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WORKING IT OUT: ORGANIZATIONS AND THE GIG ECONOMY

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ABSTRACT

With the changes in working relationships brought about by the pandemic, a better understanding of non-traditional work arrangements is essential to an organization's performance. Gig work is perhaps the most hyped of these arrangements, but little consensus has been reached on the meaning of the term or the implications to the workers, much less the nature of the work itself. This paper aims to fill the gap by examining the issue of labor externalization and the various job dimensions which affect the likelihood of a task being contracted out via gig. We propose that there are competing forces leading to work being externalized and that these forces can be on either the supply or demand side. In addition, we argue that four job characteristics (namely professionalization, interdependence, generalized skill, and autonomy) influence when a job is more likely to be contracted in a gig economy. Workers are better able to take control of their jobs when there are high skill requirements, which can lead to a high degree of autonomy. Jobs that have a high degree of professionalization typically have skills that are also generalizable, which can lead to greater mobility and thus increase chances for externalization. Using the proposed model, this paper provides a theoretical foundation for the existence of gig work and takes a micro-level look at the types of characteristics that are most associated with those externalized jobs.

Keywords: Gig economy, contingent workers, labor externalization, job characteristics, independent work arrangements

INTRODUCTION

Contract work, which has been around for decades, is now increasingly widespread, especially in the so-called gig economy. Contracting is variously defined as the "carrying out of functions by third parties" (Hancox & Hackney,

2000) or the "use of resources outside of the organization to perform routine tasks" (Stefancic, 2004). While contracting has been traditionally thought to apply mainly to manufacturing and clerical jobs, the trend towards flexibility and global competitiveness has increased the use of contract workers, most recently via gig. The U.S. Bureau of Labor Statistics (Torpey & Hogan, 2016) defines a gig as a "single project or task for which a worker is hired, often through a digital marketplace, to work on demand." Typical occupations for gig employment include graphic designer, musician, web developer, programmer, photographer, delivery driver, and technical writer.

However, there appears to be little understanding of the job characteristics that determine what jobs are best moved to the external market. Specifically, this paper addresses the following questions: (1) what is the theoretical basis for jobs being transferred to the external labor market in the form of gigs; and (2) what are the characteristics that are associated with these jobs.

The purpose of this paper is to further our understanding of labor externalization. We propose that, following the work of Pfeffer and Baron (1988) and Williamson (1981), the laws of supply and demand form a basis for understanding the growth in externalized jobs. We further argue that certain job characteristics, namely autonomy, interdependence, professionalization, and generalized skill, influence when a job is likely to be contracted via gig.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Contracting and Gig Work

One process by which jobs are moved from the internal labor market to the external labor market is contracting. Contract workers are categorized by Pfeffer and Baron (1988) as "externalization of administrative control". Firms remove tasks from their administrative control by contracting workers who are on the payroll of another entity while under the direction of the employing firm (Pfeffer & Baron, 1988; Scott, 1998).

The U.S. Department of Labor considers contract employees to be alternative workers. Alternative workers are the largest grouping of external worker, comprising approximately 10% of the labor force in 2017. Roughly 15.5 million U.S. employees work in some form of alternative assignment, with the majority (10.6 million) operating as independent contractors. The other classifications for alternative workers are on-call workers, temporary help agency workers, and workers provided by contract firms (Kosanovich, 2018).

Gig workers are a subset of alternative workers, but there is no clear consensus on which types of external work arrangements are considered gig work (contingent workers, contractors, sharing economy workers, etc.). In fact, Watson, Kistler, Graham, & Sinclair (2021) assert that research on gig work is hampered by definitional ambiguity. Based on a systematic literature review, they find that existing definitions of gig work focus on three themes: characteristics of the type of work; ways in which the work is arranged; and the tax status or legal classification of workers.

According to their review, some gig work definitions focus on the specific characteristics of work, such as scheduling, flexibility, or lack of direct oversight. These definitions often include work that is enabled by a technology "platform" that facilitates the matching of supply and demand for services (Spreitzer, Cameron & Garrett, 2017). This use of a technology-based intermediary is sometimes used to define gig workers as distinct from other types of contract labor (Wood, Graham, & Lehdonvirta, 2019). Other researchers shun this distinction, arguing that gigs are also acquired via personal contacts (Caza, Reid, Ashford, & Granger, 2022) and that the intermediary Is a secondary rather than a primary characteristic (Watson et al., 2021).

Other reviewed definitions of gig work center on the tax status or legal classification of workers. These definitions focus on the different tax forms standard employees and independent contractors receive. For example, in the United States standard employees receive W-2 forms from their employers. In contrast, gig workers, such as independent contractors and freelancers, receive 1099 forms when they perform services for a company (Stone, 2006).

Some researchers (Watson et al., 2021; Caza et al., 2022) assert that there are three factors that characterize gig work. The first is how the job is arranged; workers are hired to complete a defined task or project. They may, in some cases, have an employer. However, the company that pays them is different from the one at which they work. The second factor is how long the work continues; the job is temporary and lasts for a specified time period. The third factor is that the job is completed outside the organization's structures; there is a substantial degree of flexibility in when, where, and how the work is done. This classification coincides with the concepts of consultants, contract workers (Spreitzer et al., 2017), platform workers (Glavin, Bierman, & Schieman, 2021), and freelance workers (Kuhn, 2016).

All the gig work definitions reviewed by Watson et al. (2021) refer to the nature of work arrangements to some extent. These definitions address the contract or relationship between the worker and the company or individual paying them. For example, Dubal (2017) defines a gig worker as someone who performs services or delivers goods on demand and lacks the safety and security of employment benefits. This important distinction aligns with earlier research on the external labor market from Mangum, Mayall and Nelson (1985).

As measured by the U.S. Bureau of Labor Statistics, gig workers may be in contingent or alternative employment arrangements, or both (Kosanovich 2018). In 2017 approximately 55 million people (around 34% of the workforce) in the U.S. were gig workers according to the Bureau of Labor Statistics. They projected that this percentage would rise to 43% in 2020 (Bose, 2021). It must be noted that these figures are higher than those for alternative workers; therefore, some overlap is associated with these categorizations. It is our contention that the overlap can be attributed to workers who hold more than one job, with the gig often associated with a “side hustle.”

Despite the measurement issues, gig workers are a growing part of the workforce and of increased interest to researchers and employers. Gaining a better understanding of the conditions driving this growth is imperative. The following section provides a theoretical basis for explaining why jobs are transferring to the external labor market in the form of gigs.

Theoretical Basis for Gig Labor

Pfeffer and Baron’s (1988) work on externalization via supply and demand provides a foundation for explaining the existence and growth of gig work. Organizations prefer externalized workers, thereby increasing the demand for them. The primary cause is economics: externalization is often cheaper than the alternatives, at least in the short run.

Specifically, there is a decrease in overhead costs as external workers typically receive few fringe benefits. In addition, there is a reduction in administrative costs since some other organization bears the responsibility for recruiting, screening, and training employees (Pfeffer & Baron, 1988; Scott, 1998). Information technology has helped to make access to external labor less costly and labor’s location geographically irrelevant. Savings are also realized via the lower wages that are commanded by some external workers, (Polivka & Nardone, 1989; Polivka, 1996) and reduced support costs (Stefancic, 2004). Williamson (1981) further claims that differentiations in the labor market are based on cost, with labor being viewed simply as a commodity. This is comparable to Kalleberg's (2011) assertion that external work is more prevalent when there is an oversupply of labor since that surplus reduces the bargaining power of the worker.

External workers also provide organizations with flexibility, thereby increasing demand for these workers. Employing external workers allows organizations to meet variations in production demand without facing administrative restrictions or legal hassles (Polivka & Nardone, 1989). This "just in time" flexibility is realized by facilitating access to highly specialized functions that are necessary but recur infrequently and by allowing permanent employees to focus on core competencies while external workers perform peripheral tasks (von Hippel, Mangum, Greenberger, Heneman, & Skoglind, 1997) when and where as needed (Torpey & Hogan, 2016).

Technology is also a major influence on the supply side. As job complexity increases, more information must be processed to conduct transactions (Williamson, 1981; Scott, 1998). This growth in complexity creates situations where one group (e.g., labor) can potentially gain control of a valued resource (Kalleberg, Reskin, & Hudson, 2000). In this case, the resource is the expertise to manage the necessary technological intricacies (Long & Bedeian, 1998). Labor will generally attempt to increase the level of discretion in their jobs in order to further increase job complexity (Long & Bedeian, 1998).

Greater levels of discretion and complexity effect the feasibility of moving to the external labor market. Bounded rationality (Williamson, 1981) causes managers to lose the ability to predict outcomes in informationally complex jobs. Performance therefore becomes increasingly difficult to monitor (Baron, Davis-Blake, & Bielby, 1986). Recent technological breakthroughs, however, enhance the monitorability of individual productivity, and constrain opportunism. These enhancements make the market-based transactions that characterize external labor more feasible (Pfeffer & Baron, 1988; Masters & Miles, 2002).

The available supply of labor is additionally controlled through credentialing. Credentialing can be accomplished via union and professional association (Althauser, 1989; Long & Bedeian, 1998) or can take the form of requirements for formal education, certification, and/or licensing (Edwards, 1979). In 2018, approximately 24% of U.S. workers had a professional certificate or license, with 21.8% holding a license and 2.3% holding a certification (Cunningham, 2019).

This paper proposes that jobs are externalized rather than being maintained internally based on the principles of supply and demand as explained by Williamson (1981) and Pfeffer and Baron (1988). We next propose that there are certain job characteristics that are more likely associated with higher use of gig workers in the organization.

Job Characteristics

It is the contention of this paper that previous studies into the nature of the external labor market have been restricted by the reliance on macro-level variables, such as industry. This level of analysis assumes homogeneity across firms and discounts the variation of employment arrangements within individual firms (Long & Bedeian, 1998; Lepak & Snell, 1999). For this reason, many researchers (e.g., Kalleberg et al., 2000; Davis-Blake & Uzzi, 1993; Baron et al., 1986) argue for the superiority of a job-level approach to the analysis of labor markets.

As noted, analysis of labor markets on a micro-level allows for variation in employment arrangements within organizations (Osterman, 1982; Long & Bedeian, 1998). This micro-level of analysis is captured through the examination of the characteristics required by specific jobs (Long & Bedeian, 1998). These job characteristics include variables such as skill, professionalization, autonomy, and task interdependence. These were chosen because they influence the amount of labor scarcity (Long & Bedeian, 1998), thereby following the supply and demand argument.

Generalized Skill

Skill level for gig work ranges from low skilled (delivery driver) to high-skilled (IT programmer) (Caza et al., 2022; Spreitzer et al., 2017). While some studies have examined skill level as a driver of the gig economy (Caza et al., 2022; Kaine & Josserand, 2019), our contention is that skill generalizability, rather than just skill level, is a more important determinant of whether jobs are contracted via gig.

Skill generalizability is the opposite of firm-specific skills (i.e., skills and procedures that are unique to the organization). Skills are generalizable in the sense that they are not unique to any specific organization and may be obtained outside the firm (Davis-Blake & Uzzi, 1993; Masters & Miles, 2002). This generalized skill set has also been referred to as "general human capital" (Zardkoohi, 2004). In their framework, Lepak and Snell (1999) refer to an external labor pool that contains "public knowledge" skills that can easily be purchased on the external market.

In the external market, workers with general skills seek to make mobility and control over work conditions critical issues. Professional associations tend to provide assistance in this area by creating credentialing requirements that are distinct from any one organization and thus may be carried over to another firm. Indeed, Mintzberg (1983) coined the term "pseudoprofessionalism" for those instances when employees with general skills form occupational associations to extend their autonomy.

Workers with firm specific skills are less willing to be voluntarily mobile. They are also less likely to be contracted if their knowledge and skills provide a competitive advantage or core competency to the organization (Zardkoohi, 2004). Firm specific training also involves investing time and resources in an employee. Firms may recoup these training costs by spreading them over the time during which the employee remains with the firm. Firms, therefore, try to ensure that employees with firm specific skills remain with the firm (Davis-Blake & Uzzi, 1993).

In their work on dual labor markets, Doeringer & Piore (1971) claimed that divisions develop due to the desire for firm-specific skills. The requirement for these skills comes from attempts to increase operational efficiency through continual adjustments to operating procedures which in turn requires increasingly specific skills (Doeringer & Piore, 1971). We build on these and other findings (Masters & Miles 2002) and make the following proposition:

> **Proposition #1**: Jobs are more likely to be contracted via gig when there is a high level of non-firm specific or generalized skill than when there is low level of non-firm specific or generalized skill.

Professionalization

Professionalization is determined by the level of power that a job has to control clients, its own and other occupations, and society at large. This is customarily done by use of credentialing and can take the form of requirements for formal education, certification, and/or licensing (Edwards, 1979).

Many professional designations belong to the worker and are independent of any organizations. Examples include Professional Engineers, Certified Information Security Managers, Chartered Financial Analysts, and Certified Public Accountants. Given this independence, designations are useful to gig workers to help address the challenges related to their identity. These challenges range from anxiety issues to identities that are flexible enough to appeal to a range of client needs (Petriglieri, Ashford, & Wrzesniewski, 2019; Caza et al., 2022).

Characteristics that are associated with professionalization are values such as autonomy and authority over clients, a distinctive occupational culture, and community recognition (Ritzer & Walczak, 1988). Jobs that are high in professionalization foster an "occupational consciousness," in which workers identify themselves in terms of their occupation, such as accountant or engineer, rather than in terms of the organization for which they work (Edwards, 1979).

The idea of community recognition has its roots in legal recognition. To first obtain the distinction of "profession", it was necessary to exert control from a legal standpoint so that only a select group of workers could lawfully perform the work in question (Ritzer & Walczak, 1988). For example, a law degree and passing the bar exam are required before working as an attorney. Over time, these requirements are recognized by the community as denoting a profession.

Professional associations have been consistently linked to an absence of internal labor markets. Although professionals such as accountants and engineers have valuable skills, unless those skills are specialized to a specific organization neither party has an interest in deepening the employment relationship (Williamson, 1981). Some researchers have gone so far as to state that the primary purpose of professional associations is to protect member autonomy and mobility (Hall, 1987; Mintzberg, 1983). Following the arguments of Doeringer and Piore (1971) and Williamson (1981), we state our second proposition:

> **Proposition #2**: Jobs are more likely to be contracted via gig when there is a high level of professionalization than when there is a low level of professionalization.

Interdependence

Task interdependence refers to the degree to which job performance depends upon the accomplishment of associated jobs. Williamson (1981) defined interdependence as the ability to determine individual team members' contributions. He noted that when jobs were high in interpersonal complexity, it created difficulties in monitoring individual contribution and output (Baron et al., 1986; Pearce, 1993; Long & Bedeian, 1998). As noted earlier when contributions are hard to monitor organizations are less likely to use external labor markets (Masters & Miles, 2002).

Furthermore, interdependent tasks often require organization-specific knowledge. Pearce (1993) found that, in the presence of contractors, interdependent work would be shifted onto permanent employees and not assigned to the external worker.

According to the job complexity perspective, the types of skills necessary to perform a job affect the degree to which the job is externalized (Davis-Blake & Uzzi, 1993; Kalleberg et al., 2000). The flow of work among interdependent jobs requires that job incumbents have similar perceptions of the nature and timing of tasks (March & Simon, 1958). These perceptions are gained through experience and interaction with others, via firm-specific knowledge (Pearce, 1993; Davis-Blake & Uzzi, 1993).

Building on the work of Doeringer and Piore (1971) and Williamson (1981), we propose the following:

> **Proposition #3**: Jobs are more likely to be contracted via gig when there is a low level of interdependence, than when there is a high level of interdependence.

Autonomy

Through high skill requirements and abilities, workers can take control of and redefine their jobs (Long & Bedeian, 1998). This leads to increased informational complexity and an increased level of tasks that require creative decision making. This in turn yields a high degree of discretion and autonomy in how the work is done. When subjected to the restraints of monitoring systems, job complexity is often decreased with a resulting decrease in worker discretion (Long & Bedeian, 1998).

Gig workers have control over what work they take, how the work is done, and when it is done, although some have more control than others (Caza, Moss & Vough, 2018; Petroglieri et al., 2019). Those who are more digitally controlled have less autonomy (Wood et al., 2019), especially those workers who are subjected to the algorithmic control found in online platforms (Glavin et al., 2021). Thus, autonomy is generally higher when work procedures are independent of technology.

One of the primary purposes of professional associations is to protect member autonomy (Long & Bedeian, 1998). This autonomy is inherent in the greater mobility that is derived from possessing a high level of non-firm-specific skills (Osterman, 1982). The degree of autonomy that is present in a job is highly correlated with its degree of complexity (Kalleberg & Berg, 1988).

Following the arguments of Williamson (1981) and Osterman (1982), we propose:

> **Proposition #4**: Jobs are more likely to be contracted via gig when there is a high level of autonomy than when there is a low level of autonomy.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This paper provides a theoretical foundation for the existence of contract and gig work, using the theory of supply (organizations want externalized workers because it reduces costs and increases flexibility) and demand (workers want to be more independent because it increases flexibility and allows for more control). Following that theory, it takes a micro-level look at the types of jobs that are often associated with gig work and determines what characteristics are most associated with those jobs. We propose that four job characteristics (namely professionalization, interdependence, generalized skill, and autonomy) influence when a job is more likely to be contracted as a gig.

While these characteristics provide a framework to better understand the optimal structuring of work between internal and external job markets, a key limitation of this paper is that we did not empirically test the indicated propositions. We suggest that the interaction of the identified characteristics (professionalization, interdependence, generalized skill, and autonomy) be empirically tested to explore and clarify the significance of the moderation effects on the likelihood of a job being contracted as a gig. Additional moderators, such as skill variety, task identity, and various demographic characteristics could also be explored.

Finally, more research needs to be done to better define what gig work actually is. Some research only looks at technology-moderated work while other research encompasses almost all external work arrangements. In any case, gig work (and gig workers) is most likely not the homogenous group that they have been treated as. It is therefore difficult to generalize research results when the concept is not fully understood. This paper begins that process of understanding by identifying the characteristics that differentiate gig work.

CONCLUSION

This paper makes several important contributions to the area of external labor market research. The first contribution is in regard to the size of the affected workforce. While there is some overlap in contingent and alternative categorizations, it is evident that the external market is a sizeable portion of the labor force. According to a survey from the Freelancers Union, around 57 million workers (35% of the total U.S. workforce) were working freelance, another term for external workers, in 2019. Sixty percent of survey respondents say they started freelancing by choice rather than necessity, and 79% say that freelancing is better than working a normal job (Freelancers Union, 2019). With the changes in working relationships brought about by the pandemic, a better understanding of alternative arrangements is imperative to an organization's performance.

Given the growth in the external workforce supply, it is important to be able to match jobs to the appropriate type of external worker. Existing research is on a macro-level, including variables such as organization size (Davis-Blake & Uzzi, 1993; Uzzi & Barsness, 1998), and level of fringe benefits (Davis-Blake & Uzzi, 1993), or evaluates psychological aspects of the employment relationship, such as commitment, identity, stress, power, and viability (Ashford, Caza, & Reid, 2018; Petriglieri et al., 2019; Glavin et al., 2021). This paper goes further by investigating linkages between job-level variables and external workers, which assists in determining what type of workers are appropriate for what jobs.

Although the current research did not examine business-level strategies, the results lend themselves to preliminary conclusions regarding the need for human resources planning at a strategic level. Specifically, for human resource practices to create a competitive advantage, a more detailed examination of the link between individual job characteristics and different labor market segments must be conducted. The decision can no longer be thought of simply as "make or buy" (Williamson, 1975) but additionally as what type of labor to buy and when. Optimal combinations of employment modes can lead to a competitive advantage

(Lepak & Snell, 1999), but optimization can only occur when all options are explored.

In summation, this paper has extended an understanding of external labor markets by providing a theoretical foundation for the existence of contracting via gig. The external market is more complex and dynamic (and much less homogenous) than it is perceived to be, and the details and ramifications of this complexity are just beginning to be understood. Organizations that can capitalize on this lack of awareness could quite possibly obtain a distinct competitive advantage.

REFERENCES

Althauser, R.P. (1989). "Job histories, career lines, and firm internal labor markets: An analysis of job shifts." *Research in Social Stratification and Mobility*, 8, 177-200.

Ashford, S.J., Caza, B.B., & Reid, E.M. (2018). "From surviving to thriving in the gig economy: A research agenda for individuals in the new world of work." *Research in Organizational Behavior*, 38, 23-41.

Baron, J.N., Davis-Blake, A., & Bielby, W.T. (1986). "The structure of opportunity: How promotion ladders vary within and among organizations." *Administrative Science Quarterly*, 31, 248-273.

Bose, N. (2021). "U.S. Labor Secretary supports classifying gig workers as employees." *Reuters*. https://www.reuters.com/world/us/exclusive-us-labor-secretary-says-most-gig-workers-should-be-classified-2021-04-29/.

Caza, B.B., Reid, E.M., Ashford, S.J., & Granger, S. (2022). "Working on my own: Measuring the challenges of gig work." *Human Relations*, 75(11), 2122–2159.

Caza B.B., Moss S., & Vough, H. (2018). "From synchronizing to harmonizing: The process of authenticating multiple work identities." *Administrative Science Quarterly*, 63(4), 703–745.

Cunningham, E. (2019). "Professional certifications and occupational licenses: evidence from the Current Population Survey." *Monthly Labor Review,* *U.S. Bureau of Labor Statistics.* https://www.bls.gov/opub/mlr/2019/article/professional-certifications-and-occupational-licenses.htm

Davis-Blake, A., & Uzzi, B. (1993). "Determinants of Employment Externalization: A Study of Temporary Workers and Independent Contractors." *Administrative Science Quarterly,* 38, 195-223.

Doeringer, P.B., & Piore, M.J. (1971). *Internal labor markets and manpower analysis*. Lexington, MA: Heath.

Dubal, V. B. (2017). "Winning the battle, losing the war? Assessing the impact of misclassification litigation on workers in the gig economy." *Wisconsin Law Review*, 4, 739-802.

Edwards, R.C. (1979). *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*. New York: Basic Books.

Freelancers Union (2019). "Freelancing in America: A comprehensive study of the freelance workforce." Freelancers Union. https://www.freelancersunion.org/about/freelancing-in-america/

Glavin, P., Bierman, A., & Schieman, S. (2021). "Über-Alienated: Powerless and Alone in the Gig Economy." *Work and Occupations*, 48(4): 399-431.

Hall, R.H. (1987). *Organizations: Structures, processes, and outcomes.* Englewood Cliffs, N.J.: Prentice-Hall.

Hancox, M., & Hackney, R. (2000). "IT outsourcing: framework for conceptualizing practice and perception." *Information Systems Journal*, 10, 217-237.

Kaine, S., & Josserand, E. (2019). "The organization and experience of work in the gig economy." *Journal of Industrial Relations*, 61(4), 479-501.

Kalleberg, A.L., & Berg, I. (1988). "Work structures and markets: An analytic framework." In *Industries, Firms, and Jobs: Sociological and Economic*

Approaches, ed. G. Farkas & P. England, 3-16. New York and London: Plenum Press.

Kalleberg, A.L., Reskin, B.F., & Hudson, K. (2000). "Bad jobs in America: Standard and nonstandard employment relations and job quality in the United States." *American Sociological Review*, 65, 256-278.

Kalleberg A. L. (2011). *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s–2000s*. New York: Russell Sage.

Kosanovich, K. (2018). "Workers in Alternative Employment Arrangements: Spotlight on Statistics." U.S. Bureau of Labor Statistics. https://www.bls.gov/spotlight/2018/workers-in-alternative-employment-arrangements/home.htm

Kuhn, K.M. (2016). "The rise of the 'gig economy' and implications for understanding work and workers." *Industrial and Organizational Psychology*, 9(1), 157–162.

Lepak, D.P., & Snell, S.A. (1999). "The human resource architecture: Toward a theory of human capital allocation and development." *Academy of Management Review*, 24, 31-48.

Long, R.G., & Bedeian, A.G. (1998). "Internal labor markets: Labor-process and market-power effects." *Advances in Industrial and Labor Relations*, 8, 183-206.

Mangum, G., Mayall, D., & Nelson, K. (1985). "The temporary help industry: A response to the dual internal labor market." *Industrial and Labor Relations Review*, 38, 599-611.

March, J.G., & Simon, H.A. (1958). *Organizations*. New York: Wiley.

Masters, J.K. & Miles, G. (2002). "Predicting the use of external labor arrangements: a test of the transaction costs perspective." *Academy of Management Journal*, 45, pp. 431-442.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, N.J.: Prentice-Hall.

Osterman, P. (1982). “Employment structures within firms.” *British Journal of Industrial Relations*, 20, 349-361.

Pearce, J. L. (1993). “Toward an organizational behavior of contract laborers: Their psychological involvement and effects on employee co-workers.” *Academy of Management Journal*, 36(5), 1082-1096.

Petriglieri, G, Ashford, S.J., & Wrzesniewski A (2019). “Agony and ecstasy in the gig economy: Cultivating holding environments for precarious and personalized work identities.” *Administrative Science Quarterly*, 64(1), 124–170.

Pfeffer, J., & Baron, J.N. (1988). “Taking the workers back out: Recent trends in the structuring of employment.” *Research in Organizational Behavior*, 10, 257-303.

Polivka, A.E. (1996). “Into contingent and alternative employment: by choice?” *Monthly Labor Review*, October, 55-74.

Polivka, A.E., & Nardone, T. (1989). “On the definition of ‘contingent work’.” *Monthly Labor Review*, December, 9-15.

Ritzer, G., & Walczak, D. (1988). “Rationalization and the deprofessionalization of physicians.” *Social Forces*, 67(1), 1-22.

Scott, W.R. (1998). *Organizations: Rational, Natural, and Open Systems.* Upper Saddle River, New Jersey: Prentice-Hall Inc.

Spreitzer, G.M., Cameron, L. & Garrett, L. (2017). “Alternative work arrangements: Two images of the new world of work.” *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 473–499.

Stefancic, A. (2004). “The business case for outsourcing.” *Employee Benefit Plan Review*, February, pp. 11-13.

Stone, K. V. W. (2006). “Legal protections for atypical employees: Employment law for workers without workplaces and employees without employers.” *Berkeley Journal of Employment & Labor Law*, 27(2), 251-286.

Torpey, E., & Hogan, A. (2016). “Working in a Gig Economy.” U.S. Bureau of Labor Statistics. https://www.bls.gov/careeroutlook/2016/article/what-is-the-gig-economy.htm

Von Hippel, C., Mangum, S.L., Greenberger, D.S., Heneman, R.L. & Skoglind, J.D. (1997). “Temporary employment: Can organizations and Employees both win?” *Academy of Management Executive*, 11, 93-104.

Watson, G.P., Kistler, L.D., Graham, B.A., & Sinclair, R.R. (2021). “Looking at the Gig Picture: Defining Gig Work and Explaining Profile Differences in Gig Workers’ Job Demands and Resources.” *Group & Organization Management*, 46(2), 327–361.

Williamson, O.E. (1975). *Markets and hierarchies*. New York: Free Press.

Williamson, O.E. (1981). “The economics of organization: The transaction cost approach.” *American Journal of Sociology*, 87, 548-577.

Wood, A.J., Graham, M., & Lehdonvirta, V. (2019). “Good gig, bad gig: Autonomy and algorithmic control in the global gig economy.” *Work, Employment and Society*, 33(1), 56–75.

Zardkoohi, A. (2004). “Dialog.” *Academy of Management Review*, 29, 556-569.

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A FIXED-EFFECT ANALYSIS ON THE RISING PRICE OF A COLLEGE DEGREE

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ABSTRACT

The cost of college education has increased substantially over the past two decades. In this research, we employ a fixed-effect specification in the analysis of a panel of colleges and universities from 2016 to 2019 in an attempt to identify the factors that contribute to the rising price of higher education. Our estimations indicate that a 1% increase in enrollment leads to a 0.91% increase in tuition and that a 1% increase in the number of institutions in the market reduces tuition by 0.43%. The fact that the estimated change of tuition in responding to enrollment is higher than to the number of postsecondary institutions suggests that the effects of rising demand outweigh supply. Thus, college tuition remained on the rise over the observation years. Furthermore, an increased number of tenured full-time faculty seems to increase the price of college education. A one-year lag model was employed for a sensitivity test which led to similar estimates.

Key Words: College Tuition, Earnings Gap, Fixed-Effect Model, Tenure System

INTRODUCTION

Over the past several decades, the cost of a college degree has increased dramatically at both public and private universities. According to data from the 2021 Digest of Education Statistics, the average undergraduate tuition and fees for full-time students in 4-year postsecondary institutions underwent a whopping 52% increase from 1999–2000 academic year to the 2020–2021 academic year after adjusting for inflation. The escalating cost of a college degree cannot be traced to a single cause. Multiple factors may contribute to the rising costs of attending a college. The purpose of this research is to shed some lights on the factors that lead to the rising price of higher education. To embark upon the task, we employ a fixed-effect specification in the analysis of a panel of colleges and universities from 2016 to 2019. Due to data availability, we do not claim that our list of factors is exhaustive.

It is not surprising that the rising price of earning a college degree has drawn the attention of many scholars, and finding answers to these questions has become the task of the century. There are many factors contributing to the rising price of a college degree. While all the factors behind rising tuition seem to be justifiable on their own merits, some scholars have stressed one or another.

Most scholars and practitioners study the phenomenon of tuition inflation from the perspective of college management. It is generally documented that colleges and universities are significantly expanding non-teaching services on campus. Researchers believe that the expansion of administrators and staff is leading to exploding tuition and fees. Furthermore, some suggest that the tenure system contributes to rising tuition because the system limits flexibility in hiring, firing, and changing course offerings.

From the perspectives of higher education market, the high school completion rate and college applications have increased over the past decades, suggesting rising demand on a college degree. However, on the other hand, there is more competition among higher education institutions from private for-profits. Especially since 1972, when for-profit institutions became eligible to use Title IV funds. Moreover, the expansion of college application portfolios among typical college applicants suggests that prospective students have more options than ever, which translates into more competition in the market. The fundamental economic principles suggest that rising demand with constant supply leads to higher prices. However, with increasing demand and increasing supply, the movement of price depends on the strength of demand relative to supply.

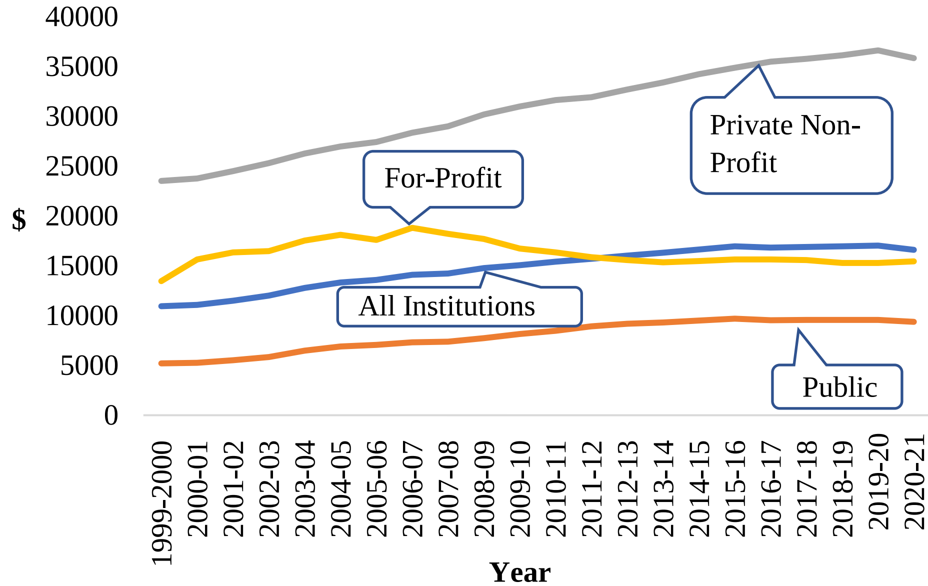
In this research project, we contend that the rising cost of college is attributable to a variety of factors, which should be considered collectively instead of individually. In the next sections, we offer a literature review regarding these factors, along with data visualizations taken from the most recent Digest of Education Statistics. We suggest a framework within which the phenomenon of exploding college tuition and fees can be conceptualized and studied. We provide an empirical analysis on the data from the 2021 Digest of Education Statistics, and finally, we offer a discussion of our findings and some concluding remarks.

LITERATURE REVIEW AND DATA VISUALIZATION

A college degree is a basic requirement for most professional jobs in today's job market. However, the price of earning a college degree has increased substantially over the past few decades. Figure 1 shows the tuition and fees at 4-year postsecondary institutions from the 1999–2000 academic year to the 2020–2021 academic year. We exclude 2-year institutions because their educational model and structure are not comparable to those of 4-year institutions.

The tuition and fees are adjusted for inflation to the 2020–21 constant dollar. In the 1999–2000 academic year, the average tuition and fees at all 4-year postsecondary institutions was $10,944, while in the 2020–2021 academic year, this figure grew to $16,618. The above figures represent a 52% growth rate beyond inflation. Figure 1 further breaks down tuition growth at public, private non-profit, and private for-profit institutions. For public institutions, the growth rate is 80%. However, the rates of increase are 52% and 15% at private non-profits and for-profits, respectively.

FIGURE 1: Tuition and Fees of 4-year Institutions by Type (2020-2021 constant dollar)



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One immediate question arises when one considers the above figures: Why is the price of college education continuously rising? Several proximate causes of tuition inflation have been ventured and examined, such as the overexpansion of administrative positions and student amenities on campus. However, researchers have largely overlooked the influences of growing market demand and supply on tuition.

We believe the current research project is the first to empirically tackle the rising price of attending colleges from the perspectives of the higher education market and college management collectively. Thus, in what follows, we provide a discussion on the surge in demand for college degree, the increase in colleges and universities in the market, and the tenure system. Along with the discussion, we illustrate data from the 2021 Digest of Education Statistics, which contains some very useful information that can help researchers and practitioners understand many aspects of the postsecondary education market.

Demand and supply of college education – Although higher education has broader societal benefits which are fundamental to the well-being of a nation, it is essentially a business providing educational services to learners and/or degree seekers for tuition revenue. Thus, the sector of higher education has its own marketplace that abides by the basic principles of economics. In spite of the fact that the majority of higher education institutions are non-profit, their tuitions still must reflect the market demand, supply, and the costs of providing services.

According to McFarland, Cui, Holmes, and Wang (2020), the high school completion rate among 18–24-year-olds has increased by nearly 10 percentage points since 1977. Furthermore, according to a College Board research report by Hurwitz and Kumar (2015), over the decade spanning from 2002 to 2012, college application volume increased across the college selectivity spectrum, with an increase in first-time, first-year degree-seeking applications as great as 81%. The above figures suggest growing demand for a college degree.

Technological progress has tended to displace less educated workers and increase the demand for more educated labor (Archibald and Feldman, 2010). This is a force for rising demand, resulting in the soaring wages of the college educated. Indeed, Figure 2 illustrates the median earnings gap for males and females from 1990 to 2020. We define the earnings gap as the differences in the median earnings of males and females with a bachelor's degree relative to those with only a high school diploma. Over the observation years, both males and females experienced growing earnings gap. The gap enlarged by 27% for males and 31% for females. Incentives are very important shapers of behavior, and the structure and workings of the market exert an important influence on incentives. With the soaring wages of the college educated, it is barely surprising that the demand for college education is rising in response to the better payoff.

FIGURE 2: Median Earnings Gap by Gender

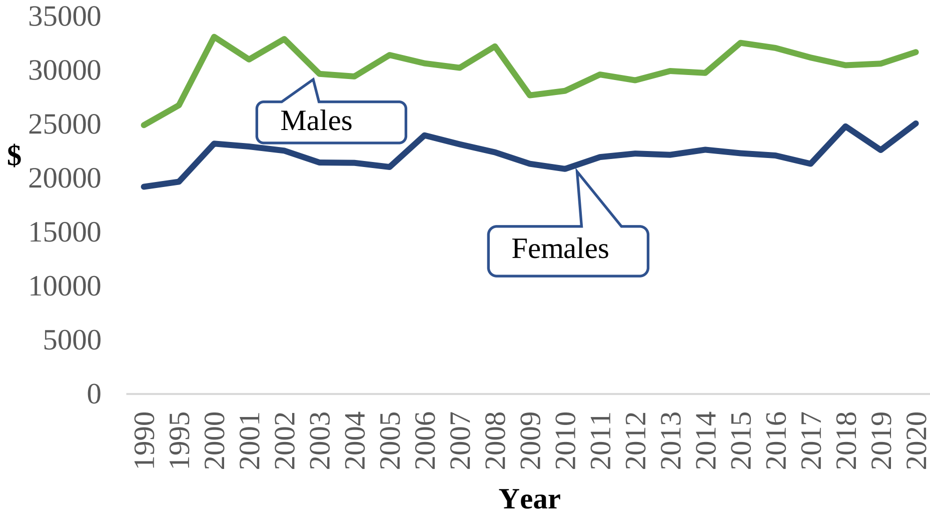

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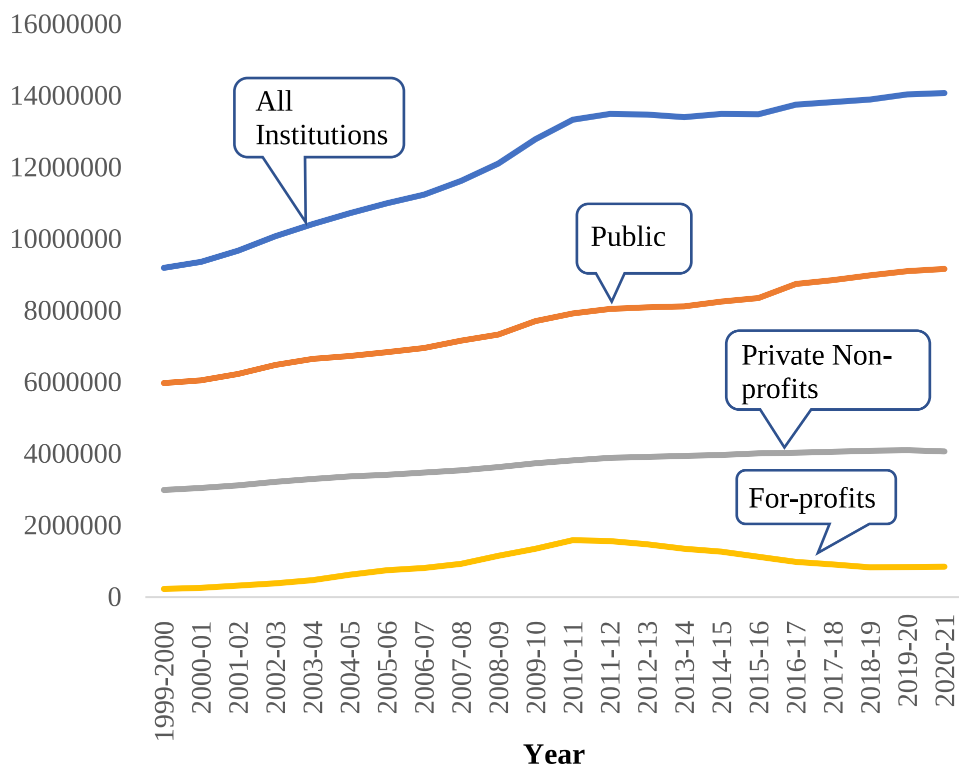
Figure 3 shows enrollment at all 4-year postsecondary institutions from the 1999–2000 academic year to the 2020–2021 academic year. For all institutions, student enrollments grew from 9,196,160 to 14,078,015 students, representing a 53% increase. This increase in enrollment is being experienced by different types of institutions at various rates. It was 53%, 36%, and 273% for public institutions, private non-profits, and for-profits, respectively. The improving high school completion rate, increasing college application volume, growing earnings gap, and growing college enrollment, together, imply increasing demand for a college degree.

FIGURE 3: Enrollment in 4-year Institutions by Type



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Competition in terms of providing college education is increasing as well. This became particularly true when, in 1972, private for-profit institutions became eligible to use Title IV funds. The eligibility to use these funds allowed for-profit colleges and universities to directly compete with existing postsecondary institutions. As a result, prospective students now have more options in their college application portfolio. Indeed, Clinedinst, Hurley, and Hawkin (2014) document an expansion of college application portfolios among the typical college applicants in a research project for the National Association for College Admission Counseling. Furthermore, according to Hurwitz and Kumar (2015), the yield rate, which represents the fraction of admission offers that translate into enrollment, decreased between 2002 and 2012. The above findings imply that prospective students have more options than ever, as well as more competition in the market.

FIGURE 4: Number of 4-year Institutions by Type

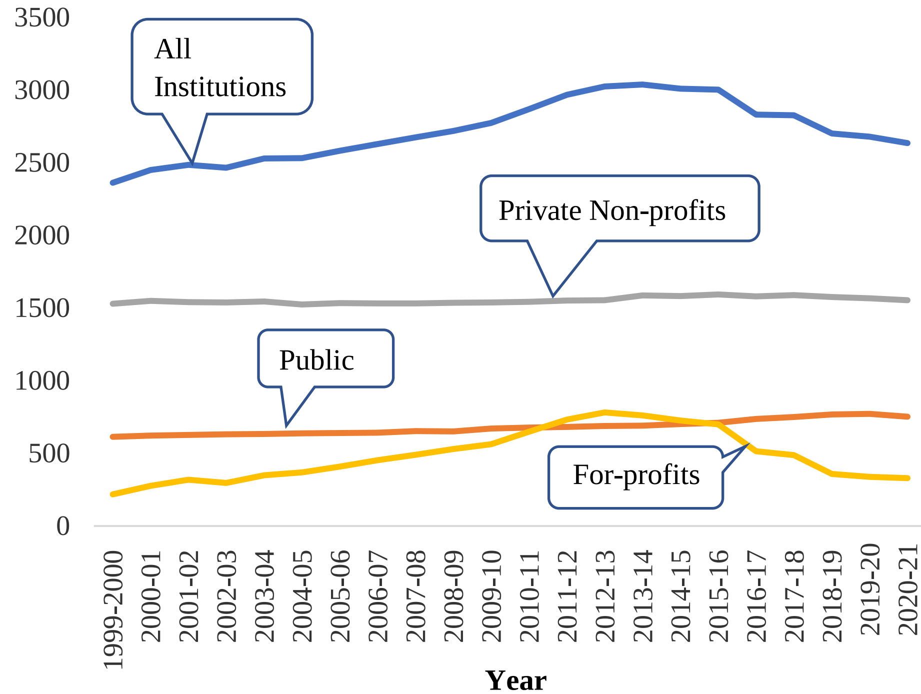

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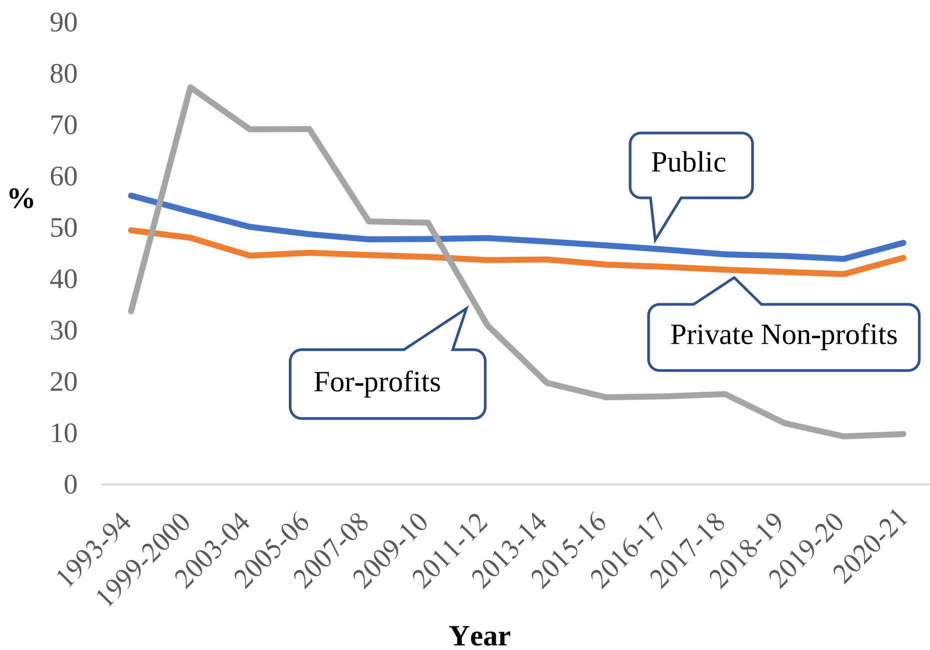
Figure 4 shows the number of 4-year postsecondary institutions from the 1999–2000 academic year to the 2020–2021 academic year. The supply of all institutions grew steadily until 2012, when the number of institutions began to decline. The decline is mainly attributable to for-profit institutions. However, even with the decline, there were 51% more for-profit colleges in the 2020–2021 academic year. There were 12% more postsecondary institutions overall, 23% more public institutions, and 2% more private non-profits available to prospective students in the 2020–2021 academic year than in the 1999–2000 academic year.
Figures 3 and 4 suggest that, over the past 20 academic years, both the demand for and supply of college education grew more strongly than before. The widening earnings gap between those with a college degree and those with high school diploma is driving the demand for a college education up. This growth in demand seems to be outpacing supply due to the fact that there is a high fixed cost of establishing a new college, which translates into a barrier for potential entrants. As a result, the demand for and supply of college education have led to the growth of tuition and fees, as shown in Figure 1.

Tenure system – Many college administrators argue that the tenure system imposes significant costs on higher education, which leads to tuition inflation in postsecondary institutions. Indeed, college administrators frequently claim that faculty tenure prevents them from more effectively adapting the curriculum to changes in the economy and patterns of student demand, which results in the rising price of college education. To mitigate these higher costs, many institutions turn to contingent faculty to save money. However, contingent faculty do not necessarily come at lower cost than tenured faculty. According to Lin (2016), tenure systems help to lock in costs for universities in the sense that it is akin to purchasing labor under a long-term contract at a low price. This is due to the fact that tenure represents long-term job security. With it, professors become largely immobile, and institutions respond by offering annual pay adjustments that are only inflation comparable.

Figure 5 illustrates the percentage of faculty who have tenure in institutions with a tenure system during the selected years. In 1993, about 56% of the faculty in public institutions, 50% in private non-profits, and 34% in for-profits had tenure. However, in 2020, the above figures dropped to 47%, 44%, and 10%. Today, there are more un-tenured than tenured faculty in tenure-granting institutions. The above figures largely agree with the findings in Jones (2019), in which less than half of all faculty were found to be tenured.

Note that the Digest of Education Statistics does not differentiate the tenure data of 4-year institutions from those of 2-year institutions in the for-profit sector. However, because only a very small minority of for-profit 2-year institutions offer a tenure system, we believe that the data in Figure 5 are representative.

FIGURE 5: Percentage of Tenured Faculty in Tenure Granting Instutitions



2021 Digest of Education Statistics

DATA AND ESTIMATION

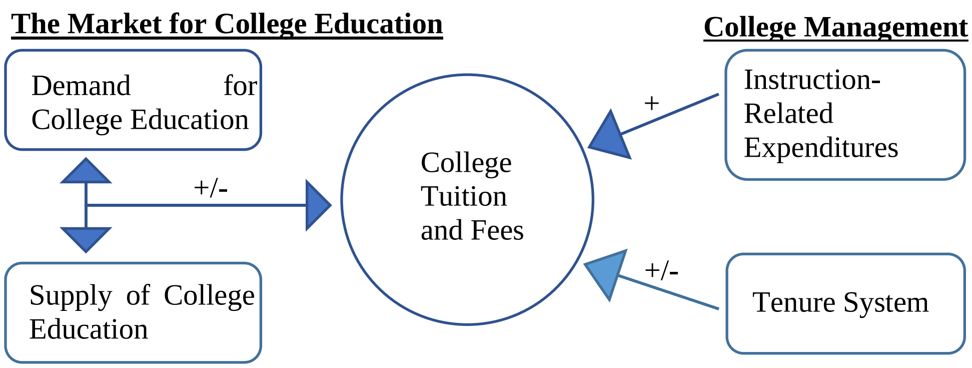
To understand the phenomenon of rising college tuition and fees, one must incorporate the factors from the perspectives of the higher education market and college management as discussed previously. Figure 6 suggests a framework that might be helpful in understanding how college tuition and fees are influenced by a variety of factors. We then perform an empirical analysis of the 2021 Digest of Education Statistics data to understand the determinants of rising college tuition and fees.

As discussed above, the college education market has experienced growing demand and expanding supply. Economic principles suggest that the resulting price will depend on the strength of the movement in demand relative to supply. If the increase in demand outweighs the growth in supply, college tuition and fees will increase. Otherwise, tuition will fall. Thus, Figure 6 illustrates that the resulting effect of the interaction of market demand and supply on the price of college education is ambiguous.

In a higher education institution, the price of a college degree must reflect the cost of providing educational services to some extent. From the perspective of college management, expenditures on instruction-related services will have a positive impact on tuition and fees.

The tenure system is under attack, but its impact on tuition is complicated. It is perceived that strong tenure protections impose significant costs on higher education, leading to skyrocketing college tuition. However, using the tenure system, colleges and universities are able to lock in long-term labor at a low price. Thus, the effect of the tenure system on the price of college education is uncertain, as shown in Figure 6.

FIGURE 6 – A Framework for Rising College Tuition and Fees



In an attempt to understand the influences of the above-mentioned market and college management factors on college tuition, we compile a panel of postsecondary institution data from the 2021 Digest of Education Statistics. These are aggregate data that include tuition and fees; enrollment; the number of institutions; instruction-related expenditures; and the tenure system at various types of 4-year institutions, namely public institutions, private non-profits, and private for-profits, from 2016 to 2019. As mentioned above, we do not include 2-year colleges, because their educational structure is different from that of 4-year institutions. We arrive at a balanced panel of twelve institution-year observations. We attempt to examine the determinants of the price of college education using an augmented Cobb-Douglas production function. Our estimation equation is of the following general form:

$$Tuition = F(Enrollment, \#of\ Institutions, \%\ Instruction\ Expenditures, \\ \%\ Tenured, Year\ Dummies) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.(A)$$

We employ the following fixed-effect specification for the analysis:

$$LNTuition_{i,t} = \alpha + \beta_1 LNEnrollment_{i,t} + \beta_2 LN\#ofInstitutions_{i,t} \\ + \beta_3 LN\%InstructionExpenditures_{i,t} + \beta_4 LN\%Tenured_{i,t} \\ + \beta_y YearDummies + \mu_i + \varepsilon_{i,t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..(B)$$

where *i* = institution type: public, private non-profit, and private for-profit; *t* = time; *LN(.)* = natural logarithm; *Year Dummies* = year dummy variables, controlling for the general year effect; μi = time-invariant institution-specific effects; and $\varepsilon_{i,t}$ = the error term. The institution-specific fixed effect (μi) controls for any time-invariant heterogeneity of the institutions. Also, μi will capture the tuition differences associated with the impact of those heterogeneities assuming they are time invariant (Cole 1989).

Table 1 shows the variable definitions, descriptive statistics, and variables' expected impacts on tuition. Enrollment is the proxy variable for market demand, and the number of institutions is the proxy variable for market supply. Demand drives up prices, while supply puts pressure on prices. Thus, we are expecting the coefficients $\beta_1$to be positive and β_2 to be negative. Furthermore, in a double-log specification, β_1 and β_2 are the sensitivities of tuition in responding to demand and supply, respectively. The percentage of instruction-related expenditures is included as a control variable for the cost-related aspect of providing college educational services. β_3 is anticipated to have a positive sign because increases in instruction-related expenditures place pressure on the operating costs of institutions, which leads to higher tuition and fees. β_4 is ambiguous. As discussed above, tenure may lead to inflexibility in changing course offerings but also help to lock in lower faculty-related costs.

BLE 1: Variable Definitions and Descriptive Statistics

Variable	**Definition**	**Mean**	**Standard Deviation**	**Expected Impact**
Tuitioni,t	Tuition and Fees of attending institution type i in year t	20,340.49	11,841.24	NA
Enrollmenti,t	Enrollment at institution type i in year t	4,626,482	3,450,452	+
# of Institutionsi,t	Number of institution type i in year t	920	508.98	-
% of Instruction Expenditurei,t	The instruction-related expenditures as a percentage of total expenditures of institution type i in year t	27.87	2.19	+
% of Tenuredi,t	The percentage of full-time faculty who are tenured in institution type i in year t	33.49	14.59	+/-

Data source: 2021 Digest of Education Statistics

Table 2 presents the estimations for equation (B). An F-test to determine whether there are fixed effects rejects the hypothesis that there are no institution-specific fixed effects. The Hausman test for random effects rejects the random-effects specification in favor of the fixed-effects model. Table 2 shows that the growing demand for a college education leads to increased tuitions, while improving supply puts pressure on the price of college education. The estimated sensitivity of tuition in responding to demand (i.e., β_1) suggests that a 1% increase in enrollment leads to a 0.91% increase in tuition. β_2, which is the sensitivity of tuition in responding to supply, illustrates that a 1% increase in the number of institutions in the market leads to a decrease in tuition by 0.43%. The fact that the estimated sensitivity of demand is higher than the sensitivity of supply suggests that the effects of rising demand outweigh those of supply. Thus, college tuition is on the rise. Furthermore, an increase in instruction-related expenditures tends to increase college tuition and fees, and an increase in the number of tenured full-time faculty will also increase the price of a college education.

The impacts on college tuition could be non-simultaneous and have time lags. To test this possibility, we estimate equation (B) with a one-year lag on the independent variables, $LNenrollment_{i,t-1}, LN\#ofInstitutions_{i,t-1}, LN\%InstructionExpenditure_{i,t-1}$, and $LN\%Tenured_{i,t-1}$. The estimated coefficients show the same sign as in Table 2 but are statistically insignificant.

TABLE 2 – Fix-Effects Regression Analysis

DV: *LNTuition*$_{i,t}$	Estimated Coefficient
LNEnrollment$_{i,t}$	0.905*
	(0.115)
LN#ofColleges$_{i,t}$	-0.434*
	(0.071)
LN%InstructionExp$_{i,t}$	0.640*
	(0.095)
LN%Tenure$_{i,t}$	0.198*
	(0.029)
Year Dummies	Yes
Number of Institution-Years	12

Standard errors are in parentheses

**: Statistically significant at 5%*

Data source: 2021 Digest of Education Statistics

SUMMARY AND CONCLUSION

In this research project, we contend that escalating college tuition can be attributed to a variety of factors, which should be considered collectively. We study and conduct a longitudinal analysis of the 2021 Digest of Education Statistics data in an attempt to identify the factors that contribute to the rising price of attending colleges and universities. Our estimations suggest that market demand outpaces supply which leads to rising college tuition and fees.

Our analysis has certain limitations, which suggest avenues for future research. First, due to data availability, our estimation results may not be generalizable.

Second, the data derived from the Digest of Education Statistics are at an aggregate level. To further understand the phenomenon of escalating college tuition, researchers will want to consider institution-level data. Third, the rising price of college education could be due to the fact that colleges and universities are protected from competing in terms of prices. Consider, for instance, the ability to cover rising running costs by seeking taxpayer money, the ability to tap into endowment money, and government intervention. Fourth, it is well documented in the literature that administrative spending has experienced substantial increases, outpacing spending on instruction-related services. Whether and how this increase in spending relates to rising college tuition empirically remains to be studied. Fifth, in many disciplines, a faculty position yields a lower monetary return than comparable positions in the private sector. Faculty trade lower pay for the job security provided by the tenure system. In the absence of such a system, colleges and universities will be forced to compete against the private sector for talent on a regular basis, which will only lead to higher compensation for faculty and, thus, higher tuition. Therefore, with appropriate data, researchers may wish to further study the impact of the diminishing role of the tenure system on college campus on the price of a college education.

REFERENCES

Archibald, R. B. and Feldman, D. H. (2010). *Why does College Cost so Much?* Oxford University Press: New York, New York.

Clinedinst, M., Hurley, S., and Hawkins, D. (2014). *State of College Admission 2013*. National Association for College Admission Counseling.

Cole, R. E. (1989). *In Strategies for Learning. Berkeley*, CA: University of California Press.

Hurwitz, M. and Kumar, A. (2015). *Supply and Demand in the Higher Education Market: College Admission and College Choice*, College Board Research, Research Brief, February 2015.

Jones, LaMont (2019). Growing Proportion of Part-Time Faculty Portends Problems, Diverse Issues in Higher Education, July, 2019. https://www.diverseeducation.com/faculty-staff/article/15105155/growing-proportion-of-part-time-faculty-portends-problems, retrieved on February 15, 2023

Lin, Yu Peng (2016). "Academic tenure and the rising cost of higher education: An economist's point of view", *Journal of Applied Business and Economics*, Volume 18, Number 4, 31–35.

McFarland, Joel, Cui, Jiashan, Holmes, Juliet, and Wang, Xiaolei (2020). *Trends in High School Dropout and Completion Rates in the United States: 2019* (NCES 2020-117). US Department of Education. Washington, D.C.: National Center for Education Statistics. https://nces.ed.gov/pubs2020/2020117.pdf, retrieved on February 11, 2023.

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HOW HOSPITAL READMISSION RATES IMPACT PATIENT SATISFACTION

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ABSTRACT

Most Americans will utilize healthcare services through our managed care system. In 2013, the Centers for Medicare and Medicaid Services (CMS) started a reimbursement system that penalized hospitals for poor patient satisfaction and outcomes—preventable readmissions. Although the program was well-founded, challenges remain in both areas. In this study, we review the literature on two areas that are crucial to the success of improving patient satisfaction via reduced readmission rates—electronic health records and care transition. Based on our findings, we propose that the healthcare workforce would benefit from a training on utilizing electronic health records to address the gaps in patient care and transitions of care playing a role in these avoidable readmissions. Further, we broadly lay out some important elements that need to be added to existing IT systems and the staff workflow. We also outline a structure of training program for these new IT systems and electronic health records processes for the healthcare staff from healthcare management perspective

Keywords: Hospital, readmission, HCAHPS, Patient satisfaction

INTRODUCTION

Healthcare is essential to the well-being of every society. Alternatively, failures within the healthcare system can also be the demise of a society's well-being. In 2020, there were 33,356,853 hospitalizations in the United States (AHA, 2022).

Clearly, healthcare is indispensable for most of the population. For employees working within the administrative side of healthcare, it is crucial to consider what is causing errors in the workplace, what solutions there are, and how these solutions can be implemented. To begin this process within the healthcare system, patient satisfaction must be observed as it is one of the main determinants of hospital success. While many factors contribute to patient satisfaction, none of these factors are a prominent topic if the patient was not adequately cared for resulting in readmission. For this reason, it is necessary to fully understand what patient satisfaction means, why it is important, and how it can be used as a tool to reduce readmissions.

Patient satisfaction, also known as patient experiences and outcomes, is important within the healthcare system and throughout patient communities. Firstly, observing how it impacts the hospital's financial stability is necessary. When a patient is satisfied, it leads to loyalty, improved patient retention, the ability to charge more, happier employees, fewer lawsuits, and easier accreditation (2010). Alternatively, on a humane level, it is also important to remember the impact the hospital is having on each patient and society as a whole. Almost every American utilizes healthcare services through the managed care system. If one individual has never been hospitalized, someone in their family most likely has. For this reason, it is important to look at this subject not only as a statistic but also a crucial element within our society that impacts nearly every person in the country.

The subject of patient satisfaction is vast and divergent. All hospitals in the United States are required to use the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) survey. Berkowitz (2016) explains the varied factors in the survey as, "communication with doctors, communication with nurses, responsiveness of hospital staff, pain management, communication about medicines, discharge information, cleanliness of the hospital environment, quietness of the hospital environment, and transition of care." Each topic listed is important to ask every patient after their stay in a hospital as they are all detrimental if not completed properly. However, to fully move towards progress, it is important to look at an omnipresent issue that has a direct correlation with patient satisfaction. For this reason, it is important to address readmissions as a main focus when addressing patient satisfaction.

CMS defines readmission as, “An admission to an acute care hospital within 30 days of discharge from an acute care hospital (2022)”. When a patient is discharged from the hospital, it is assumed that they are stable as a result of the care provided. Ensuring patients are adequately cared for during their stay in the hospital may seem like the obvious customary practice. However, this is not always the standard. Many patients are not adequately stabilized before their discharge, resulting in the patient being readmitted into the hospital. While all readmissions are not avoidable, many are. Though it is difficult, it is important to distinguish which situations are preventable and which are not.

To combat preventable errors, CMS introduced the U.S. hospital readmission reduction program (HRRP) in 2012. They explain this as an effort to, “improve communication and care coordination to better engage patients and caregivers in discharge plans and, in turn, reduce avoidable readmissions” (CMS, 2022). Overall, if a patient using Medicare is hospitalized for Acute Myocardial Infarction (AMI), Chronic Obstructive Pulmonary Disease (COPD), Heart Failure (HF), Pneumonia, Coronary Artery Bypass Graft (CABG) Surgery, or Elective Primary Total Hip Arthroplasty and/or Total Knee Arthroplasty (THA/TKA) and then is readmitted within 30 days, the hospital will almost always be penalized financially for this (CMS, 2022). This is important because it may be perceived that the hospital will profit if patients are readmitted. Conversely, they will lose money. Unfortunately for both the patient and hospital, patients are not adequately treated for these issues before discharge far too often.

LITERATURE REVIEW

Increasing patient satisfaction should be a primary goal within every healthcare facility. Just as other industries are successful when their customers are happy, there is a positive association between patient experience and increased profitability (Richter and Muhlestein, 2017). Additionally, Press Ganey (2011) exemplifies that when HCAHPS scores are higher the profitability is also higher. To heighten satisfaction and, in return, profitability, it is necessary to focus on what causes satisfaction to lower so that prevention solutions can be implemented moving forward. Lewis et al., (2013) discuss how it is optimal to utilize the triple aim approach. This approach will improve the quality of care, the population’s overall health, and lower costs. On the flip side, when a situation is causing all three of these focuses to decrease rather than increase, it is called a “triple fail”. They identified unexpected readmissions within 30 days as a “triple fail” as it does not improve the quality of care/patient experience, it does not improve the population’s overall health, and it costs both the patient, hospital, and government money. This is notable as it gives a good basis for three main topics to focus on improving within the issue of readmissions.

Hughes & Whitham (2018) identified that being readmitted within 90 days or having to visit the ER within six months lowered patient satisfaction. Additionally, they concluded that those who died would have given a low satisfaction report if they had the ability to do so. Between the years 2010 and 2011, the patient satisfaction score was 69.5% on average. This means that contrary to the 69.5% that were satisfied, 30.5% were unsatisfied. (Tsai, et al., 2015). It is necessary to consider how much of the 30.5% remaining was in the control of the healthcare professional and how much was not. Of course, some people will have continuous health issues causing them to be readmitted. Readmissions that are unavoidable range from 5%-79% with a median proportion of 27% (Walraven et al., 2011). Therefore, there will always be patients that remain unwell and are unpleased. However, reducing the errors that are preventable would increase patient satisfaction substantially.

Deciphering when readmissions are preventable or nonpreventable is an arduous, and nearly impossible, task. However, this is a necessary feat to tackle as best as possible as it impacts so many. In a study observing 1,111 individuals that were readmitted within 30 days, it was concluded that 40% of the medication-related readmissions could have been avoided. (Uitvlugt et al., 2021). Other common preventable errors include the emergency department making decisions regarding readmission, communication issues between the hospital and outpatient care, premature discharge, and lack of sharing information with patients about aftercare (Alper et al., 2014).

Among the geriatric community, it was observed that readmission increases substantially between 30 and 180 days. In the first 30 days, the rate was 5.6%. However, in the first 180 days, the rate was 23.3% (Hughes and Witham, 2018). They further explain, “For patients readmitted within 30 days, 13.5% (n = 30) were readmitted with the same condition with the most common diagnoses associated with readmission being chest infection, falls/immobility, and stroke" In addition to this, 29 patients that were never readmitted died within 30 days of their discharge. Mortality beyond 30 days is understudied because a majority of research focuses is on the 30-day readmission window, which the CMS utilizes for the HRRP. So, some information regarding readmission rates may even be misleadingly low if they only include the initial 30-day period. Additionally, it should be calculated within patient satisfaction scores if a patient has died. This will cause the hospital to lose a patient altogether and potentially not get paid for any care rendered unless they were insured by CMS.

In 2018, over a 30-day period, the average readmission rate was 14% (3.8 million). Interestingly, 60.3% (2.3 million) of the patients were insured by Medicare, 19% (721,300) were insured by Medicaid, and only 8.7% were privately insured. (AHRQ, 2021). This is a substantial finding because it can lead to the assumption that patients insured by Medicare and Medicaid are not cared for in the same capacity as those privately insured. In addition to this statistic, among Medicare beneficiaries that did not have a life-threatening diagnosis, 10,093 (0.12%) individuals died within seven days of being discharged annually in the United States (Obermeyer et al., 2017). This further validates that there is a problem with the patients being adequately cared for when they are not privately insured. Readmissions cost CMS $26 billion yearly. It is estimated that $17 billion of that cost could be prevented. In an effort to lower preventable errors, CMS has invoked the Hospital Readmissions Reduction Program (HRRP) which can cost hospitals up to 3% of their payments via Medicare for the fiscal year (CMS, 2018). While readmissions still remain high, HRRP being implemented did decrease readmissions for those insured by Medicare and Medicaid. (Ferro et al., 2019).

Beyond Medicare and Medicaid paying billions that could have been potentially avoidable, privately insured patients are also spending unnecessary money on this. "The average readmission cost was $15,200, ranging from $10,900 for self-pay/no charge stays to $16,400 for privately insured stays" (AHRQ, 2021). Furthermore, HRRP does not impact patients admitted under self-pay or private insurance. Therefore, there was no notable decrease in readmission rates after HRRP was implemented for individuals not covered by CMS (Ferro er al., 2019). In fact, from 2010 to 2016, readmissions for the uninsured increased by 14% (AHRQ, 2019).

Of course, being readmitted, resulting in more medical bills and illness, will not lead to a satisfied patient.

SOLUTIONS

In everyday life, change is the only constant. To keep up with the pace of this, it is necessary to evolve business practices as life naturally evolves. Within hospitals, preventable readmissions are an issue that largely impacts both the hospital and the patient. To improve this dilemma, the administrative side of healthcare facilities must introduce potential solutions. When readmissions are high, patient satisfaction lowers (Hughes & Whitham, 2018). As a result, the hospital has less stability overall. It is necessary to reduce communication errors, premature discharge, and medical errors to improve this issue. If these things can be accomplished, HCAHPS scores and satisfaction should increase.

There are two major forms of communication errors that lead to preventable readmissions. The first is between the hospital staff and outpatient care staff. The second is between the employees within the hospital and patients when discussing aftercare (Alper et al., 2014). To improve this, new protocols need to be put in place to hold medical professionals more responsible for efficient and clear communication.

A solution that can better this issue is having an electronic reminder for the medical team within the hospital to communicate with the patient's outpatient care. After they communicate, a note is recorded in the electronic health record. Sietsma et al., (2021) exemplified that this method improved the communication rate from 22% to 85%. An automatic electronic reminder is helpful because medical professionals are already overworked. Over half of physicians report feeling overworked and burnt out (Reith, 2018). This is significant because if the additional task of keeping track and remembering to call every patient's outpatient facility is put on their shoulders, it likely would be ineffective as they are already juggling too much. Furthermore, where there is better communication, there is higher patient satisfaction. Moslehour (2022) states that there is a "straight comparison between physician-patient satisfaction and health care providers' satisfaction.". This is necessary as there is plenty of room for growth. Tsai et al., (2015) showed in their study that only 69.5% of patients were satisfied. Additionally, the Press Ganey (2011) survey brought attention to the fact that when the HCAHPS scores are higher, the profitability of the hospital also increases.

The second communication issue focuses on patients being readmitted due to not being educated about aftercare when discharged. To lessen this occurrence, it is necessary to ensure they are seen by a primary care physician afterward. Hughes and Williams (2018) identified that among the geriatric community, 13.5% of patients were readmitted with the same issue within 30 days. Li et al., (2022) found that geriatric patients with an intervention group were 32% less likely to be readmitted within 30 days. Additionally, this will help improve patient satisfaction and hospital stability as it reduces costs for patients and healthcare facilities when there are fewer readmissions.

Another issue that contributes to preventable readmissions is premature discharges. To help this issue, better protocols must be implemented to ensure that patients are stable enough to go home and be seen by outpatient providers. The issue of discharging patients is a balancing act. It is necessary to discharge patients to allow other patients to be seen. Commonly, it is the medical staff's job to evaluate the risks associated with discharging a patient to admit the next patient. (Oliver, 2020). The pressure of this can cause confusion and lead to discharge when there should not have been.

The first solution for this issue is to have a checklist that must be met for every patient before they can be discharged. For example, if a person is admitted for a fall, the patient must be observed walking on their own for a certain amount of time, using the restroom, getting dressed, etc. Every patient should be seen as competent to care for themselves before they are discharged. In the instance of a fall, if a patient can not care for themselves on their own, they will need to be readmitted as they will most likely fall again and hurt themselves more. In this way, the initial patient returns which causes more stress on medical staff to release other patients, which in turn, causes a vicious cycle. The desired goal of this is to focus on providing better care to the patient at hand rather than trying to circulate them as fast as possible. This should eventually help balance out the availability of care.

The second solution would be to ensure that employees are not reprimanded for holding patients longer than planned. While they may not be able to care for new patients, they will be ensuring care for the current patient. Not having enough beds for patients is a systematical error, not an error on the employee level. Medical professionals should not have the burdens of the business side of the hospital. Rather, they should focus on patient care. If medical professionals keep a patient longer than their allotted time and are punished, the next time they are treating a patient they will likely attempt to discharge them as early as possible to reduce their personal risks. In the long run, this is not an effective method as it will lead to a cycle of premature discharges and readmissions.

Lastly, medical errors are another dangerous issue that results in readmissions. Some of the common errors are dosing errors, giving the wrong drug, incorrectly mixing drugs, incorrect tubing placement, transferring infections, and equipment errors (Rodziewicz, 2022). This is an issue that needs to be addressed as up to 40% of medication errors could be avoided (Uitvlugt et al., 2021). The solution of utmost importance is switching over to all electronic health records. According to the CDC, 89.9% of office-based physicians use an electronic record system. This, of course, leaves 10.1% of office-based physicians without electronic medical records. Every hospital should have a barcoding system put in place. For example, when they are going to administer medication, they will scan the medical and scan the patient's barcode on their wrist. After this, it will automatically enter into the electronic health record. At this time, if any errors are occurring, the computer should alarm the medical staff before it is administered. This should help with dosing errors, administering the wrong drug, and incorrectly mixing drugs.

A solution for transferring infections is ensuring all staff wash their hands before interacting with all patients. They should have a small alarm that beeps every time they enter a patient's room. After they wash their hands or use hand sanitizer, they will simply press a button to turn off the alarm. In this way, they will be reminded to ensure cleanliness as it is easy to become distracted and forget.

To accomplish the solutions discussed, a new electronic health record system will need to be implemented, new checklists need to be created, disciplinary action needs to be rewritten, and new technology needs to be created and administered to the staff. This is a large set of changes that will require many departments' help.

Furthermore, control charts can be used to determine if these solutions have helped.

IMPLEMENTATION

When creating a plan, the initial timeline needs to be established. To fulfill the solutions discussed, it is necessary to start the rollout process for the electronic health record system. From beginning to end, it can take between six and eight months (Aguirre, 2019). Therefore, this project will most likely take the most time. The second task on the timeline is choosing a technology that beeps every time a staff member enters another patient’s room. Once that is done, rewriting disciplinary actions, and creating checklists for medical staff should be focused on. Therefore, firstly, in months 1-8, the electronic health system will be implemented. Secondly, in months 1-3 the technology for staff members will be implemented. Thirdly, in months 4-5 the disciplinary actions will be rewritten. Lastly, in the months 6-8 these checklists will be created.

After creating the order of tasks, it is necessary to inform the appropriate departments of the new projects they will be assigned. As for implementing an electronic health record, the main team that will work on this is IT. To rewrite the disciplinary procedures, the hospital board and human resources will need to work together and approve any changes. Medical professionals' expertise is required to create an adequate checklist for each condition. For this reason, the head physicians of each department will need to establish the requirements for a patient to be discharged safely. Once they have created these lists, they should be verified by the medical director. The medical director should also have another medical director review this checklist to verify it is accurate before implementation. Overall, this would involve change, input, and cooperation from every person within the organization.

As there will be so much change throughout the facility, it will be important to provide extensive and adequate education and training. If there is not sufficient education, the changes will do more damage than good. Considering that patient records will be a part of the changes, the modernized technology must be fully understood before it is used with patients. If done incorrectly, it could cause incorrect documentation to be inserted or shared. If this does happen, the results could cause dangerous or even fatal situations to occur.

To avoid this from happening, we propose a training program. An in-person or virtual training program will need to be provided to every person, which is individualized to their specific job. The training materials will be chosen from other hospital systems or academic medical centerswho have successfully provided training to other hospitals. This training will be done individually with a completion test to confirm they have completed the training. Additionally, after the study materials are completed, there should be a hands-on training for the healthcare staff. The hands-on training event will be provided over a intensive short course or a workshop, preferably, one whole working day. Subesequently, annual refresher courses should be offered. To ensure minimum disruption of schedule and workflow, , employees will complete their training on different days. As part of the training, all employees should have the ability to provide their feedback and questions anonymously or publicly, at their discretion. After head leadership has sorted through all the input, it should all be addressed via email to reduce the amount of time that will be taken away from the employees. Once the training has been completed, all employees should be assigned an updated virtual handbook with the new expectations and disciplinary actions. All employees should be required to complete the training and read and sign this document before they begin their next shift with the new technology.

Once the implementation and training have been completed, it is necessary to track the improvement. In this situation, control charts should be utilized that track change over time. Suman and Prajapati (2018) explain, “Control chart can help in determining the source of errors by identifying the special and common causes of variations.” It is important to give enough time for the new protocols to have a real impact. For the first few months, employees will still be learning to accurately use the new technology. However, over the next few months, the HCAHPS should begin to reflect higher patient satisfaction scores. Additionally, preventable readmissions should begin to lower. This means the control charts should also indicate that fewer infections are being spread and the patient’s being admitted for the same problems within 30 days have lowered.

In conclusion, healthcare is a necessary industry for nearly everyone. There are many factors that can improve or worsen a hospital. One of the most important determining factors indicating if a hospital is run efficiently, is patient satisfaction. When patient satisfaction is high, so are profits. Additionally, it is easier to accomplish the requirements needed to run a facility such as accreditation. A major factor that harms patient satisfaction scores is readmission rates. Determining and taking steps to lower preventable readmissions can improve the environment. In turn, this will improve patient satisfaction.

REFERENCES

Alper, E., O'Malley, T. and Greenwald, J. (2014) Hospital Discharge and Readmission. UpToDate.

Aguirre, R. R., Suarez, O., Fuentes, M., & Sanchez-Gonzalez, M. A. (2019). Electronic Health Record Implementation: A Review of Resources and Tools. *Cureus*, *11*(9). https://doi.org/10.7759/cureus.5649

American Hospital Association. (2022). Fast Facts on U.S. Hospitals, 2022. https://www.aha.org/statistics/fast-facts-us-hospitals

Amritphale, A., Fonarow, G. C., Amritphale, N., Omar, B., & Crook, E. D. (2022). All-cause unplanned readmissions in the United States: insights from the Nationwide Readmission Database. *INTERNAL MEDICINE JOURNAL*. https://doi-org.ezproxy.ttuhsc.edu/10.1111/imj.15581

Berkowitz, B. (2016). The Patient Experience and Patient Satisfaction: Measurement of a Complex Dynamic. *Online Journal of Issues in Nursing*, *21*(1), 12. https://doi-org.ezproxy.ttuhsc.edu/10.3912/OJIN.Vol21No01Man01

Centers for Medicare & Medicaid Services. (2018). Guide to Reducing Disparities in Readmissions. https://www.cms.gov/about-cms/agency-information/omh/downloads/omh_readmissions_guide.pdf

Centers for Medicare & Medicaid Services. (2022). Hospital Readmissions Reduction Program (HRRP) Archives. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HRRP-Archives

Ferro, E. G., Secemsky, E. A., Wadhera, R. K., Choi, E., Strom, J. B., Wasfy, J. H., Wang, Y., Shen, C., & Yeh, R. W. (2019). Patient Readmission Rates For All Insurance Types After Implementation Of The Hospital Readmissions Reduction Program. *Health affairs (Project Hope)*, *38*(4), 585–593. https://doi.org/10.1377/hlthaff.2018.05412

Hughes, L. D., & Witham, M. D. (2018). Causes and correlates of 30-day and 180 day readmission following discharge from a Medicine for the Elderly Rehabilitation unit. *BMC Geriatrics*, *18*(1), 197. https://doi-org.ezproxy.ttuhsc.edu/10.1186/s12877-018-0883-3

Lewis, G., Kirkham, H., Duncan, I., & Vaithianathan, R. (2013). How health systems could avert 'triple fail' events that are harmful, are costly, and result in poor patient satisfaction. *Health affairs (Project Hope)*, *32*(4), 669–676. https://doi.org/10.1377/hlthaff.2012.1350

Li, R., Geng, J., Liu, J., Wang, G., & Hesketh, T. (2022). Effectiveness of integrating primary healthcare in aftercare for older patients after discharge from tertiary hospitals-a systematic review and meta-analysis. *Age and ageing*, *51*(6), afac151. https://doi.org/10.1093/ageing/afac151

Moslehpour, M., Shalehah, A., Rahman, F. F., & Lin, K.-H. (2022). The Effect of Physician Communication on Inpatient Satisfaction. *Healthcare*, *10*(3), 463. https://doi.org/10.3390/healthcare10030463

Obermeyer, Z., Cohn, B., Wilson, M., Jena, A., & Cutler, D. (2017). Early death after discharge from emergency departments: analysis of national US insurance claims data. UC Berkeley. Report #: ARTN j239. http://dx.doi.org/10.1136/bmj.j239 Retrieved from https://escholarship.org/uc/item/6r95561t

Oliver D. David Oliver: The risks of discharging patients early against doctors' judgment *BMJ* 2020; 368 :m210 doi:10.1136/bmj.m210

Prakash, B. (2010). Patient Satisfaction. *Journal of Cutaneous and Aesthetic Surgery*, *3*(3), 151-155. https://doi.org/10.4103/0974-2077.74491

Press Ganey. (2011). Press Ganey 2011 Pulse Report Provides a Broad Look at Key Trends in HealthCare. www.pressganey.com/pressroom/pressroom_2011/ll-ll-14/Good_Patient_Care_Equals_Good_Business_%E2%80%93_New_Report_Shows_Higher-Performing_Hospitals_Eam_More_Profits.aspx.

Reith T. P. (2018). Burnout in United States Healthcare Professionals: A Narrative Review. *Cureus*, *10*(12), e3681. https://doi.org/10.7759/cureus.3681

Richter, J. & Muhlestein, D. (2017). Patient experience and hospital profitability: Is there a link?. *Health Care Management Review, 42* (3), 247-257. doi: 10.1097/HMR.0000000000000105.

Rodziewicz TL, Houseman B, Hipskind JE. Medical Error Reduction and Prevention. [Updated 2022 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK499956/

Suman, G. & Prajapati, D. (2018). Control chart applications in healthcare: A literature review. *International Journal of Metrology and Quality Engineering*. 9. 5. 10.1051/ijmqe/2018003

Sietsma, A. C., Brennan-Cook, J. M., Malak, L. T., & Lauzon, V. L. (2021). Improving Communication Between Hospital and Outpatient Psychiatric Providers. *Advanced emergency nursing journal*, *43*(3), 237–246.

Tsai, T. C., Orav, E. J., & Jha, A. K. (2015). Patient satisfaction and quality of surgical care in US hospitals. Annals of surgery, 261(1), 2–8. https://doi.org/10.1097/SLA.0000000000000765

U.S. Census Bureau. (2022). U.S. and World Population Clock. https://www.census.gov/popclock/

Uitvlugt, E. B., Janssen, J. A., Siegert, E. H., Kneepkens, E. L., van den Bemt, J. F., van den Bemt, L. A., & Karapinar-Çarkit, F. (2020). Medication-Related Hospital Readmissions Within 30 Days of Discharge: Prevalence, Preventability, Type of Medication Errors and Risk Factors. *Frontiers in Pharmacology*, *12*. https://doi.org/10.3389/fphar.2021.567424

Walraven, C. V., Bennett, C., Jennings, A., Austin, P. C., & Forster, A. J. (2011). Proportion of hospital readmissions deemed avoidable: a systematic review. *CMAJ : Canadian Medical Association Journal*, *183*(7), E391. https://doi.org/10.1503/cmaj.101860

Weiss, A. J., & Jiang, H. J. (2021). Overview of Clinical Conditions With Frequent and Costly Hospital Readmissions by Payer, 2018. In *Healthcare Cost and Utilization Project (HCUP) Statistical Briefs*. Agency for Healthcare Research and Quality (US).

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ETHICAL E-BEHAVIOR: AN EXAMINATION OF COVID-19 PANDEMIC EFFECTS

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ABSTRACT

Unethical behavior is a challenge for educators and the business community, especially given the availability of electronic technology. As a result, this longitudinal study was undertaken to extend previous research that empirically examined the cheating practices of undergraduate business students, our future business leaders, and in particular, if the COVID-19 pandemic has affected behavior. Findings suggest that several unethical behaviors increased at the onset of the pandemic. Fortunately, relative to the five-year trend, results suggest that behavior is improving with respect to the volume of unethical behavioral incidences. Finally, results demonstrate gender differences with respect to participation.. Overall, findings imply that although progress has been made, continued student education in ethics should be promoted.

Key Words: e-cheating, ethical behavior, empirical study, undergraduates

INTRODUCTION

The Work Institute defines ethics in the workplace as "the moral code that guides the behavior of employees with respect to what is right and wrong in regard to conduct and decision making" (Mahan, 2019). Business ethics is so important that approximately 400,000 mostly small businesses across North America invest in the Better Business Bureau (BBB) seal, one that a 2021 BBB study of consumer perceptions found that 66% of respondents felt that the BBB accreditation seal symbolized the business is honest and ethical (BBB, 2022).

Questionable ethical behavior, however, may surface early in an individual's academic life. One U.S. high school survey, for example, found that 66% of students admitted to having cheated in one way or another and 86% of students reported to have seen someone cheat first hand (Smith, 2018). This finding is consistent with the McCabe surveys from 2002 to 2015 of over 70,000 U. S. high school students at over 24 high schools (Danilyuk, 2019). McCabe found that 64% of students admitted to cheating on a test, 58% admitted to plagiarism, and 95% indicated participating in any form of cheating, whether it was on a test, plagiarism or copying homework.

Several studies have demonstrated that the unethical behavior continues into the post-secondary education level. In a March 2020 International Center for Academic Integrity (ICAI) study, researchers tested an updated version of the McCabe survey with 840 students across five college campuses (ICAI, 2020). Results of key cheating behaviors demonstrated that 32% of students cheated in any way on an exam, 2% got someone else to do his/her academic work (e.g. essay, exam, assignment) and submitted it as his/her own, and 25% used unauthorized electronic resources (e.g. articles, Wikipedia, YouTube) for a paper, project, homework, or other assignment.

Moreover, contract cheating, where a student recruits a third party to undertake his/her assignments, has increasingly emerged. In a meta-analysis of 71 samples from 65 studies from 1978-2016 that included 54,514 participants, contract cheating was self-reported by a historic average of 3.52% of students (Newton, 2018). When using samples from 2014 to 2018, however, the percentage of students admitting to paying someone else to undertake his/her work increased to 15.7% or potentially 31 million students worldwide.

And, a study led by Thomas Lancaster, a senior teaching fellow at the Imperial College London, found that the number of questions and answers posted on Chegg's homework help section for five STEM subjects between April and August 2020 was up over 196% from the same time period in 2019 (Subin, 2021). In fact, Texas A&M University found more than 800 cases of academic fraud after a faculty member noticed students were finishing complex exams in less than a minute, with part of the information coming from Chegg.

To better understand cheating, several other studies have been conducted. One study collected data from 46 upper secondary schools in Stockholm and included information from 4,529 students and 1,045 teachers (Ramberg & Modin, 2019). The study was based on combined data from two surveys, one targeting students and the other targeting teachers, and examined school leadership, teacher cooperation and consensus, and school ethos (norms, values and beliefs permeating the school and manifesting themselves in the way that teachers and students relate, interact and behave towards each other) to determine if each are predictive of student's self-reported cheating. Results show significant negative associations between all three aspects of school effectiveness and student cheating, indicating that these conditions are important to consider in the pursuit of a more ethical, legitimate and equitable education system. The findings also indicate that the relationship between school effectiveness and student cheating is partly mediated by student grades and moral standards.

Similarly, another study focused on the perceived teacher characteristic identified as individual reference norm orientation (IRNO; i.e., the tendency to evaluate students based on his/her performance development over time) (Markstreiner, et. al, 2021). Through an examination of cheating on written exams, on homework, and in oral exams among 601 students in language classes in secondary and vocational German schools, researchers found that cheating on written exams and on homework occurred less frequently the more the classroom of students perceived their teachers as having an IRNO. This further suggests that teacher characteristics are associated with student cheating behavior.

Participation may also vary by academic disciple. A study of Ethiopian undergraduate students, for example, revealed that business and economics students show less ethical attitude towards academic dishonesty and engage in more cheating than students from the school of social science and humanities and the school of natural and computational sciences (Chala, 2021).

Academic dishonesty may also be a serious issue in online courses. Despite a series of mitigation measures that were adopted without direct proctoring such as the use of a special browser, a restricted testing period, randomized questions and choices, and a strict timer, a study conducted by Dendir and Maxwell (2020) found that cheating was relatively commonplace. The cheating apparently also paid off handsomely, at least when it came to exam performance, often raising scores by about a letter grade. However, after utilizing direct proctoring, cheating was mitigated during high-stakes online assessments. As part of the proctoring, the student was photographed and video recorded while showing proof of identification and the surrounding environment. The student was also recorded during the entire duration of the exam and software utilized to flag any irregular incidents (e.g. reduced visibility of face recognition or detection of an unrecognized person in the camera frame) that may have occurred and their exact timeline.

As a result of this problematic unethical behavior and the availability of electronic cheating (e-cheating) mechanisms, this study was undertaken to longitudinally examine undergraduate business students. Business students were selected because these students will be the future business leaders and those that will likely face ethical dilemmas in his/her career. The research was conducted to empirically examine several questions. Has the March 11, 2020 World Health Organization declaration of the novel coronavirus (COVID-19) as a global pandemic changed activity (Cucinotta & Vanelli, 2020)? What are the current trends with respect to ethical behavior as a percentage of students and volume of activity? Do these behaviors vary by gender? In addition, because of the increasing use of online courses at universities, the study explores student cheating perceptions and behavior in an online course that he/she has taken. Results are important in determining if there is a need for further proactive education to improve ethical student behavior.

PREVIOUS RESEARCH

To examine cheating behavior, the authors have conducted four prior studies of undergraduate business students. The first study was conducted in the Spring semester of 2006 to serve as a baseline for the research (Case and King, 2007). Although 49% of students cheated at least once during the past 12 months in college, only six percent indicated using information technology (IT) to cheat on an exam, five percent submitted a downloaded paper as his/her own, and 12% did not cite work that was cut and pasted from the Internet.

A follow-up study was conducted at the end of 2006 (King and Case, 2007). During the Fall semester, 43% of the students admitted to at least one type of unethical behavior such as cheating on an exam either with or without IT, letting another student copy his/her homework or exam, downloading a research paper as his/her own work, or cutting and pasting information from the Internet and not citing the source of the material. Overall, each student that committed at least one unethical behavior reported performing approximately 10 unethical actions during the semester.

Next, a preliminary five-year study was conducted in 2013 (King and Case, 2014). Results indicated that students were cheating in various ways regardless of the course delivery mode. In 2013, 15% of students admitted cheating on an exam, 10% indicated that he/she used IT to cheat on an exam, 15% let another student copy from his/her exam, 31% let a classmate copy his/her homework, and 10% reported that he/she downloaded an Internet paper and submitted it as his/her own work. Results further indicated that students believe their fellow classmates are unethical and often resort to cheating. In 2013, for example, surveyed students believed that 44% of their colleagues cheated on homework, 29% cheated on exams, 25% cheated on term papers, and 36% cheated on Internet projects. In general, results were consistent across the study years.

Finally, the authors conducted a five-year study examining the years 2014-2018 (Case, King, & Case, 2019). Finding indicate that while the volume of unethical behavioral incidences vary by type of behavior, the percent of students exhibiting these behaviors decreased for most unethical behaviors during the study time frame. There was a decrease both in the percentage of students exhibiting at least one behavior and in behaviors such as cheating on exams and letting another student copy homework. However, participation in e-cheating rose. Even though the student perception was that it is becoming increasingly more difficult to cheat on an online course exam, for example, during the end of the study, two-thirds of students perceived that it is easy to cheat and one-fourth indicate that he/she cheat on these exams. Results also suggested that gender is a factor with respect to electronic cheating incidence. Two e-cheating behaviors, cheating on exams using IT and downloading a paper and claiming it as one’s own, were statistically correlated with males.

RESEARCH DESIGN

This study employs a survey research design. The research was conducted at a private, northeastern U.S. university. A Student Ethical Behavior instrument was developed by the authors and administered each semester during a five-year period (from spring 2018 through fall 2022) to undergraduate students enrolled in a School of Business course. However, because of the university unanticipated 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. As a result, the response rate was over 80% each semester. 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 behavior regarding cheating and ethical behavior. The survey requested that each student indicate the number of times during the semester that he/she cheated in various ways (let another student copy his/her exam, cheated on an exam using IT, downloaded a paper and submitted it as his/her work, and so on). In addition, if the student had taken an online course, the respondent was asked how easy it was to cheat and to indicate the number of online exams that he/she cheated on. Results were summarized by calendar year and correlation statistics were calculated to determine potential relationships between unethical behaviors and gender.

RESULTS

A sample of 998 usable surveys was obtained. Table 1 indicates that, overall, 62% of the respondents were male and 38% were female.

TABLE 1
Gender Response Rate by Academic Year

	2018	2019	2020	2021	2022	Total
Male	59%	60%	67%	58%	70%	62%
Female	41%	40%	33%	42%	30%	38%
Count	261	344	80	155	158	998

The response rate by academic class is presented in Table 2. Overall, 18% of respondents were freshmen, 35% were sophomores, 30% were juniors, and 17% were seniors.

TABLE 2
Academic Class Response Rate by Academic Year

	2018	2019	2020	2021	2022	Total
Freshmen	25%	28%	0%	4%	12%	18%
Sophomore	39%	32%	23%	41%	38%	35%
Junior	21%	17%	69%	46%	37%	30%
Senior	15%	23%	8%	9%	13%	17%

Cheating activity was examined to determine the type of cheating activity committed. Chart 1 illustrates that in 2018, 27% of students cheated on an exam, 36% let another student copy from an exam, 68% let another student copy homework, 24% cheated on an exam using IT, and 21% downloaded a paper and submitted it as his/her own work. However, by the end of the five-year study period, two behaviors increased and three behaviors decreased as a percentage of students. Cheating on an exam using IT increased to 38% and downloading a paper and submitting it as his/her own work increased to 27%. On the other hand, cheating on an exam decreased to 23%, letting another student copy an exam decreased to 8%, and letting another student copy homework decreased to 52% of the students. Overall, the most prevalent type of cheating committed during every year of the study involved letting another student copy his/her homework, with the exception of cheating on an exam using IT during the first year of the pandemic.

CHART 1
Type of Cheating Activity

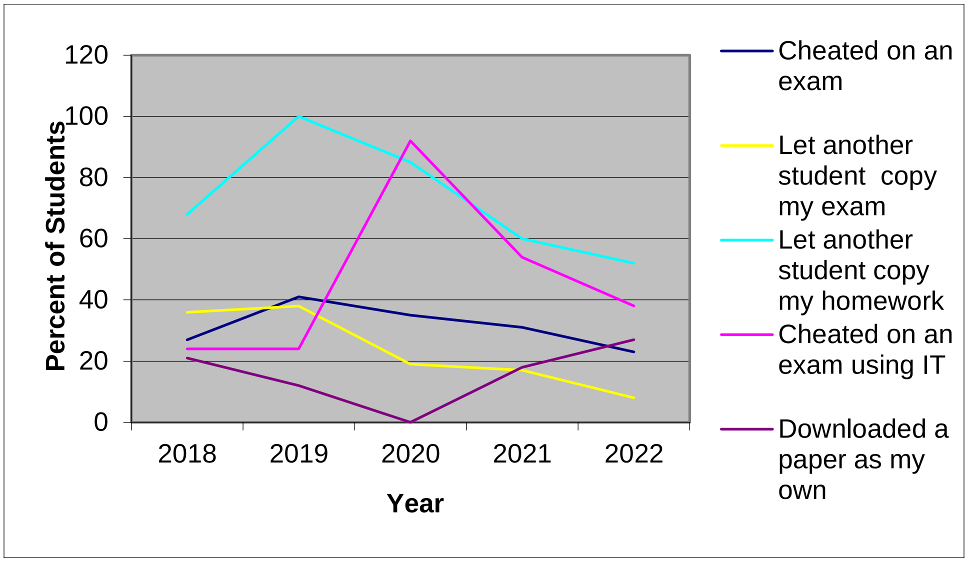


Table 3 presents cheating activity by quantity per respondent for those indicating the behavior. In 2018, the highest volume type of cheating reported was letting another student copy his/her homework and the downloading of completed papers from the Internet that are submitted as the student's own work (7.0 incidences per student, respectively). Other activities included cheating on an exam using IT (2.6 incidences per student), letting another student copy from his/her exam (2.2 incidences per student), and cheating on an exam (2.1 incidences per semester). By 2022, behaviors changed. Cheating on an exam decreased by 38% to 1.3 incidences, letting another student copy his/her exam decreased by 41% to 1.3 incidences, letting another student copy his/her homework decreased by 63% to 2.6 incidences, cheating on exams using IT decreased by 31% to 1.8 incidences, and downloading papers as his/her own decreased by 36% to 4.5 incidences per respondent.

TABLE 3
Quantity of Cheating Activity (Average Number of Times Per Semester)

Activity	2018	2019	2020	2021	2022
Cheated on an exam	2.1	4.9	2.1	2.4	1.3
Let another student copy from my exam	2.2	4.2	1.2	1.2	1.3
Let another student copy my homework	7.0	7.1	5.0	4.3	2.6
Cheated on an exam using IT	2.6	7.5	2.4	2.2	1.8
Downloaded an Internet paper as my own work	7.0	7.4	0.0	6.8	4.5

The study next examined gender and cheating. Table 4 illustrates that with respect to the five cheating behaviors, in 2018, 46% of males and 28% of females participated in at least one unethical activity. By 2022, the percentage of males decreased by 46% to 25% of males but the percentage of females increased by 58% to 44% of females. Overall, during four of the five study years, a larger percentage of females versus males indicated participating in at least one unethical activity.

TABLE 4
Cheating Activity by Gender (% of respondents with at least one unethical activity)

Gender	2018	2019	2020	2021	2022
Male	46%	43%	39%	41%	25%
Female	28%	51%	62%	42%	44%

In addition, Table 5 explores gender with respect to whether the student used a web search to explore techniques for cheating. In 2018, 6% of males and 4% of females indicated this behavior. By 2022, the percentage of males increased to 8% and, while the percentage of females spiked in 2020 to 15%, the percentage of females remained constant at 4%.

TABLE 5
Web Search for Cheating Techniques by Gender

Gender	2018	2019	2020	2021	2022
Male	6%	3%	6%	6%	8%
Female	4%	2%	15%	3%	4%

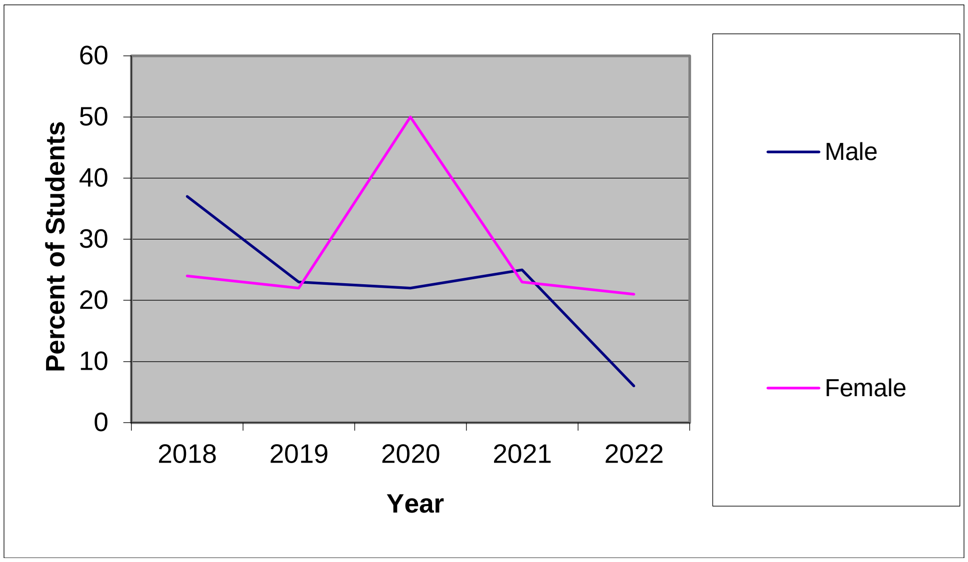
To further understand cheating, the authors examined cheating in the increasingly used format of class, the online class. If a student had taken an online course, the survey prompted the respondent to indicate on a five-point Likert scale how easy it is to cheat on an online exam. Table 6 demonstrates that in 2018, 21% of the students indicated that it is “very easy” to cheat on an online exam, 42% indicated that it is “somewhat easy,” 30% indicated that it is “difficult,” and 7% indicated that it is “very difficult.” By 2022, while the percent of students indicating “very easy” increased to 24%, the percent of “somewhat easy” decreased to 22%, the percent of “difficult” decreased to 10%, and the percent of “very difficult” increased to 15%. Overall, there has been a relatively steady transition with respect to student perception that it is getting less difficult to cheat on an online exam.

TABLE 6
Ease of Cheating on Online Course Exams (Students had taken an online course)

Ease of Cheating	2018	2019	2020	2021	2022
Very easy to cheat	21%	33%	20%	15%	24%
Somewhat easy to cheat	42%	33%	21%	30%	22%
Neutral	0%	0%	26%	28%	29%
Difficult to cheat	30%	23%	23%	15%	10%
Very difficult to cheat	7%	11%	10%	12%	15%

Chart 2 depicts online exam cheating by gender. In 2018, 37% of male and 24% of female respondents indicated this behavior. By 2022, both the male and female percentages decreased, to 6% and 21%, respectively. Overall, the percentage of students indicated cheating on an online exam dropped dramatically from 32% in 2018 to 16% in 2022.

CHART 2
Percentage of Students Cheating on an Online Exam



In terms of the quantity of online exam cheating incidences per student, Table 7 illustrates that in 2018, males cheated on 1.4 exams and females cheated on 1.6 exams. In 2022, the quantity for males decreased to 0.1 exams per student and the quantity for females decreased to 0.3 exams.

TABLE 7
Quantity of Online Exam Cheating Incidents per Student

Gender	2018	2019	2020	2021	2022
Male	1.4	1.1	0.4	0.5	0.1
Female	1.6	1.5	1.1	0.5	0.3

Finally, Spearman Rho correlation statistics were calculated to determine potential relationships between the various unethical behaviors and gender (Table 8). Results demonstrated that there were no statistically significant correlations with respect to gender and the behaviors of cheating on exams using IT, downloading a paper, and cheating on an online exam.

TABLE 8
Spearman Rho Correlations Between Behaviors and Gender

Behavior	Gender
Exams cheated using IT	-.018
Downloading papers	.020
Online exams cheated	-.038

* Correlation is significant at .05 level (2-tailed).
** Correlation is significant at .01 level (2-tailed).

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Results indicate that overall cheating as a percentage of students is decreasing with respect to most unethical behaviors. Although the percentage of students using IT to cheat on an exam increased from 24% to 38% and the percentage downloading papers as his/her own increased from 21 to 27%, letting another student copy his/her exam fell dramatically from 36% to 8% of students, cheating on exams decreased from 27% to 23% of students, and letting another student copy homework decreased from 68% to 52% of students. Of note, however, is that cheating on an exam using IT spiked temporarily to 92% percent of students during the first year of the pandemic. Overall, the percentage of males exhibiting at least one unethical behavior decreased from 46% to 25% of males and the percentage of females increased from 28% to 44% of females.

Findings further indicate that the volume of unethical behavioral incidences for those exhibiting the behavior decreased for all behaviors. From 2018 to 2022, the volume of cheated exams decreased by 38% from 2.1 to 1.3 incidences per semester, letting another student copy his/her exam decreased by 41% from 2.2 to 1.3 occurrences per semester, letting another student copy homework decreased by 63% from 7.0 to 2.6 incidences per semester, cheating on an exam using IT decreased by 31% from 2.6 to 1.8 exams per semester, and downloading papers as his/her own decreased by 36% from 7.0 to 4.5 papers per semester.

Regarding e-cheating, the percentage of students attempting to learn how to cheat online increased from 6% to 8% of males but remained constant at 4% of females, although the percentage of females spiked temporarily to 15% during the first year of the pandemic. In terms of cheating on an online exam, the percentage of males decreased from 37% to 6% and the percentage of females decreased slightly from 24% to 21%, although the percentage of females spiked temporarily to 50% during the first year of the pandemic. The volume of online exam cheating incidences per gender, on the other hand, decreased nearly every year and has been approximately one per student per semester.

In terms of student perception of the degree of ease of cheating in an online course, a discernable pattern is emerging. In 2018, 37% of respondents indicated that it was either "difficult" or "very difficult" to cheat. By 2022, the percentage had decreased to 25%. Most students perceive it easy to cheat and is getting less difficult.

There are three important implications from the study. One finding is that there has been a pandemic effect with respect to undergraduate ethics. During 2020, the first year of the pandemic, several behaviors increased dramatically and peaked such as the percentages of females cheating (those with at least one unethical behavior), females web searching for cheating techniques, and females cheating on online exams. On the other hand, at the same time, the volume of cheating decreased for all five study cheating behaviors. One implication is an uncontrollable event, such as a global pandemic, and resultant pedagogical modifications, such as remote learning implementation, can have tangible consequences that directly effect student behavior. As a result, this should serve as a wake up call to educators to be prepared for the next inevitable and unplanned future event that will affect education and to be ready to utilize lessons learned, such as video test monitoring, to mitigate potential unethical behavior.

The second implication relates to business student ethics. During the past five years, fortunately, although the percentage of students using IT to cheat on an exam and downloading papers as his/her own has increased, the volume of all five unethical behaviors has decreased. Moreover, the percentage of students indicating cheating on online exams decreased dramatically from 32% to 16%. And, the quantity of online exams cheating incidences per student decreased from 1.4 to .1 for males and from 1.6 to .3

for females. These results suggest that educational efforts with respect to ethics are trending in the right direction and student behavior is being positively modified. However, given that cheating, and in particular e-cheating, is still being self-reported, it is important that education in the unethical nature of e-cheating be further enhanced and promoted.

Finally, a third implication relates to gender. Although no statistically significant correlations were found between gender and IT exam cheating, using downloaded papers, or the quantity of online exam incidences, gender differences are apparent. While 25% of males (a decreased of 46% in five year) self-report at least one unethical activity, 44% of females (an increased of 57%) indicate an unethical behavior. In addition, more females (21%) than males (6%) indicate cheating on an online exam. It is possible that males are becoming less forthcoming or dishonest in self-reporting and/or females are becoming more concerned about academic performance and higher grades at any cost. This findings suggest that in either case, ethical education in needed for both males and females.

The limitations of this study are primarily a function of the nature of the research methodology and sample. The instrument relies on self-reporting so there could be recency effects and underreporting of activity. Moreover, the research was conducted using a sample of one university. Finally, although academic class was relatively equally distributed, there were slightly less freshmen and seniors surveyed. As a result, replication at multiple universities and the inclusion of more freshmen would increase the research robustness and generalizability. Future research needs to examine why there continues to be gender differences and if post-pandemic normalcy will result in different ethical behaviors. The study does, however, further clarify pandemic effects and trends with respect to the ethical behavior and cheating among undergraduate business students.

REFERENCES

Better Business Bureau (2022). “Consumers say BBB Accreditation Seal = Ethics and Competence.” *BBB.org*, https://www.bbb.org/all/trust-hub/deep-dive-into-trust/bbb-seal-equals-ethics-competence retrieved on April 6, 2023

Case, Carl J., King, D. L., and Case, J. A. (2019). “E-Cheating and Undergraduate Business Students: Trends and the Role of Gender.” *Journal of Business and Behavioral Sciences*, Volume 31, Number 1, Spring, 102-113.

Case, C. J. & King, D. L. (2007). “The Decision to E-Cheat.” *Business Research Yearbook, Global Business Perspectives*, Volume 14, 143-148.

Chala, W. D. (2021). “Perceived Seriousness of Academic Cheating Behaviors Among Undergraduate Students: An Ethiopian Experience.” *International Journal for Educational Integrity*, Volume 17, Number 2, https://edintegrity.biomedcentral.com/articles/10.1007/s40979-020-00069-z retrieved on April 6, 2023

Cucinotta, D. & Vanelli, M. (2020). “WHO Declares COVID-19 a Pandemic.” *Acta Biomed*, Volume 91, Number 1, 157-160, https://pubmed.ncbi.nlm.nih.gov/32191675/ retrieved on April 6, 2023

Danilyuk, J. (2019). “Academic Cheating Statistics Say There’s Lots of Work to Do.” *unicheck.com*, September 29, https://unicheck.com/blog/academic-cheating-statistics

Dendir, S. & Maxwell, R. S. (2020). “Cheating in Online Courses: Evidence from Online Proctoring,” *Computers in Human Behavior Reports*, Volume 2, August-December, https://doi.org/10.1016/j.chbr.2020.100033 retrieved on April 6, 2023

International Center for Academic Integrity (2020). “Facts and Figures.” *academicintegrity.org*, https://academicintegrity.org/resources/facts-and-statistics retrieved on April 6, 2023

King, D. L. & Case, C. J. (2007). “E-Cheating: Are Students Misusing IT?” *Issues in Information Systems*, Volume 8, Number 1, 71-75.

King, D. L. & Case, C. J. (2014). “E-Cheating: Incidence and Trends among College Students.” *Issues in Information Systems*, Volume 15, Number 1, 20-27.

Mahan, T. (2019). “How to Define Ethical Behavior and Why It's Important in the Workplace.” *WorkInstitute.com*, October 17, https://workinstitute.com/how-to-define-ethical-behavior-why-its-important-in-the-workplace-2/ retrieved on April 6, 2023

Markstreiner, T., Nishen, A. K., & Dickhauser, O. (2021). “Students’ Perception of Teachers’ Reference Norm Orientation and Cheating in the Classroom.” *Frontiers of Psychology*, February 4, https://www.frontiersin.org/articles/10.3389/fpsyg.2021.614199/full retrieved on April 6, 2023

Newton, P. M. (2018). “How Common Is Commercial Contract Cheating in Higher Education and Is It Increasing? A Systematic Review.” *Frontiers in Education*, 30, August, https://www.frontiersin.org/articles/10.3389/feduc.2018.00067/full retrieved on April 6, 2023

Ramberg, J. & Modin, B. (2019).” School Effectiveness and Student Cheating: Do Students’ Grades and Moral Standards Matter For This Relationship?” *Social Psychology of Education*, Volume 22, 517–538, https://doi.org/10.1007/s11218-019-09486-6 retrieved on April 6, 2023

Smith, S. (2018). "Student Survey Reveals Cheating Is A Problem." *lhseagle-eye.com*, April 24, https://lhseagle-eye.com/9162/features/student-survey-reveals-cheating-is-a-problem/ retrieved on April 6, 2023

Subin, S. (2021). "How College Students Learned New Ways to Cheat During Pandemic Remote Schooling." *cnbc.com*, March 21, https://www.cnbc.com/2021/03/21/how-college-students-learned-new-ways-to-cheat-during-covid-.html retrieved on April 6, 2023

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RATE MY PLATE: UTILIZING PREVIOUS CONSUMERS' POSITIVE ONLINE SENTIMENT AS A LOW-COST STRATEGY TO ACQUIRE NEW CUSTOMERS

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ABSTRACT

Nearly eighty-four percent (84%) of Americans look at restaurant reviews prior to dining at a new restaurant establishment. After a dining experience, less than thirty-six percent (36%) of restaurant goers leave sentiments, known as online reviews, regardless of whether a patron has a positive experience or a negative experience. Additionally, the food and restaurant industry is the third largest industry Americans spend their household budget toward. This study proves restaurant-goers read and are significantly influenced by positive and negative quantitative online reviews, which are customer sentiments from previous diners. Utilizing a voluntary sample of participants who admit they look at restaurant reviews online prior to dining at, or ordering from, a new establishment, the researcher is able to conclude specific findings from survey results and recommend small to medium sized, local, and non-franchise restauranteurs prioritize a strong and positive online review presence as a cost-effective strategy in acquiring new customers.

Key words: Restaurant, food, online reviews, restaurant reviews, sentiment analysis, customers, diners, patrons

INTRODUCTION

In many areas in America, the average restauranteur, or owner and/or manager of a restaurant (and any establishment within the food and beverage sector) is competing in a very competitive market. Oftentimes, competition within the food and restaurant industry is typically monopolistic, meaning it is relatively easy (compared to other types of competition) for businesses to enter and exit the market, there are many buyers and many sellers, and sellers aim to differentiate products/services from competition. Being in a highly competitive market, restauranteurs have to find ways to exhibit its competitive advantage. The food and beverage industry is also unique; a consumer buys a tangible item, yet also has an experience in the form of a service, whether that be wait staff, delivery, or interaction with a cashier or other staff members. It is important for the success and growth of the restaurant to provide both high-quality products and services. With the rise in technology and digital platforms, not only is it easy for restaurant goers to order online, but they are also enabled to view the menu prior to dining, as well as look at previous customer sentiments, known as online reviews.

This study investigates the importance of food and restaurant businesses having a strong and positive presence online, as it pertains to previous customers' sentiments, or online reviews. Using positive reviews as a competitive advantage can help the popularity and growth of a business that falls within the food and beverage sector. Positive reviews are proven to persuade restaurants to attract new patrons, as Americans are heavily influenced by online reviews of previous customers. Although any business that falls within the food or restaurant industry should find the data useful, recommendations from this study are highly concentrated toward food and restaurant businesses that are considered a local or regional business, small in nature (not dominant in terms of market share), and ones that are not a powerful franchise restaurant (with mass brand recognition and brand loyalty). While the term "restaurant" is used frequently within this research, the definition of restaurant is inclusive of traditional restaurants, which is typically sit-down dining with wait staff as well as non-traditional restaurants such as eateries in shopping malls and food courts, hospital cafeterias, hotels, schools/universities, amusement parks, airports, etc. The term restaurant is also inclusive of the specialty eatery industry, such as coffee shops, bakeries (cakes, donuts, bagels), frozen yogurt or ice cream, smoothies, health and nutrition food/beverages, etc.

LITERATURE REVIEW

There have been significant changes within the food and beverage sector (F&B) also known as the restaurant industry, over the past few years, as it relates to how Americans purchase and consume a necessity of life--food and beverage. Not only has Covid-19 shifted Americans' rituals, advancements in technology, and more specifically innovations of digital platforms, has enabled restaurant-goers a more convenient and efficient experience. With the increase of usage in digital platforms, websites, and mobile applications, the ability to leave an online review after a restaurant purchase has become extremely easy. In fact, many American restaurants ask how your experience was after ordering online. This literature examines discoveries and recommendations regarding reviews and, more importantly, online reviews or customer sentiments, with a concentrated focus on the food and restaurant industry.

In-text restaurant reviews predate all of us, as the first mass-media restaurant review was printed in in *New York Times* titled *How We Dine* in 1859 (Kottke, 2007). While Americans have used word of mouth (WOM) to share sentiments of restaurants, regardless of a positive experience or negative experience, with the rise of the Internet, e-WOM's (electronic word of mouth) popularity has risen since 2005; in 2005 Yelp became the first platform to allow individuals to publically review businesses (New York Times, 2009). In a recent informal survey, 77% of individuals admitted they look at restaurant reviews prior to trying a new food or beverage establishment (Restaurant Dive, 2019). While this percentage is significant, Americans' behaviors have changed since 2019, as it pertains to frequenting restaurants, buying food, and the services offered within a restaurant experience.

While sit-down dining (and drive-through, when applicable) have always been the typical revenue streams for many establishments and businesses as restaurants, consumer behaviors have slightly altered due to external factors such as technology and the environment. Today, while sit-down dining remains king in the restaurant industry, carry out orders, online to-go orders, and online delivery orders (whether a restaurant delivers or a third-party delivers) have risen in popularity (Ordering In, 2022). This is partly due to the Covid-19 pandemic, as well as advancements in technology and digital platforms, making delivery, carry out, and to-go more convenient and efficient for some consumers.

In a 2011 article, Anderson, Chevalier, & Peterson discovered restaurants that had a positive online review presence on Yelp tended to attract more consumers and increase the overall popularity of the restaurant (Anderson, et al.) From this article, researchers were able to highlight the importance of restauranteurs maintaining positive online sentiments from previous customers. While this article suggests similar ideas from this research, the article is crafted around Yelp. In the present business environment, and since 2017, Google is and has been the number one platform for Americans to view reviews of others, with Facebook being a strong second (Blumenthal, 2021). The study's focus on Yelp was more relevant at the time; however, a greater shift in the use of Google and Facebook reviews calls for added research to evolve to the present business environment.

A recent article, published in 2020, focused on whether restaurant goers who left online sentiments created original and unique opinions, or if they simply followed others' previous online reviews. Because social influences can be very strong, this article examined over 2000 Yelp restaurant reviews, organized and presented the analysis of data via text mining, and ultimately discovered previous online reviews were influential for reviews deemed as average or moderate (Li, Meng, Jeong, & Zhang, 2020). While this research was tied more to the social influence of online sentiments, it does pose a level of accuracy and reputation regarding the influence online reviews has on the opinions of others. The study (Li, et al) advances discoveries in eWOM, but it is focused specifically on influencing others' online sentiments rather than consumer behaviors to dine or not dine at a new restaurant establishment.

A study that predates online restaurant reviews was conducted in 1989. In this research, it was discovered about 65% (out of a sample of 390) of restaurant-goers read reviews (Barrows, Lattuca, & Bosselman, 1989). Likewise, the frequency and media were assessed, with most reading reviews less than once per month and accessing reviews via local newspaper (Barrows, et al, 1989). When comparing restaurant reviews to a total of 7 elements labeled "Factors influencing choice of restaurant", restaurant reviews came in at 7 of 7—or last place (Barrows, et al, 1989). Items that respondents admitted had a higher influence included, from greatest to least: friend's recommendation, restaurant's reputation, menu, price, specials and discounts, and restaurant advertising. The research (Barrows, et al, 1989) noted negative reviews have a “more drastic and more abrupt” impact on a restaurant than its positive reviews. Even in 1989, researchers concluded reviews were here to stay and were recognized as a position of influence on a consumer’s willingness or unwillingness to buy (Barrows, et al, 1989).

The food and beverage sector (F&B) is heavily researched, with many academic journals and publications geared toward the restaurant industry. Very recent restaurant articles have been published to discover findings such as factors that shaped American diners’ behaviors during Covid-19 (Jeong, Kim, Ma, & DiPietro, 2022). With the rise in delivery, research since Covid-19, or early 2020, has also been done to assess how customers feel about online orders in restaurants. Some food and beverage establishments aim to attract current customers to complete reviews simply for the purpose of having the restaurant owner or manager know how customers feel about their online orders. While this is important, and as a business-owner or manager, you should want your customers’ honest opinions and ratings, discovery of sentimental analysis is absent. The researcher’s study here, is solely focused on utilizing positive sentiments to attract new customers, on an external platform (such as a social media page, Google, or another website), as opposed to receiving feedback from customers for internal feedback and decision-making purposes.

Today, Americans spend more of their household budget on food and restaurants than in previous years and it was reported Americans spent over $876 billion at food service and drinking places in 2021 (Statista, 2022). Food is the third highest expenditure for American households, with housing being the highest and transportation coming in at second (Statista, 2022). In 2021, Americans spent nearly 13% of their monthly income on food and restaurant purposes (The Editors, 2017). While nearly 50% of Americans dine out at least twice per week, over 70% of Americans enjoy dining at new food establishments or restaurants, as well as nearly 80% admitting they enjoy supporting local eateries (The Editors, 2017). The food and restaurant industry is a leading industry in America. While food is not only a necessity of life, it is also popularized in American culture sometimes as a status symbol of socioeconomic success and it a valuable social activity in America, where friends and family gather and often dine together.

Previous, yet recent academic studies are unable to address how influential online reviews are in the food and restaurant industry, especially with the rise of online orders, whether that be pick-up or delivery. Customer sentiments, if positive, can significantly influence an individual, duo, family, or party to dine at a restaurant. Recent research neglects to discover and to suggest positive online customer sentiments should be utilized as a cost-effective customer acquisition strategy. Likewise, recent research fails to warn businesses how negative reviews can prevent attracting new diners to a restaurant, ultimately implying missed revenue within a business. Since much of the main foci of this study is concentrated on measuring how influential online restaurant customer sentiments are in the effort to attract new diners or customers, this study and key findings add to the field of business, and in particular the food and restaurant industry (or food and beverage sector), by discovering online restaurant reviews have a significant impact on influencing a consumer's willingness to dine or order. Thus, restaurants should use this cost-effective approach as a customer acquisition strategy to gain popularity and grow their business.

RESEARCH METHODOLOGY

In order to participate in the study, 3 parameters were set. Participants had to be considered online shoppers, 18 years of age or older, and they had to reside in the United States of America. The survey was available online via SurveyMonkey and the survey was a custom set of questions. The responses this study used from the survey included 5 demographic questions and 12 additional questions related to online reviews and the overall influence it has on a consumer's willingness to buy a product or service. The 12 questions provided data to assess the overall influence online reviews have on a consumer's willingness to buy a product. The research methodology and data set of questions, broken into 5 different analyses listed below, allowed the researcher to analyze the data from the survey and apply it and present it in a structured and relatable fashion to the food and restaurant industry. The survey is available upon request from the author.

The utilized sample in this study consisted of 503 individual participants who read online reviews. With respect to data collection, the respondents of the participants to the survey questions were collected and analyzed to determine the influence of online reviews on a consumer's willingness or unwillingness to buy a product or service. This specific study focuses on survey takers who admitted online reviews have been helpful when looking at the food and restaurant industry. Of the 503 survey takers, 4 were eliminated due to the fact that did not meet the 18+ age requirement. Of the remaining 499, a total of 311 survey takers admitted online reviews are helpful when the consumer has been in the market to buy a product/service within the food and restaurant industry. The food and restaurant industry had the third highest frequency, as 62.32% of individuals admitted they look at reviews prior to dining in a new restaurant or ordering online from a new restaurant. The industries of clothing/shoes and electronics were slightly higher than the food and restaurant industry. The foci of this study and the data presented below investigates consumer behaviors as it relates to reviews within the food and restaurant industry.

Descriptive Statistics

Due to the foci of this study, the following data listed below is associated with the 311 individuals who admit they look at online reviews of food and restaurant establishments prior to dining, when the dining experience is a first-time or new experience. The additional 188 individuals' data (37.68%) is no longer continued below, due to this study focusing on the food and restaurant industry.

This section included five demographic variables: Age, gender, ethnicity, education, and annual household income.

1. Age

The age grouping is consistent with Census. Of the 311 respondents in which data is being analyzed, 53.05% of them are 18-24, 10.93% are 25-34, 14.97% are 35-44, 10.61% are 45-54, 6.43% are 55-64, and 4.18% are 65+. While the majority of the respondents fall within the 18-24 range, the other age categories are fairly well represented.

2. Gender

Based on the 311 survey takers, 57.88% are female, 41.80% are male, and 0.32% prefer not to say.

3. Ethnicity

The ethnicity is also consistent with Census. Of the 311 respondents, 77.17% are white or Caucasian, 10.93% are Hispanic or Latino, 9.65% are black or African American, 1.29% are Asian or Asian American, 0.64% are native Hawaiian or pacific islander, and 0.32% are American Indian or Alaska Native.

4. Highest level of education

While the majority of respondents listed their age at 18-24, the following education data is interpreted as consistent. Of the participating respondents, 36.01% disclosed their highest level of education was some college, 21.22% had received a bachelor's degree, 18.33% had received a master's or doctorate degree, 13.50% had received an associate degree, 9.97% had a high school diploma, and 0.96% were not applicable.

5. Annual household income

The income grouping is also consistent with census. Of the respondents, 19.29% noted total household income was under $15,000, 15.87% between $100,000-$150,000, 13.83% were $75,000-$99,999, 14.79% were $50,000-$74,999, 9.32% were $35,000-$49,999, 8.04% were $15,000-$24,999, 6.43% were above $200,000, and 6.43% were $150,000-$199,999.

The survey takers are relatively diverse, in terms of demographics. While a little over half of the survey takers are 18-24, females outweighing males, and white or Caucasian ethnicity were the vast majority of survey takers, all demographic categories had representation. The level oSerf education and household income was greatly diverse. This is a well-represented group of restaurant goers, as food is a necessity and the food and restaurant industry is inclusive of all demographics.

Data Analyses

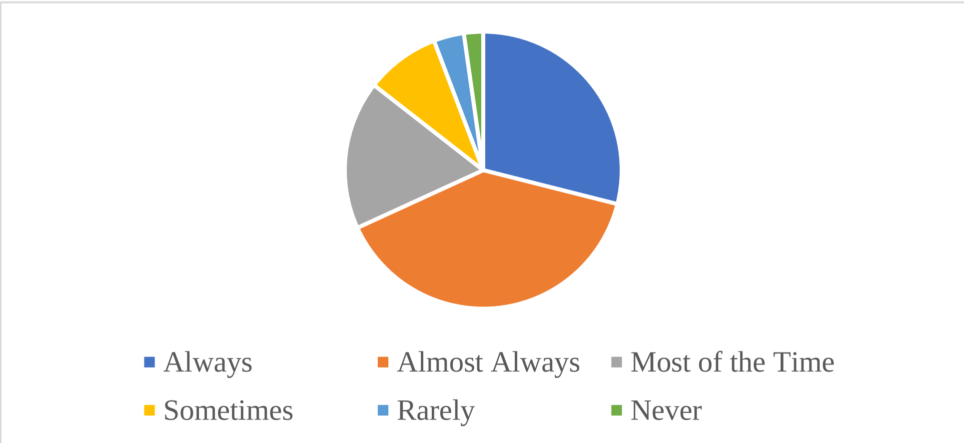
Below illustrate pie graphs, charts, and an analysis of the findings of the questions used in the survey. The analysis is broken down into 5 different categories.

1 – The individuals who read online restaurant reviews prior to dining at a new restaurant

The following data analysis is derived from responses to the survey questions regarding the frequency of consumers reading online reviews as well as the demographic makeup of the survey takers who read reviews.

Question 1: How often do you read online reviews of a product (e.g., Amazon.com) or service (e.g., a local restaurant) before making a buying decision, when the product or service is a first-time purchase for you?

Starting at the top center of the pie- graph 1, illustration of never, rarely, and sometimes are minimal. In an effort to be transparent to survey takers, the following percentages correspond to the answer options: A response of never indicates a consumer who feels the food and restaurant reviews are helpful looks at online reviews 0% of the time; a response of rarely indicates a consumer looks at online reviews 1-19% of the time; sometimes is 20-50% of the time; most of the time is 51-75% of the time, almost always is 75-99% of the time; and always is 100% of the time. Based on the respondents' answers, 83.53% of new restaurant patrons look at online reviews most of the time to always, or 51%-100% of the time, or the majority of the time.



Pie-Graph 1: Responses to how often do you read online reviews of a product or service

2. The frequency of customers who leave restaurant reviews

For the second and third questions, the researcher can dissect how frequently the restaurant patrons leave reviews of the food and restaurant. Below includes the second question and third questions and an analysis of participating respondents' frequency of leaving reviews.

Question 2: When you have a good experience with a product or service, what percentage of the time do you leave a positive online review?

It is important to note in the restaurant industry, a product and a service both occur, making the food and restaurant industry a hybrid business. Restaurant patrons are at-will to rate the restaurant based on the food, the service and overall experience, and most likely both. Using the same percentages for always, almost always, most of the time, sometimes, rarely, and never, only 35.69% of survey takers admit to leaving a review most of the time to always when they have a positive experience. Other results included 12.86% admitting they never leave a review after a positive experience, 26.37% rarely leave positive reviews, and 25.08% sometimes leave a positive review.

Question 3: When you have a poor experience with a product or service, what percentage of the time do you leave a negative online review?

Using the same percentages for always, almost always, most of the time, sometimes, rarely, and never, only 33.76% of survey takers admit to leaving a review most of the time to always when they have a poor experience. It is important to note 18.33% of patrons never leave reviews after a poor experience, while 26.69% rarely leave negative reviews, and 21.22% sometimes will leave a negative review.

3 – The most important elements of a restaurant review

For the fourth question, the researcher can place a valuation on elements of an online review. Survey takers selected 3 of the most important elements of an online review, from a pool of 5 options.

Question 4: In terms of online review importance, please select your 3 most important items.

The options survey takers could select included: Star ratings (4.8/5.0, for example); total number of reviews (2 reviews versus 200, for example); recent and not outdated reviews from previous consumers; detailed responses from previous consumers; and photos of products from previous consumers.

Chart 1, below, presents the most important items of online reviews. It is seen that from the 311 survey takers who find online reviews helpful as it pertains to the food and restaurant industry, 81.67% stated star ratings as 1 of their top 3 most important items they assess, when reading online reviews. The second strongest item was total number of reviews—65.27% of individuals selected this option as 1 of their top 3. Detailed responses from previous consumers was the third highest response, with 53.63%, photos of products from previous consumers was the fourth highest at 46.30%, while recent and not outdated reviews from previous consumers was last at 35.37%.

Based on this data, it is conclusive Americans reading online reviews value quantity at a higher rate than quality. With a star rating and total number of reviews (both quantifiable, in nature) having stronger responses than the 3 qualitative assessments, numbers matter for potential restaurant patrons; the higher the number, the stronger the review.

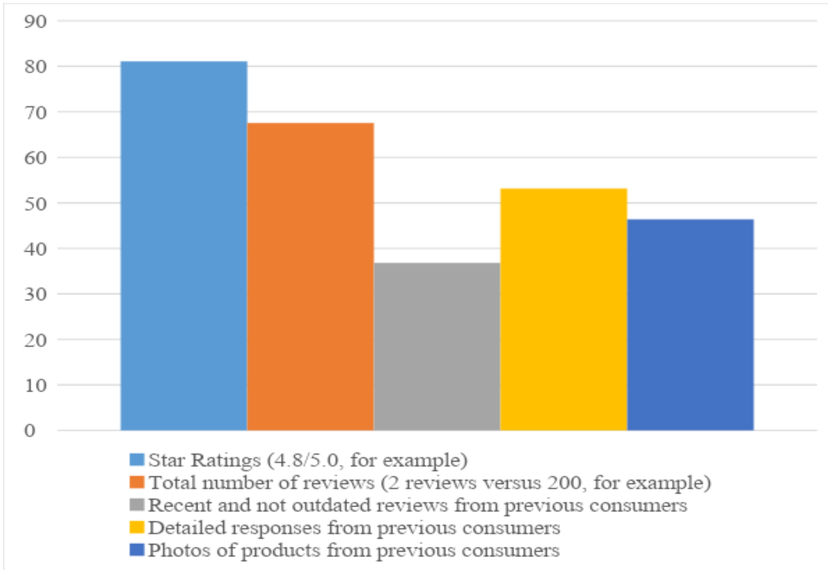


Chart 1: Most important elements of online reviews

4- The most harmful elements of a restaurant review

For questions 5-9, the researcher can place a devaluation on elements of an online review. Survey takers responded as agree, disagree, or neither to the following questions:

Question 5: A poor star rating (such as a 1 or 2-star rating out of 5 stars) has prevented me from buying a product or service.

Of survey takers, 84.24% agree; 2.89% disagree, and 12.86% neither agree nor disagree.

Question 6: Lack of the number of online reviews has prevented me from buying an online product or service.

Of survey takers, 59.49% agree; 11.90% disagree, and 28.62% neither agree nor disagree.

Question 7: Lack of recent reviews (reviews are outdated) has prevented me from buying an online product or service.

Of survey takers, 44.69% agree; 19.61% disagree, and 35.69% neither agree nor disagree.

Question 8: Poor comments have prevented me from buying an online product or service.
Of survey takers, 84.57% agree; 3.54% disagree, and 11.90% neither agree nor disagree.

Question 9: Lack of online review photos has prevented me from buying an online product or service.

Of survey takers, 43.41% agree; 29.58% disagree, and 27.01% neither agree nor disagree.

The results above heavily conclude how valuable high star ratings and positive comments are when it comes to restaurants trying to capture new patrons. With such a low percentage of individuals disagreeing poor star rating and poor comments have prevented them from trying a new restaurant for the first time, it is imperative restaurants focus on positive comments and high star ratings as a means to promote the restaurant and capture new patrons.

Chart 2, below, presents the most harmful elements of restaurant reviews. It is seen that from the 311 survey takers who find online reviews helpful as it pertains to the food and restaurant industry, 84.57% admitted poor comments has prevented them from dining at an unfamiliar restaurant whereas 84.24% admitted poor star ratings has prevented them from dining at a new restaurant. Lack of number of reviews has prevented new diners, as 59.49% admit it lack of comments has prevented them from trying a new restaurant. Lack of recent reviews cost 44.69% of new diners from frequenting a restaurant and 43.41% admitted lack of photos has prevented them from dining.

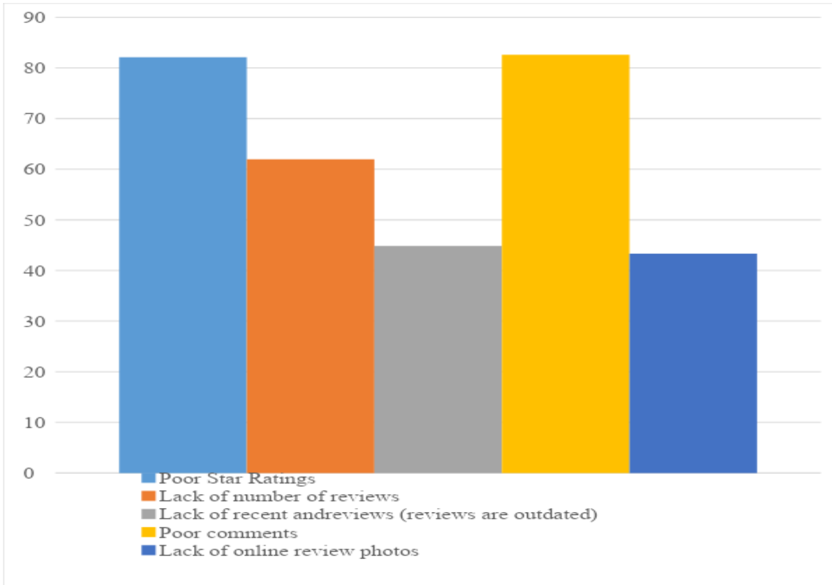


Chart 2: Negative Elements of Restaurant Reviews

5 - The overall value of restaurant reviews

For questions 10-12 the researcher can assess how valuable and trusting consumers feel regarding restaurant reviews.

Question 10 – Generally, I place the same value on online reviews as I do on referrals from friends, relatives, and acquaintances.

Of survey takers, 53.70% agree with the statement, 23.15% disagree and 23.15% neither agree nor disagree.

Question 11 – I trust online reviews (in text, by consumers) more than I do a company's sales representatives of product description.

Of survey takers, 68.17% agree with the statement, 7.40% disagree and 24.44% neither agree nor disagree.

Question 12 – The more expensive a product is, the more value I place on online reviews.

Of survey takers, 62.70% agree with the statement, 9.97% disagree and 27.33% neither agree nor disagree.

It is important to note consumers feel restaurant reviews are valuable and trustworthy; if results were reversed, with low percentages of survey takers agreeing to the valuableness of restaurant reviews and trustworthiness, this data and the following discussion would be significantly weaker to proving the implication and importance of sentiment analysis in the food and restaurant industry in the attempt to attract new patrons.

DISCUSSION

First, it’s conclusive the vast majority of diners look at online reviews for first-time food or restaurant purchases, indicating restaurant reviews are a powerful influence in a consumer’s willingness, or unwillingness, to buy a product or service.

Second, about 1/3 of restaurant diners or patrons leave restaurant reviews the majority of the time regardless of whether they have a positive or negative experience. There is a significant discrepancy in the percentage of patrons who look at reviews compared to those who leave reviews.

Third, when it comes to positive restaurant reviews, consumers value quantitate data more than qualitative data. A star rating, such as 4.8/5.0 and total number of reviews are very important to attracting new customers. The quantitative elements of a review are favored to qualitative data such as recent comments, photos of products, and detailed responses.

Fourth, when restaurant consumers interpret online reviews as poor, it will prevent that consumer to purchase. There is a significant correlation with poor reviews and poor comments leading to a potential patron or customer not dining in a food or restaurant establishment A lack of total number of comments will also dissuade customers from dining.

Fifth, restaurant reviews from anonymous previous diners hold the same value as referrals from friends, family, and acquaintances. Likewise, consumers trust online reviews more than a company’s sales representative or product description. Consumers also place more value on online reviews the more expensive a product is.

RECOMMENDATIONS

Any business that falls within the food or restaurant industry should find this data useful; however, recommendations from this data is highly focused toward food and restaurant businesses that are considered a local or regional business, small in nature (not dominant in terms of market share), and are not a powerful franchise restaurant with mass brand recognition. While the term “restaurant” has been frequently used within this research, the term is inclusive of traditional restaurants and non-traditional restaurants such as shopping malls and food courts, hospital cafeterias, hotels, schools/universities, amusement parks, airports, etc. It is also inclusive of the specialty eatery industry, such as coffee shops, bakeries (cakes, donuts, bagels), frozen yogurt or ice cream, smoothies, health and nutrition food/beverages, etc.

Because we know customers looking at a restaurant for the first-time often read restaurant reviews prior to dining, increasing the total number of reviews will be advantageous in a restauranteur’s pursuit to attract new consumers, as total number of reviews is strongly correlated to a consumer’s willingness to choose a specific restaurant. These same restaurant businesses should provide an exceptional customer experience and a high-quality product, encouraging patrons or diners to rate their restaurant at the highest level, as star ratings and total number of reviews are the most important online review element to consumers.

On the contrary, poor comments and poor ratings will be detrimental in the ability to attract new customers, as these two elements have a very strong negative influence on consumer behavior, providing an extreme unwillingness to buy or dine. Since consumers value online reviews as much as referrals from friends, family, and acquaintances, and actually believe anonymous restaurant reviews more so than a restaurants staff, focus on positive reviews should be at the forefront of restaurants trying to attract new customers. The pricier of food and drink at a restaurant, the more important it is to consider the above recommendations.

Before restaurants aim to increase the volume of restaurant reviews via Google, Facebook, Yelp, or other platforms, it must focus on the following:

Serving a high-quality product – whether it is food, beverage, or a combination of both, product and packaging are important factors in providing quality

Providing an exceptional customer experience – customer service and friendly staff focusing on an outstanding customer experience, which includes timeliness of delivery of food and beverage, whether delivery is internal (in-store) or external (to an office or residence)

An attractive ambiance - lighting, sound, décor, color scheme, and cleanliness of the restaurant

Once the three elements above are in place, it is important to increase the total number of reviews. Simply ask your patrons to complete an online review and use this as a cost-effective approach to increase the popularity and growth of your business.

SUMMARY AND CONCLUSION

This study proved the importance of food and restaurant establishments having a strong and positive presence online, as it pertains to previous customers' sentiments, or online reviews. Using positive reviews as a competitive advantage can help the popularity and growth of a business that falls within the food and beverage sector. Positive reviews are proven to persuade restaurants to attract new patrons, as Americans are heavily influenced by online reviews of previous customers. Any establishment within the restaurant industry that is small in nature, and one that does not have mass brand recognition, should use positive online reviews, or customer sentiments, as a cost-effective approach to acquire new diners or patrons.

REFERENCES

Anderson, E., Chevalier, J. A., & Petersen, J. (2011). The impact of online reviews on restaurants. Journal of Hospitality & Tourism Research, 35(3), 427-439.

Barrows, C. W., Lattuca, F. P., & Bosselman, R. H. (1989). Influence of restaurant reviews upon consumers. *Hospitality review*, *7*(2), 10.

Blumenthal, M. (2021). *How Google came to dominate local reviews*.

Foodservice and drinking place sales US 2021. (2022, June 15). Statista. https://www.statista.com/statistics/239410/us-food-service-and-drinking-place-sales/

Jeong, M., Kim, K., Ma, F., & DiPietro, R. (2022). Key factors driving customers' restaurant dining behavior during the COVID-19 pandemic. *International Journal of Contemporary Hospitality Management*, *34*(2), 836-858.

Kottke, J. (2007). NY Times restaurant review, circa 1859? https://kottke.org/07/09/first-ny-times-restaurant-review-circa-1859

Li, H., Meng, F., Jeong, M., & Zhang, Z. (2020). To follow others or be yourself? Social influence in online restaurant reviews. *International Journal of Contemporary Hospitality Management*.

Ordering in: The rapid evolution of food delivery. (2021, September 22). McKinsey & Company. https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ordering-in-the-rapid-evolution-of-food-delivery

The Editors. (2017, December 15). *7 in 10 adults like to try new restaurants in their area*. restaurant development + design. https://rddmag.com/development/1544-7-in-10-adults-like-to-try-new-restaurants-in-their-area

Yelp will let businesses respond to web reviews (Published 2009). (2009, April 10). The New York Times - Breaking News, US News, World News and Videos. https://www.nytimes.com/2009/04/10/technology/internet/10yelp.h

77% of diners check restaurant websites before visiting, survey finds. (2019, August 30). Restaurant Dive. https://www.restaurantdive.com/news/77-of-diners-visit-restaurant-websites-before-going-survey-finds/562008/

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SHIFTS IN SECURITY ANALYST RISK PRICING BEHAVIOR DURING A PANDEMIC

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ABSTRACT

This paper investigates changes in the risk assessment of analysts in the face of a material increase in uncertainty in security markets such as what was experienced during the pandemic. The paper tests the hypothesis that greater uncertainty of the type experienced during the pandemic was accompanied by a shift by market analysts toward placing greater emphasis on general market factors, and consequently, lesser emphasis on idiosyncratic risk factors in the analysis of individual securities. The findings suggest a significant increase in the proportion of security and portfolio returns explained by general market factors for individual stocks and support the hypothesized shift in risk emphasis in security analyst valuation. These shifts are consistent with behavioral explanations related to guarding security analyst reputation, increased decision complexity, and cost-efficiency in analysis.

Key Words: Security Analysis, Behavioral Finance, Market Risk, Idiosyncratic Risk

INTRODUCTION

The onset and rapid global explosion of COVID-19 infections in 2020 shocked the U.S. and world economies and financial markets. First reported on December 31, 2019 to the World Health Organization (WHO) by

Chinese authorities, this flu-like virus originating in Wuhan City, Hubei province, China, quickly spread to other parts of the world.
The first diagnosed case of the virus in the U.S. was reported in the state of Washington on January 21, 2020, for a man who had traveled to Wuhan. The WHO declared a global health emergency on January 30, 2020, designated the virus as COVID-19 on February 11, 2020, and declared COVID-19 a pandemic March 11, 2020. Consequently, the U.S. President declared a national emergency on March 13, 2020, and by March 17, 2020, the virus had spread to all 50 U.S. states. The devastating impact of the pandemic, as noted by The World health Organization, showed the virus to have rapidly expanded to over one hundred million infections and caused over one million deaths just in the US.

Along with the virus outbreak, the economic and market impact has been equally severe. The U.S. unemployment rate rose from 3.5% in February 2020 to 14.6% in April of that year, with a decline of 25 million people employed and another 8 million exiting the labor force. Dramatically, real GDP fell at a roughly annualized rate of 38% in the second quarter 2020. The DJIA and SP500 plummeted by more than 11% in the last week of February, 2020, with the DJIA and SP500 entering correction territory on February 12 and February 19 of 2020, respectively. Although equity markets rose during 2020 following that epic drop, the chaos in terms of the outlook for the economy and financial markets left security analysts facing unprecedented uncertainty in the analysis of equity securities.

We examine the general hypothesis that amidst this greater uncertainty, security analysts may shift their risk emphasis to broader market risk factors and away from idiosyncratic risk factors. The consequence of this behavior could be greater alignment of security price movements and diminished diversification benefits. The remainder of the paper provides a discussion of the relevant behavioral literature, the sample, methodology, analysis of results, and implications of the findings.

BEHAVIORAL LITERATURE

While this study does not delve into identifying and isolating the specific biases that lead to the observed change in security price behavior with the onset of the pandemic, it is appropriate to offer an overview of the individual biases that may contribute to the observed pattern.

Avoidance of Outlier Valuations. An initial motive for security analysts to reduce the emphasis on idiosyncratic (company-specific) risk and increase the emphasis on market risk in the presence of increased economic and market uncertainty, may reflect an enhanced effort to avoid outlier valuations and their corresponding penalties. Analysts are aware that in the presence of greater economic and market uncertainty, more extreme valuations are possible, and the more extreme the valuation from that of peers, the greater the potential damage to the security analyst's reputation and standing. One method of avoiding extreme outliers and producing valuations more consistent with those of peers may be to shift the emphasis in valuations to broader market variables that all other analysts incorporate, which could be viewed as a de nova form of trend-chasing or mimicking (Baker and Ricciardi, 2014). Broad economic and market forecasts are accessible from a variety of external sources and are more likely to be similarly interpreted by analysts, while conversely, idiosyncratic risk assessments are more likely to be unique and vary among security analysts.

Broader reviews of insights provided by behavioral finance studies are available (Thaler, 2016; Nigam, et al, 2018). Beyond the financial environment, behavioral studies support the effort by decision-makers to avoid uniquely adverse decision performance (Hellwig, 1980; Chen et al, 2020) and the accompanying damage to reputation (Scharfstein and Stein, 1990; Palley, 1995; and Morck et al; 1989).

Increased Valuation Complexity. Another motive to reduce emphasis on idiosyncratic factors in stock valuations may be driven by the increased decision complexity in more chaotic economies. There is little question that in the presence of greater economic chaos, the task of security valuation becomes more complex. There is evidence that the ability of financial analysts to incorporate specific information in their forecasts is diminished in the presence of more complex information (Plumlee, 2003). The problem may be further compounded by the inaccuracy in CFO predictions of stock returns in less chaotic environments (Ben-David, et al, 2013). In fact, the use of multipliers in security analysis may simply reflect the inability of investors to apply more complex methods of analysis (Odean, 2007).

There are a considerable number of biases among investors driven by psychological and sociological forces that may impact their behavior (Cronqvist and Siegel, 2014). One thread suggests that increased analysis complexity may be enhanced by biases in the willingness of analysts to vacate an initial valuation (Magro, 2006; Baker and Ricciardi, 2014). More recently, neuroscience offers an array of neural and cognitive origins that supports investor behavior beyond the constructs of efficient markets (Sahi, 2012; Frydman and Camerer, 2016). Beyond the realm of security analysis, there is evidence that as the complexity of civil suits increase, jury awards become more unpredictable (Horowitz et al, 2001; Horowitz et al, 1996), and cognitive errors also increase in general with greater decision complexity (Sung et al, 2009). Increased tax complexity also results in greater investment errors (Rupert et al, 2003; Boylan and Frischmann, 2006).

Economies of Heuristic Approaches to Valuation. Yet another motive suggests that with increased decision complexity, simpler heuristic methods of analysis may be favored as being more cost-efficient. This is not a new concept in corporate decision making (Barberis and Thaler, 2002). An increase in the complexity of a scenario may result in reverting to less complex methods of analysis (e.g., Payne, 1993; and Onken et al, 1985). Heuristics are observed to be a more cost-efficient approach to decision-making in some scenarios (Payne, 1993; and McGoun and Skubic, 2000), and an alternative method of extracting undisclosed information from observing the actions of peers (Banerjee, 1992; Leiberman and Asaba, 2006; Hirshleifer and Teoh, 2003; Fracassi, 2017). Mimicking the actions of peers is observed among institutional investors (Brown and Brooke, 1993).

Beyond the investment arena, the process of mimicking the actions of peers is reflected in merger and acquisition waves (Roll, 1986; Auster and Sirower, 2002), and the habit of international banks to copy the lending patterns of their competitors (Gwynne, 1986). More simplified approaches to decision analysis may also be favored when the supply of self-monitoring resources is limited (Fischer et al, 2008). Organizational decision makers are observed to place greater emphasis on quantitative analysis and lesser emphasis on judgment with increased decision complexity (Nutt, 1998). Even consumers are found to be more prone to employ a simpler processing strategy with higher levels of task complexity (Swait and Adamozicz, 2001), and fewer attributes are found to be employed in the evaluation of job applicants with increased numbers of applicants (Timmermans, 1993).

Consequently, in the presence of greater market and economic complexity, security analysts may restrict the use of idiosyncratic risk information due to their avoidance of outlier valuations and accompanying damage to reputation, the increased complexity of security analysis, and the greater labor-intensive nature and cost to acquire information.

SAMPLE

The hypothesized change in return patterns following the credit crisis is explored by examining a sample comprised of one hundred randomly selected stocks. Each stock is traded on the NYSE or the NASDAQ for the four years of weekly returns preceding the onset of the pandemic (weekly returns for 2016-2019), and for the first twenty-two weeks of returns in 2020 observed during the pandemic period. While there are different points of acceleration in the virus beginning in 2020, the first case of the Covid-19 virus in Wuhan China was reported to the World Health Organization on December 31, 2019. Consequently, the onset of the virus for purposes of this study is defined as the first week of 2020.

The sample excludes financial stocks since financial companies may hold portfolios of stocks and may disguise the effect of diversification. The sample is also restricted to companies with a minimal market capitalization of $2 billion (i.e., mid-cap stocks and above) and average weekly trading of at least 100,000 shares to ensure active investor participation. Descriptive return characteristics are displayed in Table 1.

Table 1
Sample Characteristics

Mean / Sample Standard Deviation
N=100

Panel A Fama-French 3-Factor Variables	Pre-Pandemic[a]	Pandemic[b]	t-value
Mkt-RF	0.0221	-2.8632	-10.5189*
	(0.2620	(2.7424)	
SMB	0.0004	-0.0002	-0.6049
	(0.0074)	(0.0063)	
HML	0.0048	0.0050	-0.1197
	(0.0079)	(0.0151)	
RF	0.0096	-0.0036	-20.3205*
	(0.0039)	(0.0045)	
Panel B Sample Variables			
Stock Return	0.0036	0.0047	-0.8890
	(0.0036)	(0.0124)	

*P<.01
[a]Pre-pandemic period (209 weeks): 2016 week 1, through 2019 week 52.
[b]Pandemic period (22 weeks): 2020 week 1, through 2020 week 22.

There is no observed significant change in the level of sample returns observed between the pre-pandemic and pandemic periods defined in the study.

METHODOLOGY

The return patterns for one hundred randomly-selected stocks and subsets of portfolios are examined surrounding the onset of the Covid crisis. Weekly returns are generated from weekly closing prices, adjusted for splits and dividends, obtained from the Yahoo Finance online website. First, regressions are performed before and after the Covid crisis on each individual stock and portfolio using the Fama-French (1996) three-factor model to assess the effect of systematic influences on weekly return patterns surrounding the date of the inception of the Covid crisis. The design permits assessment of the systematic influences prescribed by Fama and French (1996) preceding and following the onset of the Covid-19 pandemic. Parameter values for the three-factor Fama-French (1996) model are obtained from the Kenneth French Data Library at Dartmouth. The model for the 209-week (i.e., four-year) period preceding the inception of the 2020 Covid-19 pandemic is defined as follows:

$$\mathrm{E}(r_{i,t}) = \beta_i[\mathrm{E}(R_{M,t}) - R_{f,t}] + s_i\mathrm{E}(\mathrm{SMB}_t) + h_i\mathrm{E}(\mathrm{HML}_t) + R_{f,t} \quad (1)$$

where $\mathrm{E}(r_{i,t})$ is the expected weekly return on stock *i* for week *t*,

$R_{f,t}$ is the one-week Treasury Bill rate for week *t*,

β_i , s_i , h_i and m_i are the coefficients of the return model for stock *i* for the 209-week period preceding the inception of the Covid-19 pandemic,

SMB_t is the difference between the return on a portfolio of small stocks and the return on a portfolio of big stocks in week *t*,

HML_t is the difference between the return on a portfolio of high book-to-market stocks and the return on a portfolio of low book-to-market stocks in week *t*, and

$R_{M,t}$ is the return on the market portfolio M for week t.

The above three-factor regression model is applied individually to each of the stocks and portfolios that make up the sample producing a unique R-square value for each for each stock for the pre-pandemic period. The R-square value represents the proportion of the security (portfolio) returns for that stock explained by systematic market factors during the pre-pandemic period.

The same regression procedure is followed for each stock for the 22-week pandemic period beginning with the first week of 2020. An example of the individual regression results for one stock (AEE; Ameren Corporation) is displayed in Table 2.

Table 2
Example of Three-Factor Model Regression Results for Single Company: AEE (Ameren Corporation)

Coefficients								
Fama-French Variables	Mkt-RF	SMB	HML	RF	Intercept	S.E.	F-Value	R-Square
Pre-Pandemic Period[a]	-0.0570	-0.0011	-0.0050	0.0023	0.0036	0.0205	4.5600*	0.0827

Pandemic Period[b]	-0.4314	-0.0014	0.0172	-0.0054	0.0104	0.0715	1.9215	0.3113

**p<.01
[a]Pre-pandemic period (209 weeks): 2016 week 1, through 2019 week 52.
[b]Pandemic period (22 weeks): 2020 week 1, through 2020 week 22.

R-square values before and after the onset of the Covid-19 pandemic are then compared for the significance of the change in the means. Support for this study's hypothesis is evidenced by a significant increase in the R-square values with the onset of the Covid-19 pandemic.

RESULTS AND ANALYSIS

R-square values before and after the onset of the pandemic are displayed in Table 3.

Table 3
Portion of Stock Returns Explained by Fama-French Systematic Factors

Mean / (Standard deviation)
N=100

Variable	Pre-Pandemic[a]	Pandemic[b]	t-value
R-Square of Regression Models	0.2398	0.2752	2.2981*
	(0.1312)	(.0947)	

**p<.01
*p<.05
[a]Pre-pandemic period (209 weeks): 2016 week 1, through 2019 week 52.
[b]Pandemic period (22 weeks): 2020 week 1, through 2020 week 22.

Findings show a significant increase in model R-square values for the individual stocks with the onset of the Covid-19 pandemic. The findings are consistent with the hypothesis that with the onset of the Covid-19 pandemic, security analysts increased their relative emphasis on systematic market factors in the valuation process. A consequence of the shift in emphasis is that analyst valuations and buy-sell recommendations for each stock more likely trend in concert with the predicted movement of the systematic market variables. The greater congruence of buy-sell recommendations among analysts likely produces stock returns that are more highly correlated in movement, which also may reduce the benefits of diversification. Practitioner support for this pattern is provided in Morningstar (Carey and Lauricella, 2020). It is noteworthy that the findings of the current study are consistent with those observed for the 2007-2009 Credit Crisis, an earlier period of economic and market chaos, which observed an increased influence of systematic market factors on stock returns with the onset of the Credit Crisis (Cudd et al, 2014).

Prior studies observe the diversification myth pattern of increased return correlations in down markets to be more pronounced among small stocks (Ang and Chen, 2002), although small-cap stocks are omitted in the current study. Smaller companies offer greater challenges to security analysts associated with the lack of extensive historical market data, lack of geographic and product diversification, and greater reliance on idiosyncratic risk factors for the analysis and valuation. In addition, the smaller amounts of funds at stake with small companies may not justify expending greater resources in their evaluations. This may fuel a reversion to more simplified approaches to security analysis with small stocks due to the dimensions of complexity, and a commensurate shift to greater emphasis on systematic factors and reduced emphasis on idiosyncratic risk factors. The product of such a shift in emphasis would be similar valuations by analysts and increased correlations in returns, although not necessarily only in down markets as suggested by the diversification myth.

SUMMARY AND CONCLUSIONS

The onset of the Covid-19 pandemic in early 2020 accompanied by increased chaos in the economy and its outlook greatly increased the complexity of security analysis. Behavioral literature suggests that in the presence of increased complexity, decision-makers may revert to simpler decision heuristics associated with cost efficiencies and the avoidance of penalties due to unfavorable outlier valuations.

We hypothesize that in the midst of enhanced economic and market chaos, security analysts may revert to a de nova form of mimicking by increasing their relative emphasis on broader market factors and consequently reducing their relative emphasis on idiosyncratic risk factors. General market and industry factor outlooks are available from multiple independent sources, which are more likely to receive a similar interpretation by analysts, and thus result in greater congruence in terms of the effect of systematic factors on stock valuations. Conversely, idiosyncratic risk factors are more likely to be independently analyzed and subject to greater variations in interpretation by security analysts. The shift to greater emphasis on general market factors should produce valuations that are less dispersed among security analysts, resulting in greater correlation in stock price movements. The increase in stock correlations is confirmed by industry source Morningstar noting that during the pandemic US stock funds demonstrate minimal differentiation in performance with the exception of superior performance by the defensive sector, while a precipitous market drop in the past would have been typically accompanied by variations in declines across all economic sectors (Carey and Lauricella, 2020).

In testing this hypothesis, we examine the patterns of returns surrounding the onset of the Covid-19 crisis in 2020 for a random sample of stocks. With the onset of the pandemic, we observe a significant increase in the proportion of security and portfolio returns explained by general market factors for individual stocks. The findings support the hypothesized shift in risk emphasis in security analyst valuation techniques, and are consistent with the submitted behavioral explanations related to guarding security analyst reputation, increased decision complexity, and cost-efficiency in analysis.

It is noteworthy to mention the conventional *diversification myth*, which addresses the consequences of increase equity correlations. Although the conventional diversification myth focuses on down markets and is thoroughly tested in the financial literature (e.g., Chua, Kritzman and Page, 2009; Jacquier and Marcus, 2011; Ang and Chen, 2002; Ang, Chen, and Yuhang, 2006; Falkenstein, 1996; Li, Miffre, Brooks and O'Sullivan, 2008; Van Royen, 2002; and Campbell, Koedjik, and Kofman, 2002), there is no consensus on the theoretical and behavioral foundations driving the pattern (Merton, 1987; Li, Miffre, Brooks, and O'Sullivan, 2008; Blume and Friend, 1975; and Tang and Shum, 2003).

Pertinent to the current study, however, a similar type of diversification myth effect is associated with massive shocks to the market, such as the Credit Crisis (Cudd et al, 2014) and the current Covid-19 pandemic. More importantly, the findings are consistent with a behavioral foundation for the pattern of increased equity return correlations.

Limitations and suggestions for future research center on the effect of the pandemic among small stocks (small-cap) risk analysis which are omitted in the current study. Given the greater challenge that smaller company analysis brings, a test of whether a greater reversion to more simplified decision heuristics and increased correlations take place provides an avenue for future research.

REFERENCES

Ang, A. and J. Chen, 2002. Asymmeric correlations of equity portfolios, Journal of Financial Economics 63 (March), 443-494.

Ang, A., Chen, J., and X. Yuhang, 2006. Downside risk, *Review of Financial Studies* 19 (Winter), 1191-1239.

Auster, E. and M. Sirower, 2002. The dynamics of merger-and-acquisition waves, *Journal of Applied Behavioral Science* 38, 216-244.

Baker, K., and V. Ricciardi, 2014. How biases affect investor behavior, *The European Financial Review* February-March, 7-10.

Banerjee, A., 1992. A simple model of herd behavior, *Quarterly Journal of Economics* 107, 797-818.

Barberis, N., and Thaler, R., 2002. A survey of behavioral finance, *Working Paper* 9222, National Bureau of Economic Research.

Ben-David, I., Graham, J., and H. Campbell, 2013. A Survey of behavioral finance, *Handbook of the Economics of Finance* 1B, 1053-1123.

Blume, M., and I. Friend, 1975. The asset structure of individual portfolios and some implications for utility functions, *Journal of Finance* 30 (May), 585-603.

Boylan, S., and P. Frischmann, 2006. Experimental evidence on the role of tax complexity in investment decisions, *Journal of the American Taxation Association*, 28, 69-88.

Brown, K., and B. Brooke, 1993. Institutional demand and security price pressure, *Financial Analysts Journal* 49, 53-63.

Campbell, R., Koedjik, K. and P. Kofman, 2002. Increased correlation in bear markets, *Financial Analysts Journal* 58 (2002), 87-94.

Carey, D., and T. Lauricella, 2020, March 6, Correlations Going to 1: Amid Market Collapse, U.S. Stock Fund Factors Show Little Differentiation. Morningstar. Retrieved from http://www.morningstar.com

Chen, Y., Kuo, S., and S. Wang, 2020. Is herding a safe haven for investment? *Applied Economic Letters*, Feb 5.

Chua, D., M. Kritzman, and S. Page. The myth of diversification, *Journal of Portfolio Management* 36 (Fall 2009), 26-35.

Cronqvist, H., and S. Siegel, 2014. The genetics of investment biases, *Journal of Financial Economics* 113, 215-234.

Cudd, M., Eduardo, M., and L. Roberts, 2014. The credit crisis and de nova mimicking in security analysis, *Journal of Behavioral Finance* 15, 334-340.

Falkenstein, E., 1996. Preferences for stock characteristics as revealed by mutual fund portfolio holdings, *Journal of Finance* 51 (March), 111-135.

Fama, E., and K. French., 1996. Multifactor explanations of asset pricing anomalies, *Journal of Finance* 51 (March), 55-84.

Fischer, P., Frey, D., and T. Greitemeyer. 2008. Self-regulation and selective exposure: the impact of depleted self-regulation resources on confirmatory information processing, *Journal of Personality and Social Psychology* 94, 382-395.

Fracassi, C., 2017. Corporate finance policies and social networks, *Management Science* 63, 2397-2771.

Frydman, C. and C. Camerer, 2016. The psychology and neuroscience of financial decision making, *Trends in Cognitive Sciences* 20, 661-675.

Gwynne, S., 1986. *Selling Money*, New York: Weidenfeld and Nicolson.

Hellwig, M., 1980. On the aggregation of information in competitive markets, *Journal of Economic Theory* 22, 477-98.

Hirshleifer, D. and S. Teoh, 2003. Herd behavior and cascading in capital markets: A review and synthesis, *European Financial Management Journal* 9, 25-66.

Horowitz, I., Bordens, K.., Victor, E., Bourgeois, M., and L. Fosterlee, 2001. The effects of complexity on jurors verdicts and construction of evidence, *Journal of Applied Psychology* 86, 641-52.

Horowitz, I., Fosterlee, L., and I. Brolly, 1996. The effects of trial complexity on decision making, *Journal of Applied Psychology* 81, 757-68.

Jacquier, E., and Marcus, A., 2011. Asset allocation models and market volatility, *Financial Analysts Journal* 57, 16-30.

Leiberman, M., and S. Asaba, 2006. Why do firms imitate each other? *Academy of Management Review* 31, 366-385.

Li, X., J. Miffre, C. Brooks, and N. O'Sullivan, 2008. Momentum profits and time-varying unsystematic risk, *Journal of Banking and Finance* 32 (April), 541-558.

Magro, A., 2006. Discussion of "experimental evidence on the role of tax complexity in investment decisions", *Journal of the American Taxation Association*, 28, 89-95.

McGoun, E., and T. Skubic, 2000. Beyond behavioral finance, *Journal of Psychology and Financial Markets* 1, 135-144.

Merton, R., 1987. A simple model of capital market equilibrium with incomplete information, *Journal of Finance* 42, 483-510.

Morck, R., Shleifer, A., and R. Vishny, 1989. The stock market and investment: Is the market a sideshow? Brookings Papers on Economic Activity.

Nigam, R., Srivastava, S., and D. Banwet, 2018. Behavioral mediators of financial decision making: a state-of-art literature review, *Review of Behavioral Finance* 10, 2-41.

Nutt, P., 1998. How decision makers evaluate alternatives and the influence of complexity, *Management Science*, 44, 1148-1166.

Odean, T., 2007. Effect of behavioral biases on market efficiency and investors' welfare, *CFA Institute Conference Proceedings Quarterly*, 24, 6-18.

Onken, J., Hastie, R., and W. Revelle, 1985. Individual differences in the use of simplification strategies in a complex decision-making task, *Journal of Experimental Psychology: Human Perception and Performance* 11. 14-27.

Palley, T., 1995. Safety in numbers: A model of managerial herd behavior, *Journal of Economic Behavior and Organization* 28, 443-450.

Payne, J., 1993. *The adaptive decision maker*. (United Kingdom: Cambridge Press).

Plumlee, A., 2003. The effect of information complexity on analysts' use of that information. *The Accounting Review* 78, 275-296.

Roll, R., 1986. The hubris hypothesis of corporate takeovers, *Journal of Business* 59, 197-216.

Rupert, T., Single, L., and A. Wright, 2003, The impact of floors and phase-outs on taxpayers' decisions and understanding of marginal tax rates, *Journal of the American Taxation Association* 25, 72-86.

Sahi, S., 2012. Neurofinance and investment behavior, *Studies in Economics and Finance* 29, 246-267.

Scharfstein, D. and J. Stein, 1990. Herd behavior and investment, *The American Economic Review* 53, 465-479.

Sung, M., Johnson J., and I. Dror. 2009. Complexity as a guide to understanding decision bias: a contribution to the favorite-longshot bias debate, *Journal of Behavioral Decision Making* 22, 318-337.

Swait, J., and W. Adamozicz, 2001. The influence of task complexity on consumer choice: a latent class model of decision strategy switching, *Journal of Consumer Research* 28, 135-148.

Tang, G., and W. Shum, 2003. The relationships between unsystematic risk, skewness and stock returns during up and down markets, *International Business Review* 12 (October), 523-541.

Thaler, R., 2016. Behavioral economics: past, present, and future, American Economic Review 106, 1577-1600.

Timmermans, D., 1993. The impact of task complexity on information use in multi-attribute decision making, *Journal of Behavioral Decision Making*, 6, 95-111.

Van Royen, A., 2002. Financial contagion and international portfolio flows, *Financial Analysts Journal* 58, 35-49.

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REDUCING INPATIENT BEHAVIORAL HEALTH READMISSIONS

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ABSTRACT
High hospital readmission rates indicate inadequate facility performance, contributing to elevated healthcare costs resulting in an industry-wide effort to decrease the frequency. The objective of this paper is to perform a literature review to evaluate successful discharge practices and identify unutilized strategies which could be implemented within the organization to reduce the readmission rate. Findings suggest the variables most relevant to being discharged from an inpatient unit and maintaining psychiatric stability were associated with three areas. First, access to services that could assist with behavioral health and general life challenges, the need for social connection, and lastly, timely access to behavioral health services. The findings clearly show that the readmission rate is not only impacted by the facility's efforts but is tightly connected to the resources available to the patient upon discharge.

Keywords: Readmissions, psychiatric, inpatient, social determinants of health

INTRODUCTION

This paper will evaluate the standard and accepted practices implemented nationwide to decrease the inpatient behavioral health 30-day readmission rate. Then, through a literature review, explore alternative discharge and aftercare strategies that could reduce the frequency of readmission. This data will be compared to the practices of a non-system based 501(c)3 hospital in the southwest. Finally, if there are strategies in the literature that the facility does not currently utilize, those concepts will be used as the base of a performance improvement plan for the third quarter of fiscal year 2023.

Goals of Inpatient Stabilization

The admission criteria to an inpatient psychiatric unit are specific; immediate danger to self or others or have been experiencing grave passive neglect (Ziegenbein et al., 2006). Inpatient behavioral health units were developed to ensure safe placement for an individual in a psychiatric crisis. The goal of an inpatient admission is to stabilize the patient's mental health and then transfer care to the less-acute outpatient setting. Unfortunately, one of the major hurdles of this transition to outpatient care is the patient's inability to maintain psychiatric stability once discharged. As a result, the patient is frequently readmitted to the inpatient unit for re-stabilization. These readmissions often indicate the patient was not stable upon discharge or that the post-hospitalization plan was inappropriate. This lack of stability puts the patient at risk and is costly to the healthcare system. To help address this concern, there has been a nationwide effort by hospital systems, insurance payers, and patient advocates to reduce inpatient behavioral health readmissions.

Risks of Unplanned Readmissions to a Behavioral Health Inpatient Unit

An unplanned readmission to a psychiatric hospital is dangerous for the patient and the healthcare organization. When an unstable patient is discharged, the protective factors afforded by the inpatient unit have been removed. As a result, the patient is at risk for self-harm, accidental death, becoming a victim of violent crime, homicide perpetrator, or committing suicide. From the facility standpoint, if a psychiatric patient leaves an inpatient unit and hurts themselves or someone else, the organization is liable both from a regulatory and legal level (Sabe et al., 2021). From a regulatory standpoint, the hospital accrediting agency, The Joint Commission, issued a Sentinel Event Policy in 1996 and defined a sentinel event as any death, permanent harm, or harm where intervention is required to sustain life (*Sentinel Event Policy and Procedures*, n.d.) If any of these events occur while the patient is hospitalized or within seven days of discharge, the hospital is at risk of regulatory noncompliance with the Conditions of Participation and could potentially lose its Medicare accreditation. The facility could also be impacted by financial penalties imposed by the federal government and private party suits.

Current Nationwide Challenges

Potential discharge challenges impacting the patient's long-term stability can occur at the facility and the patient levels. From a facility standpoint, the average length of stay on an inpatient unit is 5-7 days. To improve patient outcomes and align with best practices, the psychiatrist and treatment team involve the patient in discussing a potential discharge date. Unfortunately, through miscommunication, bias, lack of information, or patient preference, the discharge is frequently premature and results in readmission. Another area that significantly impacts the patient's successful discharge is the scheduled outpatient follow-up psychiatric care. CMS recommends that the patient has a follow-up appointment within seven days of discharge, and the data has shown that follow-ups within this timeline reduce the risk of suicide (Fontanella et al., 2020). This timely meeting allows the outpatient psychiatrist to gain a baseline assessment of the recently discharged patient and then refer the individual to supportive services such as partial hospitalization or intensive outpatient group therapy. One opportunity for improvement is that many underserved areas do not have enough psychiatric providers to allow for a new patient appointment within seven days. This lack of access often results in the patient being unable to see a provider before running out of medication and returning to the hospital.

From the patient's perspective, various factors can impact the patient's psychiatric stability resulting in readmission to a behavioral health hospital. Some are fixed, and others the patient can influence. When you look at the data, the number one intrinsic indicator for unplanned readmission to a psychiatric hospital is having a psychotic disorder. Patients diagnosed with schizophrenia or other psychotic disorders are 1.62 times more likely to have an unplanned readmission within 30 days (Ortiz, 2019). Other inherent areas are cognitive function and long-term chronic drug abuse. When you look at the data from Reif et al., readmission rates for patients with drug and alcohol use is 18%-26% and are among the top ten disorders with the most significant number of 30-day readmissions (2017). From the factors that the patient has some level of control over, the leading measure of psychiatric stability is the patient's viewpoint on the perceived stigma of having a mental illness and their attitude toward psychiatric medication (Semahegn et al., 2020). These two areas determine if the patient engages in the active treatment of their mental illness or if they will be nonadherent with the treatment plan. Patients can also govern if they take their psychiatric medication and attend their aftercare appointments. One study showed that only 42.7% of inpatients followed up within seven days, and the percentage increased to 67.4% within 30 days (Hugunin et al., 2022). Each component impacts the patient's ability to remain psychiatrically stable outside of the inpatient setting.

Another group of variables directly impacting the patient's stability outside a hospital is the social determinants of health (SDH). These external factors shape the patient's health (Social Determinants of Health, 2022). These elements include economic stability, quality education, healthcare access, safe neighborhoods, and a support network. Each area is required to maximize the patient's chance of success outside the hospital. For example, the patient would need money to have medication refilled and have the ability to read the discharge instructions. In addition, discharged patients would need access to a healthcare provider to manage their condition outside of a hospital. Finally, the patient would need to have a safe place to sleep and people around them to ensure they are taking their medication and going to their follow-up appointments.

Discharge Planning

Discharge planning starts on the day of admission. This includes the discharge risk assessment, collateral, and the patient's rating of their likelihood of a successful discharge (Ohta et al., 2016). In addition, some patients have a supportive environment to be discharged into that can assist in meeting their needs and ensuring the patient attends their follow-up appointments. Still, the SDH impacts other patients' lives and results in ongoing challenges. This population has housing, food, or financial insecurities, and a homeless shelter is often the most stable discharge location available. This diversity of patient demographics is why the

Centers for Medicare and Medicaid Services (CMS) mandate individualized discharge plans with goals reflecting the patient's treatment preferences (*CMS' Discharge Planning Rule Supports Interoperability and Patient Preferences*, 2019).

When evaluating the current discharge best practice, the plan is centered around a multidisciplinary team approach. The members include psychiatry, medicine, nursing, social work, discharge planning, mental health technicians, and administration. Each team member evaluates a unique aspect of the patient and can provide a varying perspective of the patient's stability and progress through their inpatient hospitalization. This team convenes daily to discuss the patient's improvement or decline during the previous day. In addition, each group member can voice their support or concerns regarding the patient's readiness for discharge. Although the entire team is involved, psychiatry is the discipline that has the ability to initiate the release.

For psychiatrically stable patients at baseline and ready for discharge, it must be determined where the patient will be dispositioned. CMS mandates that the patient is discharged to a safe location (*42 Cfr § 482.43 - Condition of Participation: Discharge Planning.*, 2019). Ideally, this location would be to a family or friend's home so that the patient had a supportive environment to assist his post-discharge needs. Unfortunately, the discharge location is often a homeless shelter. The next challenge is how the patient will be transported to their discharge location. The patient might have family or friends that can pick them up or have access to their own transportation, but if not, they could receive a hospital-paid cab ride or a bus pass. The concern is that if the patient leaves with a bus pass or cab voucher, in the future, the patient will have to deal with the ongoing challenge of transportation to attend their aftercare appointments. If the patient already has an established psychiatric provider, an appointment would be made with that clinic. If there is no established provider relationship, the patient would be scheduled with a psychiatric provider accepting new patients in the community. The outpatient setting could be a federally qualified healthcare center (FQHC), a hospital-based clinic, or an independent non-system practitioner within the community. The challenge is that the number of patients that attend that first post-discharge appointment is 30%-50% (*Follow-up After Hospitalization for Mental Illness*, 2020). This high no-show rate often discourages independent practitioners from accepting newly discharged patients. These limitations potentially further reduce the number of providers available for outpatient medication management.

LITERATURE REVIEW

Although this paper primarily focuses on behavioral health, readmissions are a concern within all hospitals, regardless of specialty. For example, when you look at a relatively significant medical problem such as heart failure, the 30-day readmission rate is 18.2% (Khan et al., 2021). An equivalent level of acuity on the behavioral health side would be a patient diagnosed with schizophrenia. When you evaluate the average 30-day readmission rate for schizophrenic patients, it is 16% (*Hospital Readmissions for Psychiatric Conditions*, 2018). One important note is that although both psychiatric and medical hospitals struggle with implementing strategies to reduce the readmission rate, psychiatric hospitals are exempt from the Hospital Readmission Reduction Program (HRRP) and its associated implications. The HRRP is a Medicare value-based purchasing program that dictates that medical hospitals reduce readmissions or face financial penalties (McIlvennan et al., 2015).

Numerous factors are associated with being readmitted to an inpatient behavioral health unit. When you look at the data, one of the most significant predictors of rehospitalization involves the community resources available to the mentally ill. Services such as medication management, partial hospitalization, and intensive outpatient therapy support the patient, decreasing hospitalizations (Jaspan, 2022). These ancillary supportive programs help to maintain the patient's psychiatric stability and reduce the frequency of a psychiatric crises. The challenge is that someone in psychological distress may not have timely access to behavioral health-specific care, and often primary care providers do not have the expertise to treat (Germack et al., 2020). As a result, the patient returns to the ER and is potentially readmitted to the inpatient unit.

In addition, another primary indicator of readmission to a psychiatric hospital is the patient's social support network. Social interactions provide multiple layers of support, such as emotional, informational, and esteem, as well as assistance in decision-making and working through daily problems (Beckers et al., 2022). This essential support network in the outpatient setting can be developed in many ways; family or friends, community health, or peer support workers.

Ideally, the patient would have friends or family to rely upon to help them manage their mental illness, but through life circumstances or personal choices, that is not always an option. An alternative way to balance the social aspect of a patient's life is achieved through a community health worker. Community health workers are unlicensed individuals that are frequently employees of an institution, non-profit, or government agency. These professionals assist the newly discharged patient with supportive tasks to ensure their needs are met outside the hospital. The community health worker assists the patient in understanding their illness, helps the patient reach their health goals, assists in tasks of daily living, acts as an advocate for the patient, and provides education (US Department of Health and Human Services, n.d.). One study evaluating the effectiveness of community health workers reported a 50% reduction in readmissions, and the patients were less likely to miss their clinic appointments (Carter et al., 2021).

Like community health workers, peer support workers are unlicensed but trained staff members, in recovery, who have first-hand experience to assist those dealing with substance abuse or mental health issues. (*Peer Support Workers for Those in Recovery*, n.d.). As a result of their direct experience, peer support workers can function as an operationally effective support network for addicted and mentally ill patients. As the peer support worker helps navigate the patient through the challenges of their illness, trust is built. This confidence is developed through motivational interviewing, focusing on open-ended questions and sharing their own struggles. When you evaluate the data from Conner et al., in 12 months, only 14% of the patients who received the peer support interventions were readmitted, compared to 35% that received the traditional post-discharge follow-up care (2018).

The goal of the community health and peer support workers is to help the patient maintain stability outside of the hospital. The primary difference between a peer support worker and a community health worker is that the goal of the peer team is to provide overall emotional support for the patient, in contrast to problem-solving and task completion, which is standard practice for the community health worker. In sophisticated hospital systems, patients could have a community health and a peer support worker assigned to them upon discharge.

The literature consistently shows that the variables related to where the patient resides has an influence on the patient's stability outside the hospital. Unfortunately, many of these elements are outside of the patient's control. These elements include the unemployment rate, level of income inequality, housing density, community connections, and social capital (*Social Determinants of Health*, 2022). According to Spatz, 25% of hospital readmissions are driven by community factors, and many concerns could be addressed by the government, community groups, and healthcare systems (2020). The objective would be for these agencies to develop policies to improve quality outcomes through initiatives that patients could utilize before needing inpatient care and continue to the post-discharge transition (Feldman et al., 2020).

Hospitals in the vicinity of underprivileged communities often serve as the safety net for the indigent. These organizations provide medical and psychiatric care for the community and frequently treat a higher-than-average percentage of patients with government-funded or no insurance. Currently, the government-funded reimbursement incentives to serve the outpatient population are minimal. As a result, communities with a high percentage of Medicaid and Medicare often have limited post-discharge aftercare options. Consequently, once the patient is discharged from the inpatient unit, there is no external support to assist the patient with the transition plan. This lack of access to health resources often results in the patient returning to the emergency department and being readmitted for stabilization. These higher-than-average readmission rates exceed the established norms set by the HRRP, and subsequently, the facility receives financial penalties (Chatterjee & Werner, 2019). These financial penalties result in a smaller margin for the facility; consequently, the organization has less capital to invest in outreach projects.

Summary of Findings

The reoccurring subject matter from the literature review is that patients recently discharged from an inpatient hospitalization frequently had difficulty engaging the services needed to remain stable outside the inpatient setting. To note, these often challenging-to-obtain services did not always pertain to psychiatric care but were frequently routine tasks such as the ability to get food, purchase a bus pass, refill medication, or apply for an identification card. The other commonality that the research showed is that the individual's need for social connection was also a persistent predictor of readmission. Socialization supports patients' perception of safety, acceptance, belonging, and security. These steadying qualities allow the patient to work through problems that would have previously resulted in readmission. This avoidance of returning to the hospital permits the patient to develop alternative coping mechanisms and problem-solving skills. Finally, the patient's community, including the healthcare facilities, impacts the patient's long-term psychiatric stability. The hospitals often face financial hardships related to low payer reimbursement rates and government-levied financial penalties. As a result, there are usually few outpatient options for follow-up care, leaving the inpatient setting their only access to timely care.

HISTORY OF THE FACILITY

The premise of this project was to research strategies to decrease the 30-day readmission rate for an inpatient behavioral health unit in the southwestern United States. The facility is a 98-bed 501(c)3 full-service hospital with a 36-bed inpatient unit and outpatient clinic with medication management, PHP, IOP, individual therapy, and electroconvulsive therapy (ECT). To maintain its tax-exempt status, the facility must complete a community health needs assessment (CHNA) every three years. In 2015 and 2018, the CHNA had "improved access to behavioral health" in the top seven requests from the community, but in 2021 "improved assess to behavioral health" was the number one request, and "substance abuse treatment" was number two. As a result, the CEO directed the behavioral health service line leaders to expand services for treating psychiatric illnesses and drug abuse.

The inpatient unit and the outpatient clinic are vital to the operation of the service line. Both areas needed to streamline processes and improve efficiency to benefit the community. The decision on where to start was complicated because although the outpatient clinic has a broader reach and helps a higher volume of patients, resulting in 16,000 annual appointments, the revenue potential is much less than inpatient. Conversely, the inpatient unit can generate more revenue but only serves 900-1,100 patients each year. The board of directors felt that improving access for the masses would better fit the facility's mission rather than focusing on the margin.

To improve access to care in the outpatient setting, the provider ranks went from one psychiatrist and four psychiatric mental health nurse practitioners (PMHNP) to one child and adolescent psychiatrist, one adult psychiatrist, and seven PMHNPs. The first performance improvement plan was launched at the end of the third quarter of the fiscal year in March 2021. At that time, the outpatient behavioral health clinic had a waiting list of 411 patients requesting services spanning back 22 months and a patient no-show rate of 44%. From May 2021-December 2021, progress was made through implementing nine performance improvement plans, a redesigned workflow, and a new patient registration process, as well as holding the patients and staff accountable. As a result, the outpatient no-show rate went down from 44% to 14% (Figure 1), and the monthly outpatient medication management minutes went from 13,000-32,000 (Figure 2). In addition, to accommodate last-minute patient needs and to allow for same-day appointments, the provider's scheduled start times were staggered; some start early in the morning, and others begin midday and work into the evening. As of January 2022, access to outpatient behavioral health services had been substantially improved for behavioral health and substance abuse treatment and had met the requirements of the CHNA.

Figure 1: Outpatient No Show: May-December 2021

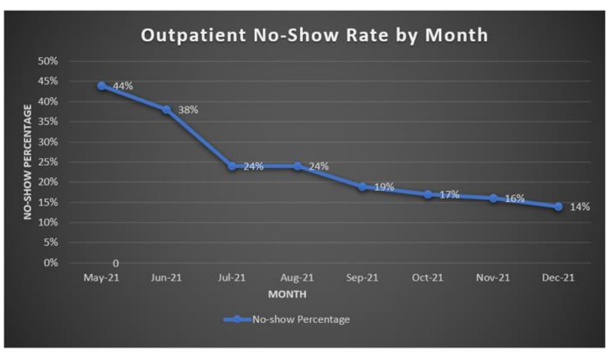
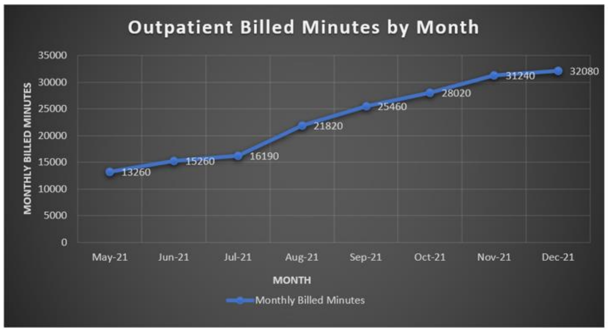


Figure 2: Monthly outpatient medication management, May-December 2021



Through pressures from Medicaid and local community advocates, the request has been made to decrease the readmission rate within the inpatient unit. Over the last 12 months, the inpatient behavioral health 30-day readmission rate has been 21%, and the national average is 8-18.8% depending on patient demographics (Ortiz, 2019). Accordingly, to be in better alignment with national standards, the payers request that the inpatient readmission rate is decreased to 8% by the end of the fourth quarter of FY23. To incentivize this effort, one payer has added a stepped benchmark tied to an improved reimbursement and a "facility of choice" designation. At the same time, another payer has added onsite care coordinators to assist with post-discharge support and transportation for follow-up care.

Current Facility Practices

The facility adheres to all CMS guidelines on admission criteria, length of stay guidelines and observes the established best practice discharge planning strategies. For example, the organization utilizes the multidisciplinary discharge team approach, ensures collateral is collected for all discharging patients, and a safe discharge location is identified. The outpatient prescription is filled at no cost if the patient cannot afford medication. Transportation is arranged, follow-up care in the outpatient setting is established within seven days of discharge, and a bus pass is provided to ensure that the patient is able to attend their outpatient medication management and therapy appointments. To ensure that the CMS post-discharge protocols are followed, a therapist calls the patient on the sixth day after discharge and the 27th day. If either of those calls indicates that the patient has decompensated, arrangements are made to readmit the patient. With these practices in place, the readmission rate continues to hover around 21%. When you evaluate the patient population which makes up the 21% readmission rate, it consists of two patients with severe borderline personality disorders, and the remaining 20 are dual-diagnosis patients. The one commonality among all these patients is their lack of personal support. Most are estranged from their families of origin or are divorced and have unstable housing.

Facility Shortcomings

The challenging aspect in managing the stigma of behavioral health is that anyone with a mental illness, developmental delay, drug or alcohol use disorder, or someone who appears homeless is frequently classified as a behavioral health patient. As a result, outside of the department of psychiatry, the organization's medical providers have varying viewpoints and perspectives on what treatment modalities will be provided for patients with any of the previously listed characteristics. This inconsistency often delays timely access to appropriate behavioral health resources through consult requests or admission to the inpatient unit. The area that has the most opportunities for change is the emergency department. The ED is the community-facing access point for the facility and, as a result, has initial contact with patients in distress. A small percentage of patients are psychotic or violent, and at times, require intensive medication management upon arrival. As a result of a limited number of patients acting aggressively with the staff, the entire population is being managed as a potential threat.

Consequently, many behavioral health patients report harsh or discourteous treatment. In addition, it has been reported that their provider has refused to answer questions or work on alternative disposition options. From the nursing side, the ER has very few full-time post-covid staff, and the department relies heavily on travel nurses who rotate out every 13 weeks. With such a transient staffing population, it is difficult for the ER leadership to build a supportive, accepting culture and ensure that each patient's needs are met.

Another area for improvement is the need to treat opioid addiction in the emergency department. Currently, the protocol is to hydrate, reduce nausea and vomiting, and provide an alpha-2 adrenergic agonist to help with the withdrawal symptoms. This treatment takes 3-6 hours, and the patient is either discharged home or admitted to the inpatient behavioral health unit to manage their dual diagnosis. If discharged home, the patient unavoidably returns to their previous lifestyle. One idea to positively impact this population would be to start a Medication Assisted Treatment (MAT) program in the ED. This program would expand access to buprenorphine treatment for opioid use disorder (What Is NM Bridge? 2022). The implementation would benefit the community's overall health and decrease crime, ER visits, and the behavioral health readmission rate. This addition would also address the substance abuse treatment aspect of the CHNA and be a direct referral base for the facility's outpatient behavioral health Suboxone clinic and MAT program.

Untapped Concepts from Literature Review

The repeated themes for successful interventions from the literature review revolve around the need for post-discharge social support. The literature review focused on the challenges the patients encounter once discharged, which are often more than they can manage alone. These difficulties often involve other aspects of their lives besides their mental illness; the patient frequently needs assistance with activities of daily living or any combination of the social determinants of health. If the patient cannot solve these problems by themselves, often they will return to the nearest emergency room and then be readmitted to an inpatient unit.

Implementation Plan

As a 501(c)3 organization, the facility is invested in all aspects of the community. The system is fortunate to be the most profitable hospital in the southwest and has a board of directors willing to finance projects that better the community. The performance improvement plan will focus on three areas; community health and peer support workers, moderate-term housing for the high utilizers of resources, and opioid treatment in the emergency room.

From the literature review, community health and peer support workers significantly impacted the inpatient 30-day readmission rate. Currently, two state grants would cover the salary for two community health workers for 36 months. The condition of the grant is that the workers are assigned to a unit within an acute care hospital. One CHW would be deployed to the outpatient clinic as a case manager, and the other would be assigned to the emergency department to provide case management. These two individuals would assist the patients in obtaining the resources that would improve their independence and self-reliance—for example, applying for an electrical, water, or gas payment waiver. In addition, assisting with referrals to community groups that offer food and housing assistance, as well as medical treatment transportation.

The Bridge Opioid Treatment Project has a grant for a peer-support worker, which initially covers 24 months of salary and can be conditionally renewed for 24 additional months. The peer-support worker would be an individual based in the emergency room who was once an addict and is in recovery. After reviewing the grant's suggested job description, the facility would have to amend its hiring policy to accommodate potential candidates who could not pass the existing background check. These individuals often have had contact with the legal and penal system at some point in the past, and under the current policies, they would not be eligible for hire.

The social determinants of health prevent many patients from accessing the resources to improve their health and overall well-being. Housing insecurity is one of the commonalities for the patients that make up the 21% readmission rate. Housing for this population can range from sleeping on various couches, prostituting for a hotel room, or sleeping in a culvert. As a result of unstable housing, many of these patients are frequently in the emergency department. The challenge for the facility is that the high utilizers of resources often occupy a bed for 5-30 hours and frequently require high resource allocation. The facility's emergency department has 27 beds, treats 125-140 patients daily, and often has exceptionally long wait times because there is a lack of space. When you look at the data, the average ER bill is $1,320 (Dahlen, 2022). At the current ER census, that is a minimum of $165,000 in daily revenue, roughly translating to 60m annually. A cost-effective, equally beneficial agreement for the facility and the high utilizers of the ER would be for the organization to rent 20 hotel rooms for $30/day for a total daily cost of $600, $220,000/annually. These hotel rooms would provide increased patient stability and free up critical bed space in the emergency department. In addition, these rooms would be overseen by an outpatient community health worker who could help link the patient to additional long-term resources. The goal would be to make this housing option available for three to six months, and during that time, the patient would work toward psychiatric stability, possibly employment, and independence.

Methamphetamine abuse in the desert southwest is rampant; annually, 72% of inpatients test positive for methamphetamine. During the intake assessment, the therapists ask the patients about their drug history and how they got started. For those that test positive for meth, the transitions are relatively similar. Initially began smoking marijuana, later transitioning to either benzodiazepines or opioids, having unreliable access to their drug of choice, and then trying meth as a substitute. To help curb this epidemic, implementing The Bridge Project buprenorphine treatment for opioid use disorder in the emergency department would provide the community with an alternative resource for addiction treatment. First, the patient would present to the ER for withdrawal, or their addiction would be discovered secondary to an accident or illness. Buprenorphine or Suboxone(buprenorphine/naloxone) would be given to the patient in the ER, and in 15-20 minutes, the patient is no longer in opioid withdrawal. The patient would be sent home with three days worth of medication and an outpatient appointment within three days. Once enrolled in the outpatient behavioral health clinic, the patient would be prescribed Suboxone and work with their provider to manage their addiction. This additional service in the emergency department would decrease the daily traffic for patients with opioid withdrawal and secondarily reduce the readmission rate to the inpatient behavioral health unit.

Process Improvement Plan to Decrease the Inpatient Behavioral Health 30-Day Readmission Rate

04/01/2023

Performance Improvement Topic:

- Decrease the 30-Day readmissions to the inpatient behavioral health unit

How did you decide that this was important:

- Nationally, the acceptable inpatient behavioral health 30-day readmission rates range from 8%-18.8%
- The facility's inpatient behavioral health unit's average readmission rate over the last 12 months has been 21%

- Frequent readmissions are not beneficial to the patient and do not allow for the patient to develop post-discharge stability
- Payers have voiced concerns about this organization's ability to stabilize their member's psychiatric conditions within traditional timelines without readmissions
- Community mental health advocates have expressed concerns about specific patients discharged before psychiatric stability
- One payer has presented financial incentives for improved patient outcomes
- The organization has the potential to earn a "Facility of Choice" designation with one payer for a sustained readmission rate of 8% or less for their members
- Inpatient behavioral health beds are limited, and efforts must be made to ensure that those beds are efficiently utilized for short-term crisis stabilization and medication management.

Purpose:

- To provide a structured outline for the facility-wide effort to decrease the 30-day inpatient behavioral health readmission rate
- To provide start and stop dates
- To provide follow-up directives
- To provide metrics to determine what components of the PIP were successful
- For this effort to be used as a basis for the subsequent follow-up PIPs

Desired Outcome:

- Decrease the Inpatient Behavioral Health 30-Day Readmission Rate

Follow Up:

- Present updates to the Executive Team on the first Monday of each quarter
- Refocus efforts as PIP progresses

Table 1: Process Improvement Plan to Decrease the Inpatient Behavioral Health 30-Day Readmission Rate

Challenges?	**What will be done?**	**Who will do it?**	**Date of Completion**	**Metric of Success**
In a five-day admission, the patient may be seen by four different providers. This could lead to poor continuity of care and potentially an unstable discharge	The Behavioral Health Medical Director will review all discharges during the morning team meeting	Medical Director	Ongoing	30-day readmission rate from 21%-15% by first quarter of FY24 30-day readmission rate from 15%-10% by second quarter of FY24 30-day readmission rate from 10%-8% by third quarter of FY24

Ensure that all patient collateral is from a validated source	The Director of Clinical Services will re-educate the case manager on the expectation of acceptable collateral	Director of Clinical Services	Ongoing	Monthly Audit by the Director of Clinical Services for 100% of discharges. Deficiencies will be addressed with the individual case managers
Some patients do not have the finances to cover outpatient psychiatric prescriptions	Discharge planning will meet with the patient to discuss financial resources and document the findings in the EHR	Discharge Planning	Ongoing	Monthly Audit by the Director of Clinical Services for 100% of discharges. Deficiencies will be addressed with the individual discharge planners

Challenges?	**What will be done?**	**Who will do it?**	**Date of Completion**	**Metric of Success**

Some patients do not have the finances to cover outpatient therapy services	The case manager will discuss facility indigent and charity care during the initial discharge meeting, and document findings in the EHR	Case Management	Ongoing	Monthly Audit by the Director of Clinical Services for 100% of discharges. Deficiencies will be addressed with the individual case managers
Staff does not understand the organization's charity care program	Monthly education provided at the therapist, as well as RN/MHT staff meetings	Director of Patient Accounts	Ongoing	Direct feedback from staff
Hospitalized patients often do not have social support or assistance outside of the hospital	Requisition for a peer support worker housed within the inpatient cost center. Potential grant funding	Executive Director of Behavioral Health	2/1/2023	CFO approval

Outpatient BH patients often report challenges they are experiencing in group therapy, and the current therapist staff does not have the capacity to address those concerns	Requisition for a community health worker housed within the outpatient cost center. Potential grant funding	Executive Director of Behavioral Health	2/1/2023	CFO approval

Challenges?	**What will be done?**	**Who will do it?**	**Date of Completion**	**Metric of Success**
Facility assuming the total financial obligation of two additional non-NPI positions	February 2023 has a statewide effort to decrease the demand for inpatient stabilization, and state-funded grants are available for community health workers	Director of Clinical Services and the Assistant CNO	Draft ready for review 1/25/2023	Grant provided for two community health workers. One stationed in the outpatient clinic, and one attached to the Emergency Department

	attached to acute care hospitals			
Patients often do not have transportation to group therapy	Contract with the local bus company to provide pickup and drop off services from the patient's home	Executive Director of Behavioral Health	2/1/2023	Cost to remain under $5,000/monthly and to provide transportation for at least 13 IOP/PHP members
Implement The Bridge opioid treatment protocol in the ED	Invite The Bridge Implementation Team to campus for a tour and to discuss the phases of training and initial steps to initiate	Executive Director of Behavioral Health, ER Medical Director, ER Director of Nursing	3/1/2023	Full implementation with participation from all ER providers
Patients with housing insecurities require frequent ER visits and	Rent 20 rooms from a local hotel at a cost not to exceed $30/per room	Executive Director of Behavioral Health, Director of	3/1/2023	25% decrease in ER visits and inpatient admissions for housed patients.

inpatient admissions		Clinical Services		

SUMMARY AND CONCLUSION

Hospital systems will continuously refine their efforts to improve patient outcomes and decrease costs. Hospital readmissions have always been considered a deficiency of the facility, and to address this challenge, healthcare systems have implemented strategies to reduce readmissions. One of the unexpected findings of this project is that although the facility is evaluated on the readmission rate, often, the variables that cause the readmission to the hospital are not within the organization's control. For example, the literature pointed to the lack of social support, assistance with the activities of daily living, and housing as the primary source of the patient returning to the hospital, none of which directly involve the discharging facility. The summation of this review is that every aspect of the patient's life is interconnected and impacts their psychiatric stability. To improve the community's overall health, stakeholders must collaborate and develop support networks to assist the patient before and after hospitalization.

REFERENCES

Beckers, T., Maassen, N., Koekkoek, B., Tiemens, B., & Hutschemaekers, G. (2022). Can social support be improved in people with a severe mental illness? a systematic review and meta-analysis. *Current Psychology*. Retrieved November 20, 2022, from https://doi.org/10.1007/s12144-021-02694-4

Carter, J., Hassan, S., Walton, A., Yu, L., Donelan, K., & Thorndike, A. N. (2021). Effect of community health workers on 30-day hospital readmissions in an accountable care organization population. *JAMA Network Open*, *4*(5), e2110936. Retrieved November 22, 2022, from https://doi.org/10.1001/jamanetworkopen.2021.10936

Chatterjee, P., & Werner, R. M. (2019). The hospital readmission reduction program and social risk. *Health Services Research*, *54*(2), 324–326. Retrieved November 2, 2022, from https://doi.org/10.1111/1475-6773.13131

CMS' Discharge Planning Rule Supports Interoperability and Patient Preferences. (2019). CMS.gov. Retrieved November 1, 2022, from https://www.cms.gov/newsroom/press-releases/cms-discharge-planning-rule-supports-interoperability-and-patient-preferences

Conner, K., Cadet, T., Brown, M., & Barnett, J. (2018). The impact of peer support on the risk of future hospital readmissions among older adults with a medical illness and co-occurring depression. *Social Sciences*, *7*(9), 156. Retrieved November 5, 2022, from https://doi.org/10.3390/socsci7090156

Dahlen, G. (2022). *Emergency room - typical average cost of hospital ed visit - consumer health ratings*. Consumer Health Ratings. Retrieved December 3, 2022, from https://consumerhealthratings.com/healthcare_category/emergency-room-typical-average-cost-of-hospital-ed-visit/

Feldman, S. S., Davlyatov, G., & Hall, A. G. (2020). Toward understanding the value of missing social determinants of health data in care transition planning. *Applied Clinical Informatics*, *11*(04), 556–563. Retrieved November 3, 2022, from https://doi.org/10.1055/s-0040-1715650

Follow-up after hospitalization for mental illness. (2020). NCQA. Retrieved November 22, 2022, from https://www.ncqa.org/hedis/measures/follow-up-after-hospitalization-for-mental-illness/

Fontanella, C., Warner, L., & Steelesmith, D. (2020). Association of Timely Outpatient Mental Health Services for Youths After Psychiatric Hospitalization With Risk of Death by Suicide. *JAMA Network*. Retrieved November 1, 2020, from https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2769145

42 cfr § 482.43 - condition of participation: Discharge planning. (2019). Cornell Law. Retrieved November 12, 2022, from https://www.law.cornell.edu/cfr/text/42/482.43

Germack, H. D., Drake, C., Donohue, J. M., Golberstein, E., & Busch, S. H. (2020). National trends in outpatient mental health service use among adults between 2008 and 2015. *Psychiatric Services, 71*(11), 1127–1135. Retrieved November 22, 2022, from https://doi.org/10.1176/appi.ps.201900576

Hospital readmissions for psychiatric conditions. (2018). AHRQ. Retrieved November 12, 2022, from https://www.ahrq.gov/data/infographics/psychiatric-hospital-readmissions.html

Hugunin, J., Davis, M., Larkin, C., Baek, J., Skehan, B., & Lapane, K. L. (2022). Established outpatient care and follow-up after acute psychiatric service use among youths and young adults. *Psychiatric Services*. Retrieved November 13, 2022, from https://doi.org/10.1176/appi.ps.202200047

Jaspan, J. (2022, April 20). *The Value of Structured Outpatient Treatment*. National Alliance on Mental Illness. Retrieved November 25, 2022, from https://www.nami.org/Blogs/NAMI-Blog/April-2020/The-Value-of-Structured-Outpatient-Treatment

Khan, M., Sreenivasan, J., Lateef, N., Abougergi, M. S., Greene, S. J., Ahmad, T., Anker, S. D., Fonarow, G. C., & Butler, J. (2021). Trends in 30- and 90-day readmission rates for heart failure. *American Heart Association*, *14*(4). Retrieved November 23, 2022, from https://doi.org/10.1161/circheartfailure.121.008335

McIlvennan, C. K., Eapen, Z. J., & Allen, L. A. (2015). Hospital readmissions reduction program. *Circulation, 131*(20), 1796–1803. Retrieved November 23, 2022, from https://doi.org/10.1161/circulationaha.114.010270

Ohta, B., Mola, A., Rosenfeld, P., & Ford, S. (2016). Early discharge planning and improved care transitions: Pre-admission assessment for readmission risk in an elective orthopedic and cardiovascular surgical population. *International Journal of Integrated Care*, *16*(2). Retrieved November 5, 2022, from https://doi.org/10.5334/ijic.2260

Ortiz, G. (2019, July). The Journal for Healthcare Quality (JHQ*). JHQonline, 41*(4), 228–236. Retrieved November 2, 2022, from https://journals.lww.com/jhqonline/fulltext/2019/07000/predictors_of_30_day_postdischarge_readmission_to.5.aspx

Peer support workers for those in recovery. (n.d.). SAMHSA. Retrieved November 23, 2022, from https://www.samhsa.gov/brss-tacs/recovery-support-tools/peers

Reif, S., Acevedo, A., Garnick, D. W., & Fullerton, C. A. (2017). Reducing behavioral health inpatient readmissions for people with substance use disorders: Do follow-up services matter? *Psychiatric Services, 68*(8), 810–818. Retrieved November 20, 2022, from https://doi.org/10.1176/appi.ps.201600339

Sabe, M., Kaiser, S., & Niveau, G. (2021). Suicide in psychiatry and medical liability: A case series. *International Journal of Law and Psychiatry, 74*, 101671. Retrieved November 4, 2022, from https://doi.org/10.1016/j.ijlp.2020.101671

Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2020). Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: A systematic review and meta-analysis. *Systematic Reviews, 9*(1). Retrieved November 2, 2022, from https://doi.org/10.1186/s13643-020-1274-3

Sentinel event policy and procedures. (n.d.). jointcommission.org. Retrieved November 10, 2022, from https://www.jointcommission.org/resources/sentinel-event/sentinel-event-policy-and-procedures/

Social determinants of health. (2022). World Health Organization. Retrieved November 17, 2022, from https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Spatz, E. S., Bernheim, S. M., Horwitz, L. I., & Herrin, J. (2020). Community factors and hospital wide readmission rates: Does context matter*? PLOS ONE, 15*(10), e0240222. Retrieved November 4, 2022, from https://doi.org/10.1371/journal.pone.0240222

US Department of Health and Human Services. (n.d.). *Role of Community Health Workers*. NIH. Retrieved June, 2014, from https://www.nhlbi.nih.gov/health/educational/healthdisp/role-of-community-health-workers.htm

What is NM Bridge? (2022). New Mexico Bridge. Retrieved November 5, 2022, from https://www.nmbridge.org/what-is-nm-bridge/#:~:text=The%20NM%20Bridge%20Project%20is,treatment%20(medication%20and%20therapy).

Ziegenbein, M., Anreis, C., Brüggen, B., Ohlmeier, M., & Kropp, S. (2006). Possible criteria for inpatient psychiatric admissions: Which patients are transferred from emergency services to inpatient psychiatric treatment? *BMC Health Services Research*, *6*(1), 150(2006). Retrieved November 10, 2022, from https://doi.org/10.1186/1472-6963-6-150