOL reported:

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“The Wage and Hour Division will update its enforcement policies to align with recent case law, *eliminate* [emphasis added] unnecessary confusion among the regulated community, and provide the Division’s investigators with increased flexibility to holistically analyze internships on a case-by-case basis.”
<https://www.dol.gov/newsroom/releases/whd/whd20180105>.

The case-by-case flexibility may decrease future “unnecessary confusion;” however, the ongoing changes in the workplace environment and internship placement opportunities bring a new set of workplace issues to consider. The virtual work environment, including placements that remain virtual as well as the placements that return from virtual to in-person placements, hybrid workplace scheduling, growing gig economy, among other post-COVID workplace considerations will bring a new set of legal issues and updated court interpretations for internships. Perhaps if the DOL press release occurred during or post-COVID, the wording “reduce unnecessary confusion” rather than the ambitious wording of “eliminate unnecessary confusion” would have been more realistic. The parties involved with internship programs must analyze the requirements for paid, or allowable unpaid, placements to reach a legally sound outcome for both the employer and the student/intern.

THE CONTEMPORARY WORKPLACE AND FUTURE INTERNSHIP PROGRAMS

The real-world education and employment settings have noticeably changed in recent years. The surge of virtual learning and virtual employment necessitated by the COVID pandemic are likely to continue long after the economy returns to a new normal. *Glatt* shows that the judicial system values the “education aspects of the internship” and although there is not yet a plethora of virtual/remote/employer-based internship legal controversies, it is reasonable to include the virtual/remote mode of learning and working within the definition of the “modern internship.” *Glatt* at 537.

The student/employer collaboration is important in providing meaningful internship experiences and eventual career opportunities; nevertheless, the question over whether the students gaining that learning experience must be paid or can be unpaid will continue to be one that is debated within both the DOL and the courts. The past use of unpaid internships has been, and will likely continue to be, used as both a way for employers to “observe and train their prospective employees while simultaneously benefitting from the free labor” (Knott 2019: 177).

A review of related data collected by various organizations along with statistics and commentary from recent publications provide an insight into the effect of internships on educational and career outcomes as well as the impact on employment recruitment. This information, along with the updates in the DOL guidelines, gives useful feedback to internship program administrators and employers alike. A few examples of internship-related data to consider when making program decisions include:

- Internship and Employee Recruitment
 - Approximately 70% of employers offer their interns full-time jobs with almost 80% of those students accepting the offers. (NACE, 2021).

- Students who completed an internship are 15% less likely to be unemployed in the first years after college and earn 6% more than students who did not intern. (Thompson & Hora, 2021).
- Of those students completing internships 34% reported that the internship significantly impacted career directions and employment opportunities. (NACE, 2021).
- 56% of interns get a full-time job from internships. (Zuckerman, 2020).
- Employers identify internship experience as a differentiator when choosing between two equally qualified applicants. *Id.*
- **Paid vs. Unpaid Internships**
 - 60.8% of interns were paid in 2019. (Zuckerman, 2020)
 - Unpaid interns are most common in social services. *Id.*
 - An estimated 500,000 to one million Americans work as unpaid interns every year. *Id.*
 - Around 43% of internships are unpaid. *Id.*
- **Remote Internships**
 - 38% of students reported their internship was cancelled in 2020 and 39% of students did not even try to plan an internship as a result of the pandemic. (Milenkovic, 2021).
 - 14% reported their 2020 summer internships transitioned to remote. *Id.*
 - 33% reported that despite the pandemic the importance of internships had not changed and 46% believe the pandemic has made internships more valuable. *Id.*
 - Online Internship Networking Platforms associated with job sites (Indeed, Monster, etc.) already introduced remote internships to students, colleges, and intern partners. (Yello, 2020).
 - 83% of employers are moving their internship programs online and 84% of college students are willing to participate in a remote internship. *Id.*
 - 41% of employers will be cutting down the length of internship programs. *Id.*
 - 22% of students who engaged in virtual internships expressed worry that the virtual internship experience will not be as good. *Id.*
 - 12% of students who engaged in virtual internships worry that they cannot prove they deserve a full-time role. *Id.*

As indicated by the range of cases cited by the DOL, internship placements occur in countless settings which can impact the paid versus unpaid analysis along with the overall management of internship programs. The most current DOL Fact Sheet #71, updated in 2018, “provides general information to help determine whether interns and students working for ‘for-profit’ employers are entitled to minimum wages and overtime pay under The Fair Labor Standards Act (FLSA).” <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>. The cases discussed

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within this paper generally focus on this question and involve for-profit settings. However, there are exceptions that allow for unpaid internships as provided in the footnotes on the DOL Fact Sheet #71:

“The FLSA exempts certain people who volunteer to perform services for a state or local government agency or who volunteer for humanitarian purposes for non-profit food banks. WHD also recognizes an exception for individuals who volunteer their time, freely and without anticipation of compensation, for religious, charitable, civic, or humanitarian purposes to non-profit organizations. Unpaid internships for public sector and non-profit charitable organizations, where the intern volunteers without expectation of compensation, are generally permissible.” <https://www.dol.gov/agencies/whd/fact-sheets/71-flsa-internships>.

The legal landscape along with the DOL guidelines for evaluating internship programs changed considerably following *Glatt*. With the alignment of the DOL’s seven-part primary beneficiary test from *Glatt*, along with its flexibility, it is likely this test can withstand the educational and workplace landscape post-COVID. However, whether the DOL’s assessments conform with the legal system’s analyses in the post-COVID workplace is a yet-to-be addressed issue. Also, even though the underlying facts and much of the workplace terminology of *Portland Terminal* are outdated when compared to today’s educational and employment environment, it remains significant as it is the only case on this workplace issue to reach the U.S. Supreme Court. Eventually, an unpaid internship case based on an updated workplace scenario will make its way to the U.S. Supreme Court. Perhaps then the affected participants will have a clearer understanding of expectations and benefits of modern internship programs within the workplace.

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TERRORIST ATTACKS ON SEPTEMBER 11, 2001: A TEST OF MARKET EFFICIENCY IN THE INSURANCE INDUSTRY

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Abstract

This study tests market efficiency by analyzing the effects of the September 11, 2001, terrorist attacks on the stock market, with a specific focus on the insurance industry. This study tested the market efficiency by looking at fifteen separate insurance firms and comparing them to S&P 500 data. The study conducted a semi-strong form test of the market's reaction to the terrorist attacks on September 11, 2001. The test showed how 9/11 had a negative impact on the market and the insurance industry. The results show that in the pre-event period the market was relatively stable leading up to the event day. The day before the event the sample exhibited the highest risk adjusted rate of return for the week, but once the attack happened, returns declined significantly. The stock market was closed for nearly a week after the event and when it reopened it had the biggest loss in history. An industry most impacted was insurance. While insurance companies were significantly negatively affected immediately following the attack, they, along with the economy, were fortunate enough to remain stable and bounce back quickly. Results support semi-strong efficiency.

Key Words: market, efficiency, terrorist attack, insurance firms

INTRODUCTION

What is market efficiency? "Market efficiency refers to the degree to which market prices reflect all available, relevant information. If markets are efficient, then all information is already incorporated into prices" (Boyle). To test market efficiency, we chose an event that had a substantial impact on the US economy. On September 11, 2001, the deadliest terrorist attack took place. The crashing of hijacked planes into the World Trade Center in New York and the Pentagon in Virginia killed almost 3,000 people and injured nearly 9,000 (Johnston). The terrorist attacks on September 11th had a significant impact on insurance companies, especially P&C (property and casualty) insurance companies. "For property and casualty insurers, and reinsurers, the impact of the terrorist attack of September 11, 2001, was substantial, producing insured losses of about \$32.5 billion" (Wilkinson). This attack was detrimental to insurance

companies and to the economy as a whole. Due to panic selling and loss of value, the New York Stock Exchange (NYSE) was shut down until September 17th, which was the longest shutdown since 1933. Insurance companies were hit the hardest with their stocks falling by more than 10% in the following days (Davis). Since the insurance industry took one of the greatest hits, this study will test the semi-strong form efficiency test for 15 different insurance companies.

LITERATURE REVIEW

What effect did the September 11th (9/11) attacks have on the stock market? The attacks on 9/11 caused a great deal of uncertainty within the marketplace. Due to this anticipated panic selling and loss of value, the New York Stock Exchange (NYSE) closed until September 17th. When the markets reopened the Dow Jones was down more than 14%, the S&P 500 dropped 11.6%, and the Nasdaq dropped 16%. Just on the first day alone, the Dow Jones fell 684 points, a 7.1% decline. This was a record-setting one day loss. The market lost an estimated \$1.4 trillion during this time (Davis). The industries that were hit the hardest were airlines, as flights were grounded, and insurance, due to paying out high claims.

Prior to 9/11, the US economy was already in a moderate recession due to the dot-com bubble. The terrorist attacks further damaged the economy as the business community was hit hard. There was an immediate impact, but the business community was able to bounce back generally quickly. Gross domestic product increased by 1% to \$10 trillion (Davis).

Semi-Strong Theory

There are three forms of market efficiency: weak form, semi-strong form and strong form. For this study we used the semi-strong form efficiency test. What is the semi-strong theory? The semi-strong form efficiency hypothesis contends that security prices adjust quickly to newly available information, thus eliminating the use of fundamental or technical analysis to achieve a higher return (Ross, Westerfield, Jaffe 2015)). If a market is semi-strong form efficient then the stock price reacts so fast to all public information that no investor can earn a risk adjusted above-normal return, higher than the S&P 500. This study will test the semi-strong form efficient market hypothesis by analyzing 15 different insurance companies' returns.

METHODOLOGY

This study uses the standard risk-adjusted event study methodology in the finance literature to test the markets response to the terrorist attack on September 11, 2001. The following steps to perform this study were:

- The first step is to pick an event that had a significant impact on the United States economy. For this study, we chose an unexpected terrorist

attack, September 11th, 2001, that shut down the New York Stock Exchange for 4 days.

- The second step was collecting stock data from 15 different insurance companies, as well as from the S&P 500. This data ranged from 180 days before September 11th, December 20, 2000, all the way to 30 days after the event, October 26, 2001 (day -180 to day +30). Days -180 to -31 is the prevent period, and days -30 to +30 is the event period. Day 0 is the event day, which was September 11, 2001.

- The third step is to calculate holding period returns (HPR) for the 15 different companies and the S&P 500 using the following formula.

$$\text{HPR} = \frac{\text{Current day close price} - \text{previous day close}}{\text{Previous day close}}$$

Previous day close

- The fourth step is to run a regression analysis to calculate alphas and betas using the daily returns of each company's stock (Y Value, dependent variable) and the S&P 500 daily returns (X Value, independent variable) for the pre-event period (day -180 to day -31).
- The next step is to calculate the expected returns for each company by using the alphas and betas calculated by the regression analysis above. The expected return for each day of the event period (day -30 to day 30) was calculated by: $E(R) = \alpha + \beta (R_m)$.
- R_m is the holding period return (HPR) for the S&P 500
- Once the expected return is calculated then calculate the excess return. You calculate excess return by: $ER = \text{actual return} - \text{expected return}$.
- Using the excess return, calculate the average excess return (AER) for each day of the event period (day -30 to day 30). The AER was calculated by averaging the excess returns for all the companies on a given day.

$$\text{AER} = \frac{\text{Sum of excess return for a given day}}{N}$$

Where N = number of firms in the sample

- Using the average excess return (AER) calculate the cumulative average excess return (CAER) for the event period (day -30 to day 30). To calculate the CAER add all the AERs for each day from day -30 to day 30.

QUANTITATIVE TEST AND RESULTS

The sample study included 15 insurance companies that were significantly impacted by 9/11. To examine the effects 9/11 had on the insurance industry we tested these hypotheses:

H_{10} : The risk adjusted return of the stock price of the sample of 15 insurance companies is not significantly affected by this type of information on the event date.

H1₁: The risk adjusted return of the stock price of the sample of 15 insurance companies is significantly negatively affected by this type of information on the event date.

H2₀: The risk adjusted return of the stock price of the sample of 15 insurance companies is not significantly affected by this type of information around the event date as defined by the event period.

H2₁: The risk adjusted return of the stock price of the sample of 15 insurance companies is significantly negatively affected around the event date as defined by the event period.

Alphas and betas for each company are shown in Table 1 below. To calculate the alphas and beta use the holding period return (HPR) for each firm as the dependent variable and the holding period return (HPR) for the S&P 500 as the independent variable. Only the pre-event period (day -180 to day -31) is used to calculate the alphas and betas for each firm. Once you run the regression the alpha is the intercept, and the beta is the x variable.

Table 1. Sample Alphas and Betas

Firm Name	Ticker	Alpha	Beta
RLI Corp	RLI	-0.02109	0.40
Progressive Corp	PGR	0.002304	0.5545
Allstate Corp	ALL	-0.00058	0.46715
Travelers Companies Inc	TRV	-0.00071	0.4422
Chubb Ltd	CB	-0.00033	0.47496
Markel Corp	MKL	0.00129	0.482253
Loews Corp	L	0.0007	0.26397
Hartford Financial Services Group Inc	HIG	0.00011	0.59082
W R Berkley Corp	WRB	0.00024	0.32547

American International Group Inc	AIG	-0.00062	0.59118
Berkshire Hathaway Inc	BRK.A	0.00033	0.294828
MetLife Inc	MET	-0.000601	0.684416
Marsh & McLennan Companies Inc	MMC	-0.000339	0.960159
Cincinnati Financial Corporation	CINF	0.000151	0.406816
Brown & Brown Inc	BRO	0.002688	0.352032

After calculating the expected return for the event period (day -30 to day 30): $\alpha + \beta$ (return on market). Then using the expected return calculate the excess return: actual return - expected return. Those values are then used to calculate the AER which is the average of all the excess returns for a given day. The graph of the AER is shown in Figure 1 below. Looking at the data, the AERs from days 1 to 6 after the event were all negative. After calculating the AER, we calculated the CAERs by summing up all the AERs. The CAERs are shown in Figure 2 below. The CAERs decreased as soon as the event happened and went negative on days 4 and 5.

Figure 1. AER for the Event Period

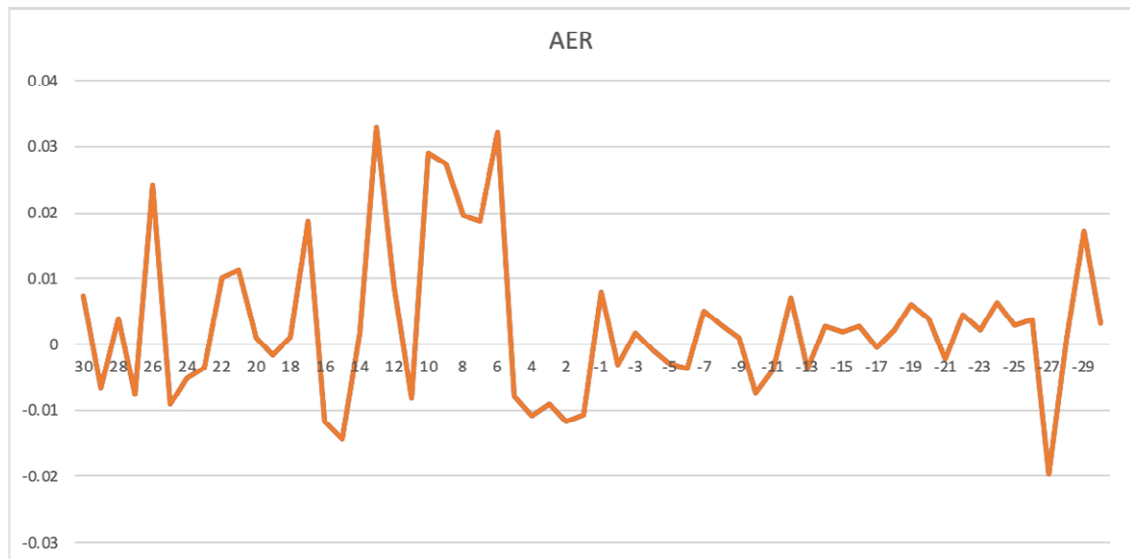
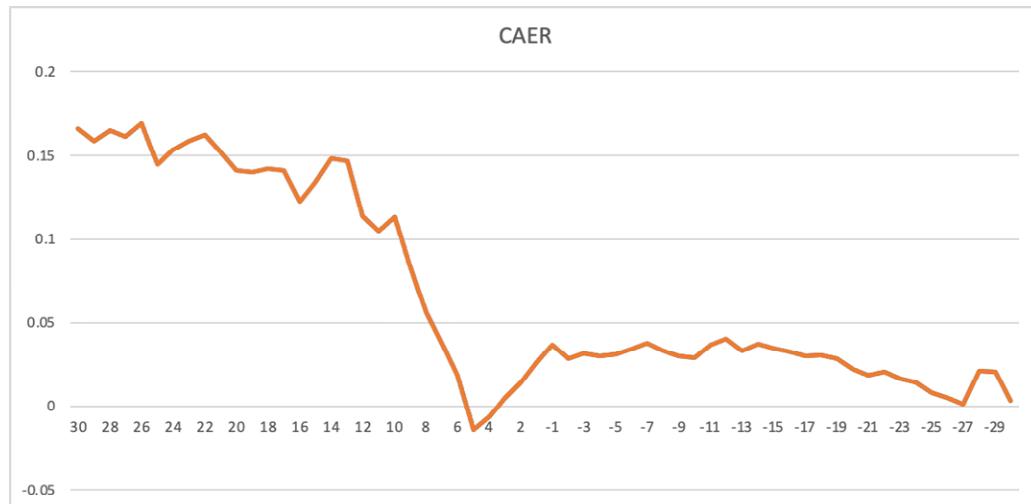


Figure 2. CAER for the Event Period



CONCLUSION

The study conducted a semi-strong form test of the market's reaction to the terrorist attacks on September 11, 2001. The test showed how 9/11 had a negative impact on the market and insurance industry. Results support H1₁: The risk adjusted return of the stock price of the sample of 15 insurance companies is significantly negatively affected by this type of information on the event date. Results also support H2₁: The risk adjusted return of the stock price of the sample of 15 insurance companies is significantly negatively affected around the event date as defined by the event period.

The graphs illustrate the blow the insurance industry took immediately following the attacks. The results of the CAER show that the market in the pre-event period was relatively stable leading up to the event day. The results for the AER showed the day before the event had the highest AER of the week, but once the attack happened, the AER shot down. The stock market was closed for nearly a week after the event and when it reopened it had the biggest loss in history. An industry most impacted was insurance. While insurance companies took a decline significantly immediately following the attack, they, along with the economy, were fortunate enough to remain stable and bounce back quickly.

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AN EVALUATION OF CURRENT ISSUES OF SUPPLY CHAIN SUSTAINABILITY

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ABSTRACT

Supply chains are the backbone of the global economy and a key driver of competitiveness among nations. Thus, governments and businesses are becoming increasingly concerned about minimizing supply chain disruptions, managing its risks, and achieving lasting sustainability. Moreover, the need for investing in advanced technologies for supporting supply chain network satisfying the diverse global demands is constantly increasing due to changing marketplace. That becomes more complicated when the supply side of industries' supply chains are frequently and increasingly disrupted and are becoming difficult if it is not impossible to achieve sustainability.

In this study, a survey instrument is used to evaluate the supply base sustainability efforts of business organizations in different industries. Supply chain and functional managers in the selected industries were asked to rate the level of control in achieving sustainability when the number of 1st and lower tier suppliers increased for the given list of sustainability elements: Environmental, Economic, Social, and Operational, using a one to ten scale. Overall findings indicate that the higher the number of supply chain partners in Tier 1 and lower tiers, the lower the level of the sustainability scores and hence, the higher the difficulties of maintaining sustainability of the supply chain. Also, Environmental and Social sustainability elements had the lowest score for suppliers in Tier 2 and below. Despite the small sample size of respondents, it is argued that the application of supply base optimization in reducing the number of lower-tier suppliers has a major impact on sustainability initiatives.

Key Words: supply chain management, sustainability, supply chain tiers.

INTRODUCTION

According to the Wall-Street Journal (Fung et al., 2022) the global supply chain crisis has come to an end, and it is back to normal. Moreover, it has also been reported that [ocean shipping rates](#) have returned to pre-COVID 19 pandemic levels, and business organizations are now in control of their planned sales and operations (Paris, 2022). Despite the observation that post-pandemic economic activities and supply chain performances have become more stable, more studies are needed to investigate and understand how the post pandemic situation may impact the existing vulnerable supply chains. Noteworthy to know that the overall demand is down due to the Federal Reserve Monetary policies and its strategy of controlling inflation. Also, according to Maersk, in its recent report (Maersk, 2022), China's production has been impacted by its COVID-19 policies showing that Maersk moved 30% fewer containers across the Pacific Ocean last year, while there was a 31% Atlantic Ocean increase in container shipments. Moreover, because of recent supply chain disruptions which resulted in increasing prices, extending lead times, missing delivery dates, severe inventory fluctuations, and more, business organizations are becoming more and more concerned about the future and the reshaping of their supply chain sustainability, which is considered to be a core value.

Recent McKinsey report indicates that companies with successful sustainability efforts have experienced higher growth rates and have created more value (McKinsey, 2023). In fact, a recent study shows sustainability saves money, prevents regulation costs, and improves reputation of the business organization (Kingsley, 2019). Companies such as EcoVadis have been helping larger organizations, such as Johnson and Johnson, for more than a decade to manage their supply chain network both upstream and downstream, by monitoring and sharing performance of their chain members (EcoVadis, 2023). As the largest business sustainability ratings provider, EcoVadis' scorecard measures sustainable performance across 21 indicators by considering environmental, labor and human rights, ethics, and procurement areas.

Although the focus of supply chain management, in general, is on cost, speed, and reliability of its processes and operations, sustainability of the chain would further address more global issues such as the environmental, human rights, and corruption concerns. The main question is not whether a chain is willing to become more sustainable or not, but every chain partner needs to determine how and how fast it must address its sustainability issues.

Like most of the initiatives in supply chain management, sustainability efforts are relatively easy to justify and describe. Taking the appropriate steps to achieve sustainability, however, is quite complicated and challenging. A recent study by Villena, and Gioia (2022) suggests that most companies focus on their top-tier suppliers to become more sustainable. These suppliers are usually fewer and easier to monitor and influence. However, the major risk of sustainability failure is typically due to lower-tier suppliers who are seldom monitored or managed. A comprehensive evaluation of the needs of the industry, organizations, products, and sourcing practices are needed prior to data collection and evaluation. As the number of lower-tier suppliers increases, the identification of the potential risks and data collection to address the specific sustainability needs of the organization becomes more problematic.

According to a recent McKinsey study, the major steps to improving sustainability in supply chains include locating critical issues across the whole supply chain, linking the supply chain sustainability goals to the global sustainability agenda, and assisting suppliers with managing sustainability impact (McKinsey, 2023). As the number of top tier and in particular low-tier suppliers increases, taking these steps becomes more complicated and more time and resource consuming. In a recent study, Bohringer and Jochem (2007), argue that measuring sustainability indices at the country level is very difficult. Also, Eslami, et.al, (2018) stated that classifying sustainability into three groups of Economic, Environmental, and Social are too broad for analysis from operational point of view. They suggest dividing the triple bottom lines of Economic, Environmental, and Social dimensions into sub-dimensions or more detailed for planning purposes. These measurable dimensions for sustainable manufacturing include “labor practice/working condition,” “diversity and equal opportunities,” “relations with the community,” “social policy compliance,” “safety and health,” “customer satisfaction,” “product responsibility,” and “education.” Evaluating all these sustainability indices becomes more complicated if not impossible when the number of suppliers in the first tier and in particular, in the lower tiers increases. Some organizations like Toyota use a smaller number of first tier suppliers than Ford Motor Company, and thus their sustainability indices are more consistent with their overall strategic plan, (Toyota Sustainability Report – 2021)

Another recent study by Alsmairat and Aldakhil (2022), shows that the interaction between supply chain suppliers’ capabilities and the techno-economic environmental forces directly impact supply chain

sustainability. The same study found that the nature of the supply chain partner relationships and organizational capabilities mediated the interaction between the environmental forces and supply chain sustainability. Other researchers have found that if the supply chain participants have complementary capabilities, the partners can complement each other's capabilities and enjoy economies of scale, cost reduction (Ekins and Zenghelis, 2021), and improved organizational performance (Pulles et al., 2016).

In this study, survey instruments are used to discover the relationship between supply base optimization and the sustainability efforts of business organizations in four sectors: Aerospace, Food, Transportation, and Manufacturing. It explores the impact of the different tiers of suppliers on sustainability. It is argued that the application of supply base optimization in reducing the number of lower-tier suppliers has a major impact on sustainability initiatives.

METHODOLOGY

As it is mentioned earlier, Eslami, et.al, (2019) contends classification of sustainability into three groups of economic, environmental, and social is too broad for analysis from operational point of view, and it suggests breaking down those three classifications into selected issues within each group to quantify and study sustainability. Although the study provides some insights into those three sustainability classifications, it does not provide a holistic approach to evaluating sustainability related to other issues within large diverse industry supply chain partners. That is why this study aimed at including other views of the selected sustainability classifications in a survey of opinions among the listed industries in Tables 1 and 2. Table A shows the specific sustainability elements used for measuring and assisting managers for their rankings in Tables 1 and 2.

In accordance with the literature and for a given level of internal organizational capabilities, this study assesses two hypotheses, among supply chain managers in Aerospace, Food, Transportations, and Manufacturing (includes all others) industries as follows:

H1: Higher Sustainability can be achieved when minimizing the number of 1st tier suppliers.

H2: Higher sustainability can be achieved when minimizing the number of 2nd and lower tier suppliers.

The supply chain and functional managers in the selected industries were asked to rate the level of achieving sustainability when the number of 1st and lower tier suppliers increases given the defined list of sustainability

elements in Figure 1. More specifically, the respondents in different industry groups were required to consider the well-defined sustainability elements in Figure A and identify the level of control they could achieve in managing their chains' sustainability. Tables 1 and 2 show the average ratings for each industry group for the level of control for tier 1 and lower tiers, respectively. A rating of 1 indicates the lowest level of control, and a rating of 10 implies the highest level of control.

Figure 1
Sustainability Elements and Their Concepts

Environmental Issues	Economic and Resources Issues	Social and Ethical Issues	Operational Issues
Pollutions, and Material Wates	Resource Quality and Product use	Diversity and Labor force policies	Product End-of-life Policies
Consumer and Employee Health and Safety	Supplier Policies and Procurement	Anticompetitive Practices	Operation streamlining and Product Use
Supplier Environmental Practices		Social Dialogue and career Management	Suppliers Missions and Collaboration Policies

Table 1
Ratings for Achieving Sustainability in Selected Industries – Tier one

Industry	Environmental Issues	Economic Issues	Social Issues	Operational Issues	Overall Industry Ranking
Aerospace	5	4	7	7	6
Food	5	6	4	4	5
Transportation	3	4	4	5	4

Manufacturing	3	6	6	6	6
Average Responses	4	5	6	6	

1 stands for lowest and 10 for the highest control.

Table 2
Ratings for Achieving Sustainability in Selected Industries – Tier two and Lower

Industry	Environmental Issues	Economic Issues	Social Issues	Operational Issues	Overall Industry Ranking
Aerospace	3	3	4	4	4
Food	4	5	3	4	4
Transportation	3	4	4	5	4
Manufacturing	2	5	5	5	5
Average Responses	3	5	4	5	

SURVEY ANALYSIS AND RESULTS

A graph of the ratings for tier one versus lower tier suppliers in Figure 2 indicates a diminished influence of supply chain managers in dealing with their lower tier suppliers to improve sustainability. This is true for all except the transportation industry. Also, Figure 3 displays the industries' overall average responses related to the defined elements of sustainability. It shows industries have much lower control on social and ethical issues than other elements when the number of 2nd and lower tier suppliers increases.

Unfortunately, the sample size in this study is not large enough to justify calculation of a critical value for Wilcoxon Rank Sum Test to examine the difference in the 2 medians for ratings for tier one and lower tier suppliers. Further research involving many industry groups can shed more light on

the significance of the differences in the medians. However, a closer look at Tables 1 and 2 shows a bigger gap between the average ratings for social issues than the other elements of sustainability. This suggests supply chain managers face a bigger challenge in dealing with the social responsibility of their lower-tier suppliers.

Figure 2
Rating for Achieving Sustainability

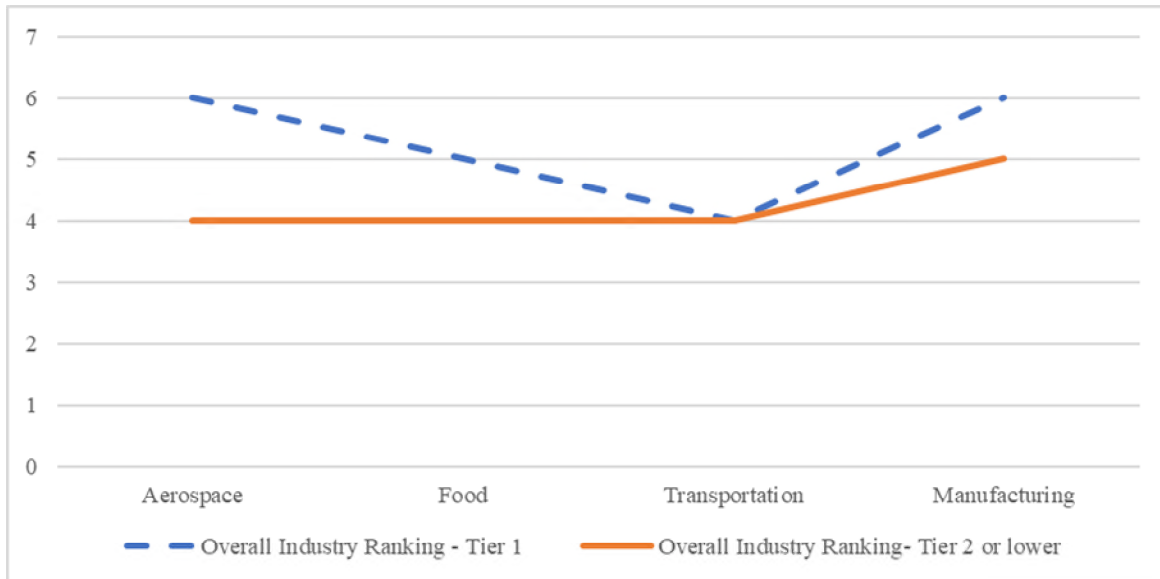
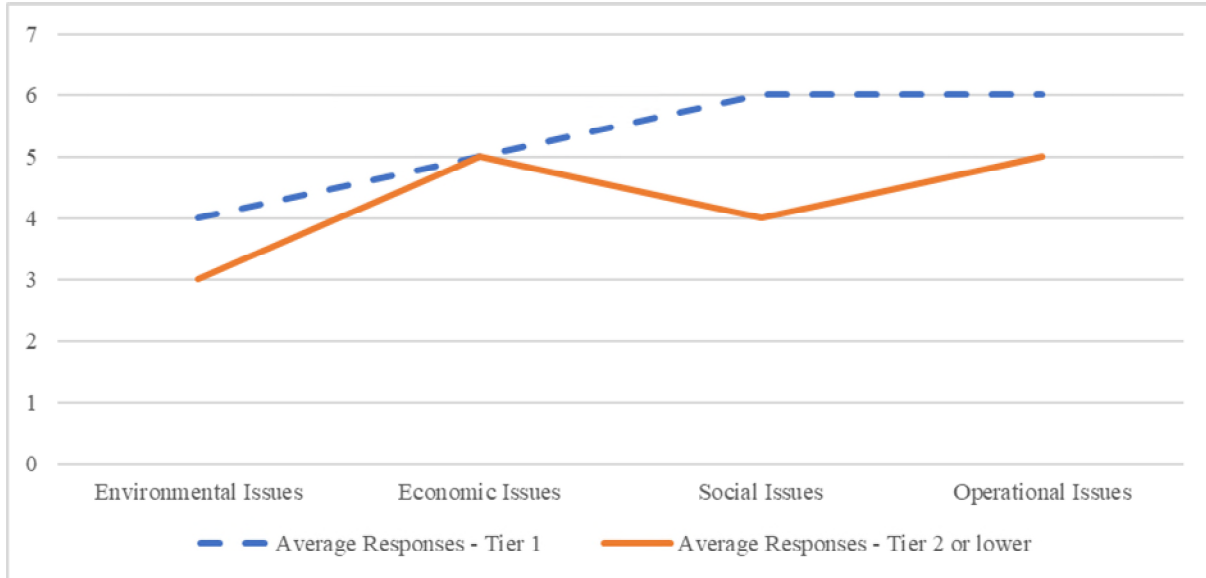


Figure 3
Average Responses for Elements of Sustainability



SUMMARY AND CONCLUSIONS

This paper studied supply chains sustainability among selected industries through survey of opinions instrument given to supply chain and functional managers related to four classes of sustainability groups, Economics, Environmental, Social, and Operational issues. The results in the Tables 1 and 2 show that the higher is the number of supply chain partners in Tier 1 and lower tiers, the lower would be the level of sustainability elements and hence, it would be more difficult to maintain sustainability in the supply chains. Also, Figures 1 and 2 indicate that the Environmental and Social sustainability elements have the lowest score when the number of suppliers in the Tier 2 and lower increases. The results are consistent with the literature that the number of suppliers in all tiers has a major impact on sustainability initiatives.

The findings of this study also show that for a given level of organizational capability to influence supply chain partners, it is important for managers to limit the number of partners to as small manageable a level as possible. The fewer the suppliers and the higher the complementary capabilities they have, the greater the potential to craft a viable successful strategic sustainability plan: techno-economic, environmental, and social. Otherwise, as the number of partners increases,

it becomes increasingly difficult to undertake coordinated green supply chain management initiatives in such crowded chain.

The results are in support of having a lower number of suppliers and lower number of tiers in supply chains for achieving higher sustainability. The outcome of this study also suggests that organizations should aim at having more supervision and control over their suppliers as they are emphasizing sustainability initiatives and its related elements. Although the integration policy has lost its support during the past decades, but the literature and this study are in support of more direct initiative on strategic collaborations with suppliers while focusing on reducing the number of suppliers and choosing suppliers that have smaller number of tiers of suppliers in their supply chains.

Noteworthy to say that although it is relatively easier to manage inter-partner interactions, it is more challenging to craft and manage the overall strategic collaborations that are critical to ensuring long term sustainability, and thus providing an enduring and distinctive supply chain market advantage. Unfortunately, genuinely sustainable supply chain partners must not only grapple with inter-partner interactions, large investments, and risk management but also jointly develop a holistic viable sustainability strategic plan. It is true that the responsibility of achieving sustainable organizational and supply chain performance requires a strategic sustainability alignment and a cooperative effort between all organizational stakeholders in addition to the support from internal organizational capability. And the probability of success to address and align disparate internal capabilities and numerous economic, environmental, and social factors is not very high.

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PHYSICIAN BURNOUT IN THE ICU: THE IMPORTANCE AND THE SOLUTION

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ABSTRACT

Physician burnout has become a prevalent issue in intensive care units, and studies have shown it has become worse with the COVID-19 pandemic. Recognizing and reducing ICU physician burnout is important because of the potential effects on patient care, physician health, and the hospital. The most common symptoms of burnout include fatigue, callousness towards patients, inability to feel happy, anxiety, and depression. Causes of burnout can include work related factors, personal characteristics, and organizational factors. COVID has brought unprecedented work flow, increased number of critical and ethical decision making, and increase in death, all of which can lead to burnout. Strategies to combat burnout generally come in two different ways—organization based and individual based. This paper examines these current strategies and their efficacy in reducing burnout and proposes an implementation plan for the ICU to use based on current literature.

Key Words: Physician burnout, ICU, stress, patient mortality

INTRODUCTION

Physician burnout has become an internationally widespread issue. Nearly half of physicians report at least one symptom of burnout, which is twice the rate of the the general working population (Yates, 2020). In intensive care units (ICUs), this number is even higher with prevalence exceeding 50 percent, and has especially increased after the COVID pandemic (Fumis et al., 2022). Burnout is defined as a work-related syndrome experienced by physicians in all stages (from medical students to attending fellows) characterized by feelings of low accomplishment, emotional exhaustion, and depersonalization (Moss et al., 2016). Physician

burnout is a matter of public health as it negatively impacts physicians, patients, and healthcare organizations and systems. Causes of physician burnout can include heavy workloads, poor work processes, excessive clerical duties, poor work-life balance, and a lack of control (Patel et al., 2018). Personal causes of burnout also play a role. In example, females and younger physicians tend to experience more burnout. Compared to other professions, physicians are almost twice as likely to develop burnout and job dissatisfaction. Effective solutions to reducing burnout are best addressed as a shared responsibility between individuals and healthcare organizations. This paper addresses the efficacy of current strategies to reduce burnout in the ICU and a proposed implementation plan for these strategies.

DESCRIPTION

What is physician burnout?

Physician burnout was first described by Freudenberg (1974) and then later by Maslach (1996) as a work-related syndrome generally characterized by emotional exhaustion, depersonalization, and feelings of low accomplishment. Physicians who report emotional exhaustion often describe it as feeling “used up” or having nothing left to give patients from an emotional standpoint. Depersonalization refers to treating patients objectively instead of as a human being which leads to negative, detached feelings and hostile attitudes towards patients (Patel et al., 2018). Feeling of low accomplishment, or reduced personal accomplishment refers to the tendency to negatively view the value of the work, and is associated with poor professional self-esteem and feelings of ineffectiveness in one’s role as a physician. Symptoms of burnout can include fatigue, anger and frustration, inability to feel content or happy, anxiety, cynical behavior, and callousness. Other physical symptoms may include insomnia, headaches, muscle tension, and GI upset. Additional psychological conditions may overlap and/or contribute to burnout (Moss et al., 2016).

Burnout is caused by “chronic stress associated with emotionally intense work for which resources are inadequate (West et al., 2018).” Burnout can be related to job dissatisfaction, fatigue, and occupational stress or depression, but is distinct from these problems, which may or may not be present in situations of burnout. Maslach (1996) further conceptualized 6 major contributors to burnout which include workload, lack of autonomy, insufficient reward, breakdown of community, lack of fairness, and mismatched values between the physician and place of work.

Why is physician burnout important?

Physician burnout can cause a multitude of issues for patients, healthcare systems and hospitals, and especially for the physician themselves. Research has shown there is an obvious relationship between patient care and physician burnout, indicating that increased burnout can lead to more medical errors. About nine percent of physicians who are burned out make one medical error within a three-month period (Patel et al., 2018). This relationship can be bi-directional, in that, frequent medical errors can cause burnout and burnout can cause frequent medical errors (Kerlin et al., 2020). Therefore, physician burnout is more likely to lead to subpar patient care and poor patient satisfaction and adherence to treatment plans (Patel et al., 2019). For physicians working in intensive care units, even small errors (in medications, interpreting labs or imaging, etc.) can be detrimental to a patient's care. A study by Mangory et al. (2021) concluded that burnout in the ICU was associated with increased patient mortality.

Physicians that reported medical errors when evaluating their own performances were more likely to have symptoms of burnout, fatigue, and even recent suicidal ideation (Patel et al., 2018). Specific symptoms of burnout include inattentiveness, irritability, mood disorders, increased stress, and many other physical and psychological symptoms. One of the most important reasons why reducing physician burnout is imperative is the negative effects on physician health. Depression and post-traumatic stress disorders are some of the most common conditions associated with burnout amongst ICU physicians (Kerlin et al., 2020). These disorders can lead to a variety of personal and professional implications in the physician's life and those of their patients. The presence of any of these symptoms can severely impact a physician's well-being (Patel et al., 2018). They are more likely to experience substance abuse including alcohol abuse and dependence. Many physicians fail to acknowledge or even recognize their symptoms and many do not seek help. This puts them at a two-fold increased risk for suicidal ideation compared to the general population. Specialties like critical care and emergency medicine are at a further risk for suicide based on their patient populations.

Burnout in the ICU can lead to considerable implications for healthcare systems. Burnout has the potential to result in high sickness rates and skill drain in the hospital if those affected feel the need to leave the job to preserve mental and physical well-being (DeChant et al., 2019). Turnover and retention rates are also negatively impacted by burnout and recruiting new team members are not always the best solution. A physician shortage can cost anywhere from \$500,000 to \$1,000,000 per physician, and increased turnover (i.e. large number of physicians

leaving the hospital system to work elsewhere) can cause costs to become very high. The diminished productivity and lower morale that also results from high turnover also leads to additional incurred healthcare costs, higher rates of burnout amongst remaining team members, and overall workplace inefficiency (Kerlin et al., 2020).

Prevalence of Burnout in the ICU

Working in the ICU exposes physicians to high rates of morbidity and mortality, difficult and heavy workloads, and frequent encounters with ethical and even traumatic issues (Moss et al., 2016). Physician shortage and increased demand for overnight ICU physician coverage have increased workloads further. These things can cause immense stress in ICU physicians, eventually leading to burnout. Burnout is not uncommon in intensivists and up to 70 percent report symptoms. Of these, up to 45 percent report severe symptoms of burnout. Critical care is noted to have one of the highest rates of burnout compared to other specialties, along with emergency medicine and anesthesiology.

Prior to 2020 and the start of the COVID-19 pandemic, burnout was common in the ICU. Roughly 40-50 percent of intensivists experienced burnout with high levels of depersonalization, high levels of emotional exhaustion, and very low levels of personal accomplishment (Kerlin et al., 2020). Other psychological symptoms including suicidal ideation, depression, anxiety, and post-traumatic stress disorder were more commonly found in ICU clinicians compared to those in other specialties (Costa and Moss, 2018).

Since March 2020, there have been millions of cases of COVID worldwide and close to 2 million deaths. The psychological pressure the pandemic has put on the healthcare workers, especially those working in ICUs has been widely publicized. According to a study by Fumis et al. (2022), the prevalence of burnout has increased from the pandemic. This is likely due to an unprecedented flow of patients with acute respiratory distress needing ICU care, a lack of ICU beds, ethical decisions involving these patients, fear of bringing home the virus to loved ones, and death rates of COVID patients in the ICU (Fumis et al., 2022). Studies completed at the height of the pandemic indicated burnout did not necessarily change due to COVID, and this was contributed to the high resiliency, intelligence, and high skill level most ICU physicians possess (Gualano et al., 2021). More research is needed on this subject as this is still a new topic. Regardless, the prevalence of burnout is high in the ICU and should be properly addressed.

LITERATURE REVIEW

Measuring Burnout

The Maslach Burnout Inventory (MBI) tool can be used to measure and formally diagnose an individual's amount of burnout (Carrau and Janis, 2021). The MBI is currently the gold standard for measuring burnout, but there are other tools out there (West et al., 2018). The MBI uses a "human services survey" comprised of 22 questions where physician can rank themselves 0-6 based on frequency of the feeling addressed by each question. It is split into categories of emotional exhaustion, depersonalization, and feelings of low accomplishment. There are 9 emotional exhaustion questions with potential scores from 0-54. An emotional exhaustion score of 27 or higher is considered high and at risk for burnout. Similarly, depersonalization has 5 questions with scores ranging from 0-30 and 10 or greater being considered high and at risk. There are 8 personal accomplishment questions with scores ranging from 0-48. Unlike the previous components, scores should be closer to 48 here and anything 33 or less is considered at risk for burnout. There have been many versions of this MBI tool and some use only portions of it as emotional exhaustion and depersonalization are most indicative of burnout compared to feelings of low accomplishment. Other tools such as the Copenhagen Burnout Inventory and Oldenburg Burnout Inventory tools have been modified from the MBI. However, the full MBI is currently the best, most comprehensive way to measure burnout today.

Causes and Risk Factors for Physician Burnout

There are three main types of factors that cause burnout, which include work related factors, personal characteristics, and organizational factors. Work related factors for physicians can include long work hours, excessive workloads, and frequent overnight or weekend call duties (Patel et al., 2018). One study showed that there was a three percent increase in the likelihood of burnout for every extra hour worked, as well as an additional three to nine percent increase for every night or weekend on call (Shanafelt et al., 2009). Other work-related factors can include clerical burden like exhaustive documentation in electronic medical records, staying on top of continuing medical education and licensing, computerized physician order entries, and time spent at home doing work. Computerized physician order entries alone account for almost one third greater rates of burnout (Patel et al., 2018). A study by Wright et al. (2018) showed that for every hour a physician spent with a patient, and additional hour to two hours was spent writing notes, ordering and interpreting labs, and prescribing medication all without compensation.

Sleep deprivation, perfectionism, work life imbalance, poor coping strategies, and poor support system outside of work (spouse, friends, family) are all personal characteristics that can lead to physician burnout (West et al., 2018). Burnout was originally thought to only affect older physicians, but more recent research has indicated that younger physicians, even beginning in residency, are more susceptible to burnout. Females are also at increased odds of experiencing burnout than men due to a strong influence of emotional exhaustion on depersonalization, which leads to reduced feelings of accomplishment and usually more work-home conflicts. Having children under the age of 21 and having a spouse who does not work in healthcare also increased a physician's odds of burnout.

Organizational factors such as poor or negative leadership behaviors, lack of sufficient rewards, limited opportunities for advancement, poor social support, heavy workload expectations, and limited interpersonal collaboration can definitely increase chances of burnout (Patel et al., 2018). Research has shown that organizations or leaders that allow physicians to have some kind of control over workplaces issues and are "physician friendly" are more likely to employ physicians with a greater sense of job satisfaction and have lower turnover rates.

For ICU physicians, a number of risk factors are involved when it comes to experiencing burnout. As previously mentioned, intensivists deal with high rates of mortality, increased workload, and regular issues in ethics. According to Moss et al. (2016), the amount of work done (i.e. number of night shifts, weekend coverage, and time since days off) was directly related to burnout, meaning the more hours worked or perceived to work, the more symptoms of burnout experienced. Relationships between coworkers (other physicians, nurses, charge nurses, administration, social workers, etc.) was also directly related to rates of burnout. A study conducted by Embriaco et al. (2007) indicated that poor quality relationships between physicians lead to higher rates of burnout and high quality relationships between intensivists and nurses lead to lower rates of burnout, even in the absence of conflict (Embriaco et al., 2007). Finally, caring for critically ill patients, the severity of illness, and being involved in decisions of withdrawing life sustaining care have been linked to burnout in some cases (Kerlin et al., 2020).

Identification and Discussion of Current Strategies

The potential consequences burnout poses to ICU physicians, in addition to the current prevalence, warrants immediate action to mitigate this issue (Busireddy et al., 2017). To prevent harmful effects to patient care and detriment to healthcare

systems, physician burnout needs to be addressed. Physicians, healthcare administrators, and policy makers should all be responsible for taking action. Most strategies for mitigating burnout can be focused on enhancing the work environment through health organization or administration based solutions or focused on helping individuals cope with their environment through personal mechanisms. Studies have shown that individual based interventions can produce measurable reductions in burnout, but are optimal with the addition of organization based interventions (Wiederhold et al., 2018).

Organization based interventions are extremely important in that they involve everyone from physicians to leadership and invested stakeholders (Busireddy et al., 2017). To begin to change, organizations must be willing to commit to change and be open to recognizing the role each part plays in burnout. The Mayo Clinic was able to reduce physician burnout rates by seven percent over a two year period by utilizing strong organization based strategies (Shanafelt and Noseworthy, 2017). To do this, they used a Listen-Act-Develop method, described as a method to better understand drivers of burnout and empower physicians to develop and use tools that would reasonably work for each department as well as increase physician engagement. Frequent meetings with leadership and department chairs were used to identify specific drivers of burnout and to discuss potential solutions. Once these strategies were implemented, follow up surveys indicated that strategies that involved the organization as a whole resulted in a significant decrease in burnout rates.

Organization based strategies can start with including team building and communication activities into professional development (Moss et al., 2018). Use of team debriefing after high stress situations, like patient deaths or cardiac arrests, improved relationships and communication in conflicts, which leads to effective collaboration. Interprofessional rounding or other structured communications can support teamwork and improve job satisfaction. The use of collaboration for making critical decisions and working through ethical issues can mitigate moral distress and improve the ICU environment. Other strategies include palliative care consults, discussions with patients and their families where applicable regarding goals of care, ethics consults, and family counseling meetings within 72 hours of ICU admissions.

Other organization based strategies include physician workload and time worked (Kerlin et al., 2020). Allowing physicians at least some control over their schedules can provide a sense of control that leads to increased job satisfaction. Additionally, limiting the number of consecutive days worked can help combat sleep deprivation, emotional and physical exhaustion, which are all associated

with intensive care. Studies have shown that reducing the number of consecutive days worked from 14 days to 7 days was associated with fewer burnout symptoms (Mikkelsen et al., 2019). A study by Busireddy et al. (2017) showed that reducing the number of hours was consistently associated with decreased emotional exhaustion and overall rates of burnout. Other strategies to consider to reduce physician workload include method of compensation, quality of support staff, improved processes for scheduling, and improved electronic health record usage (Carrau and Janis, 2021). Utilization of scribes and advanced practice providers also reduced physician burnout by sharing some of the workload and allowing physicians to focus on other specific duties. Studies show that using scribes can reduce workload for the physician as well as cost by completing documentation without effecting patient satisfaction.

Similar to time and workload, control, flexibility, and work-life balance are all categories organizations and administrators should consider to reduce physician burnout (Carrau and Janis, 2021). Control over one's schedule, or lack thereof, is a major contributor to burnout, so allowing some freedoms over their schedule can help physicians feel less stressed and restricted. According to Shanafelt and Noseworthy (2017), this could be done by letting physicians choose their start times for work, work effort and distribution, etc. Special attention should also be given by policy makers to things like maternity/paternity leave, call schedules, sick leaves, vacation time, child care, and cross coverage policies as work-life interference also contributes to burnout.

Strategies that focus on an individual's ability to cope with their working environment involve what is called "individual accountability" or recognizing when one is experiencing burnout (Kerlin et al., 2020). This starts by learning the symptoms of burnout and developing strategies to ensure proper self-care and reduction in fatigue. These self-care strategies may include getting enough sleep, a good diet, exercise, limiting alcohol or other substance use, and even mindfulness or meditation. A study by Aryankhesal et al. (2019) showed that mindfulness training (like meditation, yoga, relaxation, and energy healing) and psychosocial training interventions led to a significant increase in self-care, which then lead to decreased emotional exhaustion, stress, and burnout. Mindfulness meditation therapy has been shown to decrease burnout in ICU physicians by allowing them to cover topics like dealing with pleasant or unpleasant events at work, managing conflicts and ethical dilemmas, reflecting on meaningful experiences, being with suffering, and end of life care (Wiederhold et al., 2018). According to a study by Dyrbye et al. (2019), workshops provided by the organization that focused on physician self-care,

mindfulness exercises and therapy reduced emotional exhaustion, improved resiliency, and overall quality of life.

Drummond (2016) discusses several ways to create a better work-life balance and reduce burnout by creating and sticking to a “life calendar” that includes commitments outside of work, planning date nights or family nights, making big or small bucket lists, and creating a work-life boundary. Because work-life interference can be a large reason for burnout, methods like these are beneficial to physicians (Carrau and Janis, 2021). Training and resources to improve resiliency are dependent on each individual and often are used to reduce burnout (Patel et al., 2019). Strategies for stress management are also used in an individual based focus. According to Yates (2019), individualized coaching for stress management was successful in reducing burnout symptoms, but the long term effects were undetermined.

Potential Issues with Current Strategies

Some individual strategies focus on finding coping strategies that are personal to the physician (Costa and Moss, 2018). This can put a lot of responsibility on the individual. Individual coping strategies work for some physicians, but these do not always work for everyone every time. In some cases, individual coping strategies will work for a short amount of time, but lead to long term negative effects or unhealthy coping strategies. For ICU physicians that may not be able to put aside emotions or grief, they are often seen as weak, not resilient enough, or not right for an ICU setting. Additionally, putting aside emotions constantly can lead to unaddressed mental health issues in physicians, and eventually leading to burnout and physicians leaving the profession. While individual based strategies can work, they will likely fall short, especially without organization based strategies used in tandem.

It is important to note that current literature for managing burnout is limited and there have been little to no longitudinal studies on which methods, or combination of methods, are optimal for reducing burnout in the long term. Good quality research is needed on this topic, as many current studies are of poor quality.

Proposed Implementation Plan

The following proposed implementation plan to reduce ICU physician burnout should take at least 6 months to implement in a hospital but would ideally start with medical education and end with retirement, as burnout can occur at any time and can come and go. Specifically for ICU physicians in the hospital, the first

thing to do is to obtain commitment from physicians, administrators, and policy makers by educating them on the importance and potential implications of physician burnout. Everyone has partial responsibility in reducing physician burnout and needs to be willing and open to change. This means everyone from all the intensivists (experienced attendings and residents), as well as advanced practice providers and ICU nurses, to hospital presidents, administrators, research teams, and physician leadership teams. This implementation plan utilizes both organization based and individual based strategies to combat burnout, so commitment from the entire healthcare team is imperative.

To begin the project, we must start with a baseline measurement for current overall burnout rates, depersonalization rates, emotional exhaustion rates, and feelings of low accomplishment rates by surveying each ICU physician using the full MBI tool. Once this information is gathered, the first step to change is to provide individualized resources for ICU physicians to reduce burnout. This would start by providing an in-service workshop where physicians can learn to recognize burnout and ways to prevent or reduce it. Discussion would include self-care strategies like proper diet, sleep habits, exercise, mindfulness and meditation, and limiting alcohol or other substance use. It would also include ways to maintain a good work-life balance like making a “life calendar” that consists of commitments outside of work, planning date nights or family nights, creating a work-life boundary, and making small and large bucket lists.

Because mindfulness training activities and meditation therapy has been proven to reduce symptoms of burnout (like emotional exhaustion and stress), monthly events would be held for ICU physicians to participate in. This would include yoga, individual therapy to discuss ICU-related stresses, guided meditations, and other events. Additional trainings and resources for stress management and resiliency would be given throughout the 6 month implementation period through team meetings and short workshops so as to keep attention and increase participation.

While the individual coping strategies can work, this puts a lot of responsibility on the individual, and therefore the organization must become involved in the next steps. The next step would be to develop a cohesive ICU team. This would mean adding team building and communication to professional development. Debriefing after stressful events such as cardiac arrests and unexpected patient deaths should become a regular occurrence by scheduling a debrief meeting afterwards. The ICU physicians should round with nurses, therapists, and social workers once a day to ensure that everyone is aware of treatment plans and communication amongst each profession is open. The physicians should seek

collaboration from their peers, nurses, and APPs as needed in regards to ethical and/or critical decisions, as this can improve communication and the overall ICU environment. Building a good ICU team is only one facet of this proposed plan and will take at least 6 months to complete. Frequent check in meetings between ICU providers and nursing or support staff should occur to gauge what could improve and what is going well as far as communication, workflow design, and collaboration.

Because time and workload are large contributors to physician burnout, this is one of the most important parts of this plan. This next step can be done within weeks, and reevaluated as needed throughout the 6 months, or sooner if any issues may occur. One thing administration can do is allow physicians to “self-schedule” themselves. By allowing some control over their schedules, physicians are less likely to experience burnout symptoms. ICU physicians should not be allowed to work more than 7 consecutive days, and weekend and overnight coverage should be split as evenly as possible. It is also important that administrators take requests for time off seriously and cross coverage is available. Hiring additional providers would be more cost effective than having burnt out providers who will eventually leave the facility, creating turnover.

Workload and perceived workload also can create burnout for physicians. Organizations can combat by hiring advanced practice providers (APPs) and scribes. By sharing the workload with other team members, physicians can focus more on their specific duties. APPs can assist in caring for patients and perform procedures in the ICU, while scribes can complete various documentation duties and electronic health record use. Both these professions can (and are) be done by physicians, but by hiring additional team members, physicians can reduce their workload and reduce burnout symptoms. The anticipated time for this part of the proposed plan to work will vary, as physicians will have to orient new providers to the unit and teach scribes how they want their documentation to be completed. Once they are trained, certain tasks will transition to these team members and leadership will determine what work flow redesign needs to be done, so that patient care can become team-based.

Throughout this implementation period, frequent meetings must take place with intensivists, leadership, and research teams in attendance. These meetings will involve physician check-ins and discuss things that should be changed and things that are going well during project participation. The intensivists will have opportunities at these meetings to pitch new ideas about what they would like changed in the plan or what they think would work. At the end of the proposed 6 month period, physicians will take another MBI survey to measure symptoms

and overall burnout rates. If burnout continues to be high, an investigation to the plan will begin and will change depending on results. If burnout rates begin to drop, the plan will continue as previously explained.

CONCLUSION

Physician burnout is a growing problem involving emotional exhaustion, depersonalization, and feelings of low accomplishment. It is an issue that needs to be addressed by not only the physicians themselves, but also by healthcare leaders and policymakers in the hospital. If it is not addressed, it could bring negative impacts on patient care, physician health, and the overall healthcare system. By implementing a program using a combination of proven organizational and individual strategies, ICUs can begin to recognize, reduce, and prevent burnout in their physicians.

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AN ANALYSIS OF RATING-SOURCE AND ITEM-PHRASING IN PERSONALITY ASSESSMENT

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ABSTRACT

Assessments of personality often play a key role in organizational functions such as recruitment, selection and promotion. To that extent, the validity and reliability of such assessments can have a direct impact on the ultimate effectiveness of a firm's Human Resource Management program. This conceptual paper specifically examines how rating-source and item-phrasing affect the validity of personality instruments (surveys). The proposed framework takes into account the interaction of these two dimensions of personality assessment, each of which has been analyzed separately in past research. When instruments are phrased in a work-specific context, it is expected that rating-source will not affect their usefulness in predicting important work-related criteria. On the other hand, when generally phrased instruments are used, different rating sources are expected to generate responses based on different frames of reference, thereby creating unequal validities across sources. A methodological plan for empirically testing such propositions is offered, followed by implications for both research and practice.

Key Words: personality, validity, training, job criteria

INTRODUCTION

Many organizations, when making selection or promotion decisions, use personality measures to help make sure that the right people are ultimately placed in the right positions (Hogan, 1991; Srikanth, 2020). An appropriate research objective is to identify those measurement conditions that lead to greater validity in the assessment process. Research has shown that accurate assessments of personality can, in some instances, predict criteria such as future job performance and training proficiency, and that personality itself can be an important variable to consider in models used to explain job-related outcomes (Barrick & Mount, 1991; Mount & Barrick, 1995; Mount et al., 1999; Wihler et al., 2023). There are, however, certain factors that can affect the measurement process in personality assessment, which in turn can ultimately affect the potential for making accurate predictions of criteria. The current conceptual paper contributes

to the literature by addressing two issues that, upon further examination, can lead to an enhanced understanding of personality measurement.

First, building on the work of Barrick, Mount and colleagues (e.g., Barrick et al., 2013; Mount et al., 1994), the source of personality ratings is examined. Specifically, the issue is whether or not there are differences in the usefulness of personality assessments when the ratings are provided by coworkers and supervisors versus when they are self-ratings. Previous research has shown that multiple ratings of the same person could exhibit noticeable variability across different sources.

Second, building on the work of Schmit et al. (1995), the phrasing of items in personality instruments is examined. Here, the issue centers on whether items on the instrument are generally phrased or whether they are phrased in the context of work-specific situations. Schmitt et al. found that the phrasing of items can influence responses, in the sense that respondents will conceptualize the target in either a work or nonwork environment (based on the phrasing). These two dimensions of personality assessment, rating-source and item-phrasing, are examined together to see how they might affect the validity of personality ratings.

Ratings by others and self-report ratings may vary substantially in terms of the extent to which they refer to specific contexts (such as work) versus more general situations (Hampson, 1982). For example, responses by coworkers and supervisors to the generally phrased item, "How outgoing is this person?", likely correspond to how outgoing the target individual is at work. The raters are familiar with the ratee in terms of a common work environment or context. On the other hand, the same item from a self-report is likely to assess how outgoing the individual is in a broader array of situations outside of work. When an individual answers such a question about him or herself, the response is likely to be based on one or more personal interactions that have taken place during the course of the individual's life.

Because of such differences, rating-source may provide some basis for determining how survey items should be worded, particularly when the results of the survey will ultimately be correlated with some work-related criterion. For example, in the case where an item is answered as a self-report, it may make more sense to re-phrase it in a way that influences the respondent to consider himself or herself in actual work settings (i.e., "How outgoing are you at work?"). This type of reasoning suggests that rating-source and item-phrasing are interrelated, and should therefore be examined in terms of a *combined effect* when included in personality research. To date, much of the literature has examined each effect separately.

This paper addresses this issue by treating these two dimensions as interrelated constructs in a proposed framework for future personality research. For illustrative purposes, a hypothetical example is offered that examines conscientiousness and openness to experience as predictors of training proficiency for new employees going through a management-training program. Certainly, other work-related contexts can also be applied to the general framework. The following sections discuss training proficiency as a criterion measure, conscientiousness and openness to experience as they relate to that criterion, and two theories of personality that will lead to specific testable propositions involving rating-source and item-phrasing.

TRAINING PROFICIENCY

In order to examine the differential effects of rating-source (self versus other) and item-phrasing (general versus work-specific) on personality assessment, it is first necessary to identify a context for which the framework can ultimately be tested. To assess such effects appropriately, a criterion is needed that has shown to be a valid and stable indicator of performance. Such a criterion provides researchers with more confidence that any observed differences would be appropriately attributed to the effects mentioned above, versus other factors (such as organizational influences).

While many criteria are appropriate indicators of performance, the criterion chosen here is training proficiency. Training proficiency can be defined as an employee's measure of performance immediately following the completion of a training program. This variable, although seldom used in validation studies, is a useful and desirable criterion measure (Gatewood & Feild, 2000). Research has demonstrated that it is more valid than some other job performance measures, and legally it has been established as a permissible measure for organizations to use in their personnel selection decisions (Berges et al., 2018; Gatewood & Field, 2000; Rothstein-Hirsh et al., 1986). Gatewood & Field (2000) identified two advantages associated with the use of training proficiency as a criterion measure, both of which are related to an increased level of control in the measurement process. First, using training proficiency as a criterion allows for a higher degree of standardization. This is because "the most common sequence of events in using training measures is to select the employees, place them in a training program, and - at the end of training but before job assignment - administer some measure(s) of mastery of training." (Gatewood & Feild, 2000: 705). When training is consistent for all employees, standardization in proficiency measures becomes possible. The second advantage is that by using training proficiency as a criterion (as opposed to other measures), there is a clear indication of the relationship between KSAs and performance level (Gatewood & Feild, 2000). With other job performance measures, there is more of a chance that other organizational factors (such as a lack of resources, poor supervision, and conflicting goals) would confound the relationship between the predictor used in

selection and the criterion. This becomes less likely with training proficiency, mainly because the time between selection and the measurement of the criterion is much shorter, and such organizational factors would have less of a chance to come into play (Gatewood & Feild, 200).

CONSCIENTIOUSNESS AND OPENNESS TO EXPERIENCE

The Big Five model of personality has gained popularity and acceptance by a number of researchers, and the framework has proven to be effective for examining the validity of personality constructs when predicting a variety of criterion measures (Mount et al., 1999). Two of the five factors, conscientiousness and openness to experience, have been shown to be valid predictors of training proficiency (Barrick & Mount, 1991). The current framework utilizes these two personality factors, examining their relationship to this criterion. However, any implications and/or theoretical conclusions that might result from such analyses should be applicable to relationships between the other Big 5 dimensions and other criterion measures. For example, extraversion may be an appropriate dimension to measure for certain types of occupations, such as sales (Green et al., 2019).

Conscientiousness refers to the degree to which a person is dependable, hard-working, careful, thorough, organized, persistent and achievement-oriented (Barrick & Mount, 1991). Past research has consistently found this personality dimension to be positively related to multiple performance criteria, including job performance and training proficiency (Barrick & Mount, 1996; Day & Silverman, 1989; Green et al., 2019; Vinchur et al., 1998). Because conscientiousness measures those personal characteristics that seem to be important for accomplishing tasks in all work environments (Barrick & Mount, 1991), it is expected to be a valid predictor of training proficiency in the present conceptual framework. Individuals who are achievement-oriented, hard-working, organized, and dependable, seem more likely to perform better in a training program than similar individuals who do not possess these traits.

Openness to experience is commonly associated with the personality traits of being imaginative, cultured, curious, original, broad-minded, intelligent, and artistically sensitive (Tucaković & Nedeljković, 2022). Very few studies have been conducted relating this dimension to performance criteria. Judge and Cable (1997), however, found that it was a potentially useful predictor of the type of organization an applicant would be most attracted to, and other studies have found a positive relationship between openness to experience and training proficiency (e.g., Barrick & Mount, 1991; Salgado, 1997). In the present framework, openness to experience is expected to be a valid predictor of training proficiency because it is expected that a person high on this dimension would have a favorable attitude toward learning new skills while rotating through different areas within the company. Barrick and Mount (1991) suggested that

such individuals are more likely to be motivated to learn upon entry into a training program, and as a result are more likely to benefit from the training.

While the proposed framework illustrates a replication of previous research, in that it examines the validity of both conscientiousness and openness to experience as predictors of training proficiency, its major contribution is in the examination of the *combined* effects of rating-source and item-phrasing on personality assessments. The following sections review the literature relevant to this latter issue and are followed by specific testable propositions.

SELF RATINGS VERSUS OTHER RATINGS

There is evidence in the literature suggesting that self-ratings of personality and others' (e.g., coworkers and supervisors) ratings of personality differ in terms of their validity in predicting criteria such as job performance (Mount et al., 1994). Hogan (1991) noted that a person's personality could refer to the individual's inner characteristics or temperament, as well as his or her social reputation. These two meanings of personality are conceptually different, and this difference should be considered when comparisons are made between self-ratings and others' ratings. For example, a person's reputation is the product of public observation by others, whereas an inner disposition is a privately held perspective that may be unseen by others. When asked about how conscientious Bill is at work, his coworkers and supervisors may give him low ratings, based upon observations of his performance on the job. Bill, however, may feel that while his performance on the job has faltered, he has been particularly responsible in taking care of the other aspects of his life (e.g., family and friends). Therefore, his self-rating of conscientiousness may be quite high if he makes this rating in the broader context of 'life' versus 'work'.

This example indicates the degree to which attribution theory may be tied to personality theory. How a person attributes his or her own actions to certain personality characteristics may be different from the way others attribute those same actions to personality characteristics. Attribution theory states that others may explain an actor's behavior in terms of the actor's traits or personalities, and that an actor may explain his or her own behaviors in terms of situational contingencies (Harvey et al., 2014). This is because an individual has a wide array of past experiences from which s/he can develop justifications for why a certain action in a certain context (poor performance at work) is not truly his or her fault, but instead is based more on extraneous conditions. Other observers do not benefit from the stored cognitive schemas that the actor has, and so judgments of an action in a specific context are understandably targeted more directly toward the person being judged.

The main implication of this point is that observers' ratings of personality may be less accurate than self-ratings, since these ratings are more narrowly based on a

limited situational context. However, in terms of utilizing assessments of personality for making predictions about job performance, it may be particularly useful to use the narrower context of the work environment. Thus, when the context under which ratings are to be made is predetermined (i.e., ratings of an individual at work), observer ratings may be equal to or better than self-ratings. Mount et al. (1994) found evidence of this in their study of the validity of observer ratings of the Big Five personality factors. They examined observer ratings versus self-ratings of personality using a shortened version of a personality inventory developed by Goldberg (1992). Specifically, they looked at conscientiousness and extraversion for sales representatives. Observers' ratings of personality for both dimensions were found to be valid predictors of sales representatives' performance, and observers' ratings accounted for significant incremental variance in performance ratings over self-ratings (Mount et al., 1994). The researchers' conclusion was that job-relevant personality dimensions are less valid predictors of performance when assessed from the individual's perspective. They suggested that the observers' frame-of-reference was different than the individual's frame-of-reference, and that this contributed to the differential validities between the two rating sources. Therefore, the notion of frame-of-reference is closely tied to the rating source issue, and becomes important when examining personality assessment validity.

FRAME OF REFERENCE

One of the main ideas of this paper is that with no reference to work-specific items, there will be little guidance for how employees or applicants will make self-ratings of personality. Research has shown that individuals' and others' frames of reference can be aligned by altering items on a personality instrument to make them more context-specific (see Schmit et al., 1995). Two perspectives from personality theory, conditional dispositions and self-presentation, along with Schmit et al.'s (1995) research findings, are presented below to support this idea.

A traditional view of personality is consistent with a 'causal view of traits', whereby dispositions are seen as indicators of stable, underlying attributes within an individual that have very specific effects on behavior (Allport, 1937; Hartshorne & May, 1928; Newcomb, 1929; Wright & Mischel, 1987). Under this perspective, if someone is conscientious, this trait should produce consistencies in the person's many different role behaviors, including work-roles, family-roles, and community-roles. The specific context or situation would have less of an influence on the behavior. Another perspective, different from the causal view, is the 'summary position' (Buss & Craik, 1983; Hampshire, 1953). Under this view, personality traits would be seen as descriptive summaries of observed behaviors, or as general trends or tendencies in a person's conduct. This view, like the traditional view, does not consider the role of context in personality.

Both the causal view and the summary view have limitations. Under these perspectives, personality statements about people (or ratings) typically do not allow one to make implications about the cross-situationality of observed behavior, nor do these statements seem to be about generalized response tendencies (Wright & Mischel, 1987; Brandt, 1970). Instead, they seem to be more related to particular behaviors under relatively well-defined conditions (Wright & Mischel, 1987). In this vein, dispositions (i.e., personality) can be represented as concepts that link acts or behaviors with the conditions in which those behaviors occur. The idea here is that while some individuals may exhibit consistent patterns of behavior, these behaviors may be contingent on situational conditions (Schmit et al., 1995; LeBreton et al., 2020). Wright & Mischel (1987) label this the conditional or subjunctive view: “An attribution of a personality disposition [e.g., conscientiousness] is an implicit subjunctive statement about what a person would be likely to do under appropriate conditions [e.g., in a work-related role], not necessarily what he or she will do on average.” (p. 1161). Thus, under this perspective, personality ratings of an employee should be linked to the work-related situations in which s/he operates. Personality traits are viewed as being situation-specific, instead of cross-situational. An individual may give self-ratings that would differ across work and non-work contexts, and observer ratings may differ if they took place in a work environment versus a non-work environment. Thus, in order for multiple sources of personality ratings to be effective, it seems advantageous to have them all originate from the same frame of reference.

Another theory relevant to the frame-of-reference issue is the self-presentation view of item responses (Schmit et al., 1995; Hogan, 1991; Johnson, 1981; Leary & Kowalski, 1990; Schlenker & Weigold, 1992). Under this theory, an individual responding to a personality instrument is thought to be driven by the type of statement that person wants to make about him or herself. In this sense, the item responses can be viewed as self-presentation versus self-reports (Hogan, 1991). Consider, for example, an individual responding to the item, “I work hard to accomplish my goals”. Under the theory of self-presentation, the response to this item is likely related to a specific self-image that the person holds about him or herself, one that s/he wishes to maintain. This self-image may be used as a criterion against which the item will be evaluated (Hogan, 1991; Taylor et al., 1976). If the respondent wants to communicate to others the idea that s/he works hard to accomplish goals, the response to the item would reflect this desire to maintain that image. In reality, the person may be inconsistent in terms of how much effort is being put forth toward goal attainment, but the pattern of actual behavior is not what is influencing the response; it is the self-image the person is trying to preserve.

Schmit et al. (1995) suggested that test-items on a general personality instrument used in a personnel selection or work-related context may present error into this self-presentation process, because it might be difficult for respondents to link the

items to a specific work context. Individuals may therefore find it more challenging to present the desired workplace self-image via items on a personality instrument, when those items are tapping broader domains of life, including family, community, and friendship-ties. It has been argued, therefore, that items on a personality instrument, when formatted into a work-specific context, will facilitate applicants' or employees' self-presentation of their desired workplace images (Schmit et al., 1995).

Referring to the example above, rephrasing the item in the context of work would be as simple as adding an 'at work' stem: "I work hard to accomplish my goals *at work*". This phrasing of the item would realign the respondent's frame-of-reference toward the work setting, making it more consistent with observers' ratings as well. As mentioned above, when assessing the usefulness of a personality instrument as a predictor of performance-related criteria, it seems that this context-specific frame of reference would increase the overall validity. Self-presentation theory thus supports the notion that a personality instrument administered in a personnel selection or work-related context should be designed in a way that makes it easier for respondents to present to others their desired work self-image (Johnson, 1981).

Schmit et al.'s (1995) findings support their claim that self-presentation can be facilitated by positioning personality items in work-specific formats. Specifically, they examined the roles of both social desirability and self-presentation effects to determine which of the two was more useful in explaining personality score differences. Two surveys were used in the study, each administered to respondents in a self-report format. The first was the NEO-Five-factor inventory, a shortened version of the NEO-PI-R (Costa & McCrae, 1992). This measure is based on the five-factor model of personality, and includes questions that assess Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Schmit et al., 1995). The second measure was an altered form of the NEO-FFI, where a reference to work was added to each item, usually at the end or the beginning of the statement (as in the example above). Results of the study showed that by altering the items, respondents were given a different frame of reference (i.e., toward work), which had the effect of reducing error variance and increasing validity (Schmit et al, 1995).

Importantly, Schmit et al.'s (1995) findings support both the conditional disposition and self-presentation theories of personality. From a conditional disposition perspective, the results imply that personality ratings used to assist human resources or personnel decisions should be linked to the work context in which the target-respondents are operating (or are expected to operate in). Again, personality traits under this perspective are viewed as situation-specific, and do not necessarily generalize across situations. From a self-presentation perspective, the results suggest that if respondents present themselves favorably and accurately, then validity should increase (Schmit et al., 1995). The accuracy

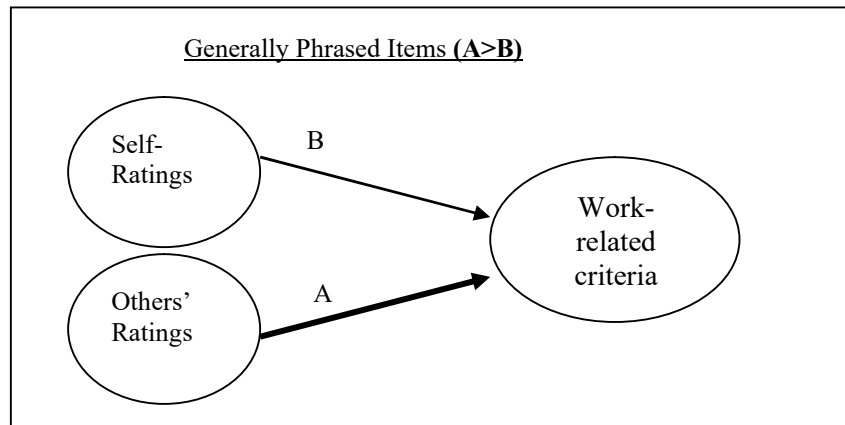
distinction is important here, in the sense that it can differentiate between responses that may be labeled as social desirability versus responses that are considered self-presentation. Social desirability occurs when respondents present themselves in a positive light, but do so inaccurately. Self-presentation, on the other hand, occurs when respondents present themselves in a positive light while maintaining accuracy. Work-specific items on a personality instrument are thought to provide the frame-of-reference needed to assure this accuracy.

PROPOSITIONS

Mount et al.'s (1994) study found that self-ratings on personality instruments produced underestimates of validity, as compared to other' ratings. Unlike Schmit et al. (1995), they used only a generally phrased personality instrument and did not include a version with work specific items. While they examined conscientiousness and extraversion as predictors of sales representatives' performance, the proposed framework extends this research by including another dimension of personality - openness to experience - along with conscientiousness, and a different criterion - training proficiency. The main contention, however, is still the same: When generally phrased items are used, others' ratings of personality in the workplace are expected to be more valid than self-ratings, because of a frame-of-reference more in line with work-related criteria.

Proposition 1: For personality instruments with generally phrased items, self-ratings of personality will be less valid predictors of criteria than will supervisors' and coworkers' ratings.

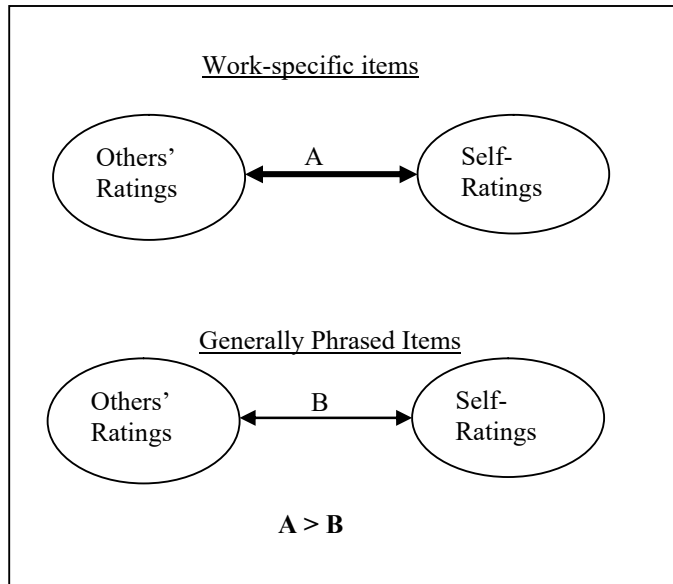
Figure 1: Validity of Self-Ratings & Other Ratings for Generally Phrased Items



In line with Schmit et al. (1995), the conceptual framework here examines the differential effects of generally phrased items versus work-specific items. However, it makes an additional contribution to personality research by focusing on the combination of this item-phrasing dimension with Mount et al.'s (1994) rating-source dimension. The expectation is that work-specific items on a personality instrument will align the frames of reference between self-ratings and others' ratings.

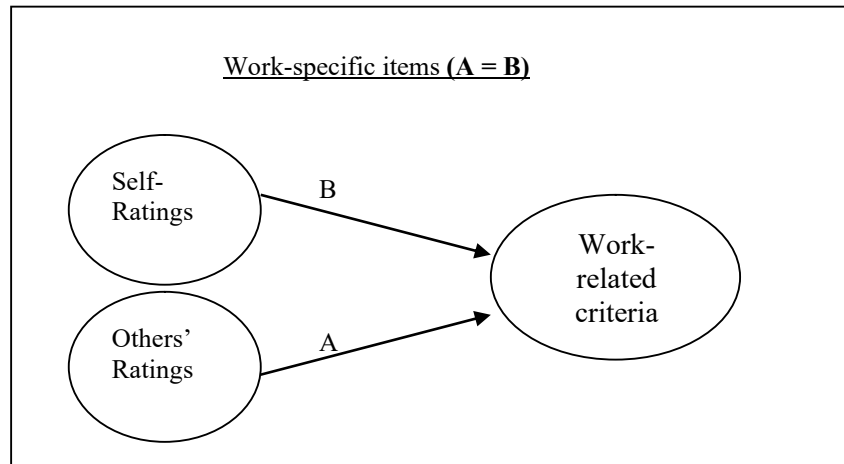
Proposition 2: The magnitude of the relationship between coworker/supervisor ratings and self-ratings of personality will be greater when the personality instrument contains work-specific items than when the instrument contains general items.

Figure 2: Relationship Magnitude of Self-Ratings & Other Ratings



Proposition 3: For personality instruments with work-specific items, self-ratings and coworker/supervisor ratings will both be valid predictors of criteria, but will not differ significantly from each other.

Figure 3: Validity of all Ratings for Work-Specific items



In sum, when personality instruments are phrased in a work-specific context, the source of ratings should not affect their usefulness in predicting work-related criteria (such as training proficiency). On the other hand, when generally phrased instruments are used, different rating sources are expected to make their ratings with different frames of reference, thereby creating unequal validities across sources.

A PROPOSED METHOD

The following section offers a proposed methodology for testing the aforementioned conceptual propositions. Of course, deviations to this methodology would be appropriate, based on the specific personality dimensions thought to be important for a specific work-related performance criterion. Sample: The respondents for such a study might include employees who are required to attend a management-training program. The program would be designed to allow new management employees to rotate through different departments within the company, providing them with a comprehensive view of the organization's operations. Upon completion of this training, employees would be expected to understand how each department affects the processing of a customer's order and/or other relevant organizational processes.

Measures: *Personality* could be measured with two instruments. The first is a shortened version of the NEO Five-Factor Inventory (Costa & McCrae, 1989). The NEO-FFI is a personality instrument based on the five-factor model of personality, with each factor being represented by 12 items. The version for the proposed framework might consist of 24 items, half assessing conscientiousness, and half assessing openness-to-experience. The second instrument is an altered version of the NEO-FFI, where each item is rephrased into a "work" context. Following Schmit et al. (1995), a reference to work can be added to either the

end or the beginning of each statement. For example, the item “I strive for excellence in everything I do” can be modified to read “I strive for excellence in everything I do at work.” Responses to each item on both instruments would be recorded on a 5-point Likert scale, ranging from 0 (strongly disagree) to 4 (strongly agree).

Training proficiency can be measured with a combination of two types of tests. The first is a standardized paper-and-pencil instrument, which contains items meant to assess the trainee’s knowledge about operating procedures in each of the departments. The second test, a work-simulation, could be used to assess important management skills that are needed in addition to this knowledge. The simulation would require trainees to react to a variety of staged scenarios, which would include customer service issues, employee grievances, and inter-departmental conflicts. This combination of paper-and-pencil and work-simulation tests has been cited by other researchers as being an effective measure of training proficiency (Gatewood & Feild, 2000; Gael et al., 1975). Both tests would be given to trainees upon the end of the six-month training period.

Proposed Procedures: Three separate administrations of the personality instruments would be necessary. First, each new management trainee will have been given the NEO-FFI instrument, with generally phrased items, during the hiring process. This instrument may be one of the tests normally used in the organization’s selection process. Second, all management trainees would be given the altered version of the NEO-FFI, with work-specific items, during their training program. Because the second administration of the test would occur relatively soon after the first administration, there would be some initial concern about potential error associated with the short test-retest time period. However, this second administration of the test could be incorporated into a group-training exercise, and the new trainees would be advised that careful and complete responses are necessary for completion of the exercise. The third administration would incorporate others’ ratings of personality. For example, a number of employees, a supervisor, and a manager from each department could complete a personality instrument for each management trainee. Half of these instruments would be the ‘general’ NEO-FFI, and half would be the ‘work-specific’ NEO-FFI.

Proposed Analyses: An initial test of interrater agreement would be conducted to examine the degree to which raters are giving the same personality scores for each target (James et al., 1993, 1984). This index (r_{wg}) is appropriate for such cases where a single target is being rated by a single group of judges on one scale. Establishing that coworkers’, supervisors’, and managers’ ratings of individual trainees are in agreement with each other is a prerequisite for examining differences across self- versus other- rating sources. Scores on each of the two personality dimensions would be obtained by averaging the ratings for the appropriate 12 items on the instrument. Following Mount et al. (1994), the

magnitude of the validities obtained for self-ratings would be compared to those for others' ratings. This procedure would be done for both the 'general' NEO-FFI (Proposition 1) and the 'work-specific' NEO-FFI (Proposition 3). To test proposition 2, the item correlations between self- and others' ratings for the 'work-specific' NEO-FFI would be compared to the item correlations between self- and others' ratings for the 'general' NEO-FFI.

CONCLUSION

This paper, and its proposed framework, can offer important contributions to the personality literature. Future research supporting the propositions would support Mount et al.'s (1994) contention that self-ratings on personality instruments may produce underestimates of validity. Additionally, such results would corroborate Schmit et al.'s (1995) finding that work-specific items on a personality instrument can provide a needed frame of reference for individuals providing self-reports. Most importantly, the proposed analyses in this framework take into account the interaction of two dimensions of personality assessment, item phrasing and rating source, each of which has been analyzed separately in past research. Supportive results would have particularly important implications for the field (Friedman et al., 2022). For example, if both self-ratings and others' ratings are to be used on a generally phrased personality instrument, then researchers and practitioners should expect to see higher validities for others' ratings. Additionally, when items on an instrument are work-specific, one should expect 1) a strong relationship between others' ratings and self-ratings and 2) equal levels of validity between the two rating sources.

The following recommendations concerning rating source and item phrasing can thus be made (assuming the propositions are supported). First, if personality assessments in a work-related context are to be made using only self-reports, then there is a benefit to using work-specific items. Such items should align the individuals' frames of reference with the work context, and resulting validities should be higher. Second, if personality assessments are to be made using only others' ratings, then it may not be necessary to alter items to a work-specific format. A generally phrased instrument may be suitable, since these other raters would already have a 'work' frame of reference. This recommendation assumes that the validity of others' ratings for generally phrased items is approximately equal to the validity of others' ratings for work-specific items. Although this comparison was not stated in the form of a proposition, the analyses would provide data that would make such a comparison possible. Finally, if personality assessments are to be made using both self- and others' ratings, then once again, there are benefits to using work-specific items. As discussed previously, work-specific items should align the frames of reference between the two rating sources, making both sources equally valid predictors of the criterion measure.

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