2022

Strategies for Hiring Candidates Who Can Pass a Drug Test in the U.S. Manufacturing Sector

Michael Olson
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Michael Olson

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Deborah Nattress, Committee Chairperson, Doctor of Business Administration Faculty

Dr. John Hannon, Committee Member, Doctor of Business Administration Faculty

Dr. Gwendolyn Dooley, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2022

Abstract

Strategies for Hiring Candidates Who Can Pass a Drug Test in the U.S. Manufacturing Sector

by

Michael Olson

MBA, Globe University, 2015

MIS, Metropolitan State University, 2012

BA, Hamline University, 2002

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

May 2022

Abstract

Some manufacturing business leaders struggle to hire candidates due to drug usage, which negatively impacts profitability. Grounded in Vroom's expectancy theory, the purpose of this multiple case study was to explore strategies manufacturing business leaders use to hire candidates who can pass a drug test in the southeast region of the United States. Participants included four manufacturing business leaders with at least 1 year of ownership or 5 years of managerial experience who implemented strategies for hiring candidates who could pass a drug test. Data were collected using semistructured audio interviews and documents, such as U.S. drug and alcohol policies and blank job applications. The four themes from thematic analysis were drug testing, company policies, legal requirements, and employee data. The primary recommendation for manufacturing business leaders is to randomly drug test candidates before and shortly after hiring to find motivated people to conform to company policies, meet legal requirements, and perform well. The implications for positive social change include the potential to reduce unemployment, decrease bodily injuries, increase life expectancy, and decrease crime rates in communities.

Strategies for Hiring Candidates Who Can Pass a Drug Test in the U.S. Manufacturing Sector

by

Michael Olson

MBA, Globe University, 2015

MIS, Metropolitan State University, 2012

BS, Hamline University, 2002

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

May 2022

Table of Contents

List of Tables

Section 1: Foundation of the Study

Business leaders in the manufacturing industry are responsible for developing strategies for hiring candidates who can pass a drug test. To follow the Drug-Free Workplace Act of 1988, U.S. employers must employ drug-free workers (Burke & Richardsen, 2019). Burke and Richardsen (2019) showed that employees, shareholders, and customers expect safe places for people to work. Critical to improving workplace safety is to ensure that job applicants can pass drug tests (Brown & Rhinds, 2019). Despite business leaders' efforts in the manufacturing industry during the last 5 years to hire drug-free workers, the workforce drug positivity rate in the manufacturing sector is 3.7% (Quest Diagnostics, 2019). Insight on strategies that employers have used to hire employees successfully may facilitate manufacturing business leaders' ability to hire candidates who can pass a drug test.

Background of the Problem

Substance use and abuse have had detrimental and far-reaching impacts on the U.S. population. The total annual cost of tobacco, alcohol, and illicit drug abuse in the United States was $740 billion in 2010 (National Institute on Drug Abuse, 2017). These costs included charges related to crime, lost productivity, adverse healthcare outcomes, and negative impacts on student performance (Office of National Drug Control Policy, 2011). Regarding workforce impacts, illicit drug use and prescription drug abuse in the United States have contributed to a decline in the labor participation rate among prime-age workers, affecting business profitability, a vital area for study (Guichard, 2019). The decline in the labor participation rate due to addiction has forced business leaders to adapt

company policies (Krueger, 2017). Illicit drug use and misuse of prescription medications have negative economic costs, contribute to turnover and absenteeism, and negatively affect student performance (Office of National Drug Control Policy, 2011). According to the Substance Abuse and Mental Health Services Administration (2018), illicit drug use is rising for specific industries and demographics. Hiring drug-free workers is a way for business leaders to control costs. According to Goplerud et al. (2017), the costs of illicit drug use for businesses include lost productivity, turnover, health care expenses, disability, and worker's compensation.

Goplerud et al. found that people who have a high prevalence of alcohol use show a corresponding degree of illicit drug use. The industries with the highest rates of substance use disorder (SUD) include entertainment/recreation/food, construction, and wholesale/nondurable goods manufacturing (Goplerud et al., 2017). Business leaders in the manufacturing industry have a personal stake in the topic under study. The rise in non-adherence, diversion, non-medical use of prescription opioids, and extra medical use of prescription opioids, synthetic opioids, and the legalization of marijuana since 2012 are the reasons for renewed interest in hiring drug-free candidates. Manufacturing business leaders must have strategies to curb costs and hire candidates.

Problem Statement

In 2017, the Federal Reserve System Board of Governors reported that manufacturers in Louisville, Kentucky, and Memphis, Tennessee, had difficulties finding qualified employees due to the candidates' inabilities to pass a drug test (Board of Governors, 2017). The labor participation rate (in all sectors) among workers aged 25–54

has dropped 4.4% since 2000 despite a decrease in the unemployment rate between 2000 and 2017 (U.S. Bureau of Labor Statistics, 2018). The general business problem is that some manufacturing business leaders are struggling to hire candidates due to candidates' drug usage, which has a negative effect on profitability. The specific business problem is that some business leaders in the manufacturing industry lack strategies to hire candidates who can pass a drug test.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that some manufacturing business leaders used to hire candidates who could pass a drug test. The target population consisted of four leaders from manufacturing companies that had been in business for at least 5 years in the Southeast region of the United States, who had implemented successful strategies to hire candidates who could pass a drug test. Enhancing leaders' understanding of effective hiring practices might effect positive social change by reducing unemployment, decreasing bodily injuries, increasing life expectancy, and decreasing crime rates in communities.

Nature of the Study

Researchers use specific methods when conducting their studies. The three research methods are qualitative, quantitative, and mixed methods (Yin, 2018). I selected the qualitative approach for this study. Qualitative researchers who conduct interviews use open-ended questions to discover what is occurring or has occurred (Yin, 2018). According to Yin (2018), quantitative researchers use closed-ended questions to evaluate hypotheses, and mixed-methods researchers use qualitative and quantitative elements. To

explore the strategies that business leaders used to hire candidates who could pass a drug test, I did not test hypotheses, which is part of a quantitative study or the quantitative part of a mixed-methods study.

I considered four research designs for this qualitative study on hiring strategies: (a) ethnography, (b) focus group, (c) narrative, and (d) case study. Ethnographic design involves studying a group's culture, community, or subculture through fieldwork, direct observation, a reflective journal, or unstructured interviews (Yin, 2018). I did not choose an ethnographic design because the study's purpose was not to characterize one or more groups' cultures and because I did not conduct unstructured interviews. Business researchers use focus groups to supply feedback on products, campaigns, and television series (Yin, 2018). A focus group was not a suitable choice because I was not asking participants their opinion about a product or campaign. A narrative design entails asking for participants' personal stories through their own words (Yin, 2018). A narrative design would not have aligned with this study's purpose of finding and exploring common themes about business strategies among multiple managers. Case study researchers explore a person, group, or situation over time to understand a phenomenon through interviews and document reviews (Yin, 2018). I conducted a case study because I sought to understand the strategies business leaders used to hire candidates who could pass a drug test. A multiple case study enables researchers to develop an in-depth understanding of complex phenomena by comparing the results with other similar cases (Yin, 2018); therefore, I used a multiple case study design instead of a single case one.

Research Question

What strategies do manufacturing business leaders in the Southeast region of the United States use to hire candidates who can pass a drug test?

Interview Questions

1. What strategies do you use for hiring candidates who can pass a drug test?
2. What were the fundamental obstacles or challenges you met when implementing the strategies?
3. How did you overcome the key challenges you faced when implementing the strategies?
4. How did you or your organization assess the effectiveness of these strategies over time?
5. How, if at all, have you changed or modified your strategies over time?
6. What other information about strategies to hire candidates who can pass a drug test would you like to share that we have not discussed yet?

Conceptual Framework

I used Vroom's (1964) theory of expectancy as the conceptual framework for this study. According to Vroom, several factors motivate people, though people choose actions to maximize pleasure and minimize pain. Vroom also posited that managers measure an employee's performance on individual elements, including personality, skills, knowledge, experience, and abilities. Vroom's theory is that individuals have different sets of goals and can be motivated if they believe in a positive correlation between their efforts and performance. Satisfactory performance should result in a desirable reward that

will satisfy an urgent need, and the desire to fulfill the demand is strong enough to make the expected effort worthwhile. The tenets of Vroom's theory are valence (the emotional orientations that employees hold concerning outcomes), expectancy (the different expectations that employees have and the levels of confidence about what they can do), and instrumentality (the belief of employees as to whether or not they will get what they desire even if a manager has promised it). Vroom suggested that an employee's beliefs about the three constructs interact psychologically to create a motivational force so that employees act in ways that bring pleasure and avoid pain. The equation Motivation = Valence X Expectancy X Instrumentality describes the strength of the motivational force. Researching hiring strategies that business leaders used to hire candidates who could pass a drug test aligned with the purpose of Vroom's expectancy theory.

Operational Definitions

Deaths of despair: Deaths caused by alcohol poisoning, suicide, or drug overdose (Farberman, 2019).

Diversion: The selling/trading, sharing, or giving away of prescription medications to others; such activities may be voluntary or involuntary, such as in the case of losing a prescription (Briony et al., 2011).

Extra medical use: Prescription opioid use that is either without a prescription (i.e., obtained outside the medical system) or without a doctor's direction, excluding the possibility that the user may have medical reasons for using it (Briony et al., 2011).

Medication-assisted treatment: The use of Food and Drug Administration-approved medications, combined with counseling and behavioral therapies, to supply a

"whole-patient" approach to the treatment of SUDs (U.S. Department of Health and Human Services, 2020a).

Nonadherence: Any use of medication in which prescription directions or any added specified treatment conditions are not met (Briony et al., 2011).

Nonmedical use of prescription opioids: Misuse, abuse, and dependence on opioid analgesic medications (Cochran et al., 2015).

Schedule 1: Drugs, substances, or chemicals with no currently accepted medical use and a high potential for abuse (U.S. Drug Enforcement Administration, 2020b).

Substance use disorder (*SUD*): A disorder that occurs when the recurrent use of alcohol or drugs causes clinically and functionally significant impairment, such as health problems; disability; and failure to meet primary responsibilities at work, school, or home (American Psychiatric Association, 2013).

Supervised injection facilities: Facilities that supply a safe space where people can consume previously obtained drugs, such as heroin and fentanyl, under the supervision of staff trained to respond in the event of an overdose or other medical emergency. Staff at these facilities also supply counseling and referrals to other social and health services (Hood et al., 2019).

Synthetic opioids: Opioids manufactured in clandestine laboratories without regulation or pharmaceutical standards (Schaefer et al., 2017).

Assumptions, Limitations, and Delimitations

Assumptions

Kirkwood and Price (2013) described assumptions as the beliefs a researcher holds before conducting their study. One assumption that I had is that the data that I collected were valid. I also assumed that the participants would be truthful when answering my interview questions. Furthermore, I assumed that the instrument that I used in this study would accurately assess the perspectives of hiring practices, drug usage, profitability, and workplace safety. I made careful consideration to craft interview questions to explore the perspectives of manufacturing business leaders.

Limitations

Limitations related to research studies include the systematic bias of the design or instruments used, which the researcher could not control and may have had an inappropriate effect on the results (Price & Murnan, 2004). My choice of a qualitative multiple case study design had limitations because I had to rely on business leaders' experiences and opinions in the manufacturing industry, which were subjective. Another limitation is that participants' views cannot be generalized to the larger population. The transferability of the findings to other business leaders was also limited due to the study's scope. The use of semistructured interview questions was also a limitation because I had to rely on the participants' integrity and their supporting documents' accuracy.

Delimitations

Delimitations are the systematic bias intentionally introduced into the researcher's study design or instruments, limiting the study to a particular age group, sex,

race/ethnicity, geographically defined region, or other attributes (Price & Murnan, 2004). I included a delimitation limiting the geographic area for data collection to the United States' Southeast region. In addition, I delimited the study to a sample population size of six business leaders in the manufacturing industry. The participant inclusion criteria also limited the scope of the study. I recruited business leaders in the manufacturing industry who had worked at companies that had been in business for at least 5 years and who had implemented successful strategies for hiring candidates who could pass a drug test.

Significance of the Study

Many business leaders face problems filling open positions (Guichard, 2019). However, current research about strategies that business leaders used to hire qualified candidates was lacking (Elfenbein & Sterling, 2018). Manufacturing business leaders could use the results from this study to improve their hiring strategies and practices.

Contribution to Business Practice

This study on the strategies that manufacturing business leaders used to hire candidates who could pass a drug test may help business leaders gain relevant knowledge on costs and improve employee hiring and retention practices. The study findings may enable business leaders to review and update their policies and programs to incorporate strategies to improve hiring practices, drug testing, interview questions, and influence industry policy standards. Business leaders may also learn about implementing and using hiring programs to improve organizational performance.

Implications for Social Change

Data from this study may provide organizational leaders with the knowledge to implement and improve strategies for developing and implementing hiring programs. Local communities may also benefit from the study findings by becoming aware of the risks associated with SUD. Reductions in SUD could increase life expectancy and well-being and decrease crime (Lipman & Webster, 2015). A decrease in drug abuse may lead to a decline in disease, premature deaths, lost productivity, theft, violence, and sexual diseases (Potapchik & Popovich, 2014). A reduction in drug use may lower taxes by reducing the need for interdiction, law enforcement, prosecution, incarceration, probation, prevention and treatment programs, foster care, and homeless shelters (Lievens et al., 2017). Although the benefit-cost ratio for these social services is 38:1 over the user's lifetime (Zarkin et al., 2005), national economic growth may also increase because the funds could be diverted into other investments that benefit society (Koegl & Day, 2019). Consumers may receive help from increased quality and lower prices for goods and services because worker engagement may improve the efficiency of business processes (Priem et al., 2018). Last, community members who experience improved hiring strategies may have a better chance in the job market and live better lives due to improved health and life expectancy.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to explore the strategies that some manufacturing business leaders use to hire candidates who can pass a drug test. The findings from this multiple case study may inform readers about innovative

approaches, insights, and strategies that business leaders implement for improving hiring practices to increase profitability. A review of academic and professional literature was necessary to provide a foundation for this study. According to Ramdhani et al. (2014) researchers should support their research through a literature review covering current concerns, interests, and topics. In searching for academic and professional literature, I used keywords that included drug usage, profitability, manufacturing business leaders, expectancy theory, hiring strategies, drug tests, and workforce demographics. The databases that I searched included Business Source Complete from EBSCOhost, Emerald Management, Google Scholar, ProQuest Central, ResearchGate.net, and SAGE Premier. The 129 sources used in the literature review included journal articles from academic and scholarly journals, seminal work, and reports from government and business sources. I used Ulrich's Periodical Directory to assess the peer-reviewed status of each of the journals. Of the total sources, 95 were from peer-reviewed journals published less than 5 years from 2021. I organized the literature review by theme and divided it into the following six sections: expectancy theory, supporting and alternate theories, substance use disorder, adverse effects of substance use disorder on the workplace, current hiring strategies, and U.S. manufacturing and workforce statistics.

Expectancy Theory

The conceptual framework for this study was the expectancy theory. Vroom's (1964) theory of expectancy concerns motivation, management, and people's choices of actions. Vroom's theory is that individuals have different sets of goals and can be motivated if they believe that there is a positive correlation between efforts and

performance, favorable performance will result in a desirable reward, and the reward will satisfy an urgent need. According to Ballard et al. (2016), employees balance goals and expectations with limited time and resources. People choose their actions based on what they believe will result in the most significant rewards.

The tenets of expectancy theory provided a lens to explore hiring strategies. The tenets of Vroom's (1964) theory are valence (the emotional orientations that employees hold concerning outcomes), expectancy (the different expectations that employees have and the levels of confidence about what they can do), and instrumentality (the perception of employees whether they will get what they desire even if a manager has promised it). Employees have expectations about outcomes based on their abilities and the course of action they think their manager will take. Vroom suggested that an employee's beliefs about the three tenets interact psychologically to create a motivational force, thereby acting in ways that bring pleasure and avoid pain.

Business leaders and researchers can use expectancy theory to measure employee performance and satisfaction. Kuvaas et al. (2016) said that the purpose of expectancy theory is to motivate employees toward goals. People behave in ways that bring about the most satisfaction in their lives. The following formula describes the motivational force: Motivation = Valence × Expectancy × Instrumentality (Vroom, 1964). The psychology behind personal motivation can be explained and predicted using this formula. Ballard et al. (2016) showed that valence is the reward system that motivates employees to increase their performance, so employers must pair their goals with clearly defined rewards. Top-performing employees are rewarded for the work they perform based on goals that their

manager has clearly defined (Ballard et al., 2016). Understanding employee performance and satisfaction may help manufacturing business leaders create effective motivating goals.

Business leaders who understand employee motivations may experience organizational success. Managers measure an employee's performance on individual elements, including personality, skills, knowledge, experience, and abilities (Ray, 2016). Ray (2016) said that employees must align their personal beliefs and expectations to a company's performance and motivational measurements for successful organizational outcomes. Appelbaum et al. (2018) came to a similar conclusion as Ray and found that for organizations to successfully motivate their employees during business model transformations, leaders must not improvise and should follow standardized change management procedures that take employee motivation and response into consideration. Both employers and workers may need to make adjustments to successfully align on organizational goals. For employees to become motivated, employers must balance the company's needs with the needs of the employees and increase the employees' commitment to a company's mission statement (Ray, 2016). The success of a company may be the responsibility of both employees and managers.

Instrumentality may be a helpful measurement of belief. Kuvaas et al. (2016) purported that managers could use instrumentality to gauge employees' belief of the performance level needed to achieve the desired objectives. Ballard et al. (2016) showed that managers use expectancy to measure employees' level of performance to achieve a

goal. Instrumentality could be important for managers to estimate how much effort and skills an employee believes they need to achieve objectives.

Financial compensation may increase motivation. Herbert and Rothwell (2016) showed that using financial compensation to reward increased motivation through increases in valence, instrumentality, and expectancy. Also, Barba-Sánchez and Atienza-Sahuquillo (2017) showed that expectancy theory was an effective employee retention strategy. Employers who fairly compensate employees may increase engagement and retention.

Some applicants may expect that the rewards from drug use are easier to reach and preferable to employment, preventing them from passing a drug test. Pickard (2017) showed that addicts are willing to pursue drugs for pleasure, idleness, and pleasure above every other endeavor. Vroom's (1964) equation for motivation formed the lens I used when asking my interview questions to understand participants' strategies for hiring drug-free applicants. Holland and Tham (2019) showed that pre-employment drug testing might benefit employers in selecting candidates motivated to work and avoiding risky ones. Applicants who fail drug tests may reveal that their motivations are aligned with drug use instead of employment. Due to the negative impact that addiction has on applicants' motivations, I concluded that the expectancy theory would be proper for this research.

Alternate Theories

I considered other theories for this study. Kanfer and Chen (2016) showed that multiple conceptual theories exist to explain employee and organizational motivations.

Two other conceptual theories describe human motivation and needs. The first is called existence, relatedness, and growth (ERG) theory, which was developed by Alderfer in 1969. The second is called Theory X and Theory Y and was formulated by McGregor in 1960 (Baumgartel & McGregor, 1960).

ERG Theory

Alderfer developed ERG theory in response to Maslow's hierarchy of needs theory (Jonas, 2016). Alderfer named three categories of human needs that affect workers' behaviors (Guterman & Alderfer, 1974). Those needs include existence, relatedness, and growth. Existence needs include psychological and safety needs such as hunger, thirst, and sex. Relatedness needs include social and external self-esteem, like family, friends, and coworkers. Growth needs include internal self-esteem and self-actualization, which is the desire for creativity, productivity, and completion of meaningful tasks (Guterman & Alderfer, 1974). ERG theory can be used to study human needs.

The primary difference between Alderfer's ERG theory and Maslow's hierarchy of needs is that with ERG theory, the person does not need to satisfy one level of needs before accessing a higher level, and the order of importance within the three categories varies among individuals. Alderfer (1969) stressed that the employees experience all three types of needs simultaneously; therefore, managers must try to satisfy them similarly, or motivation will languish. Additionally, if an employee cannot satisfy a higher need, they will regress to lower-level needs, which are easier to satisfy and show the phenomenon known as the frustration-regression principle. The frustration-regression

principle is essential to recognize because it is a sign that employees are undermotivated. Once an employee satisfies their needs, growth will continue (Alderfer, 1969). Alderfer's ERG theory is used to decide the satisfaction of managers' needs, which occurs posthiring date (Gezikol et al., 2019). I opted against using ERG theory because I concluded that it would not help me understand hiring strategies because it applies to the phenomenon after the job application process.

Theory X and Y

I considered another motivational theory called Theory X and Theory Y. McGregor introduced Theory X and Theory Y in 1960. In McGregor's theory, managers use either one of two models when engaging with employees (Baumgartel & McGregor, 1960). When viewing employees through the lens of Theory X, managers assume that humans do not like to work and will avoid it at all costs. Managers of large scale and efficient operations often use this theory with an authoritarian style to increase employee output (Baumgartel & McGregor, 1960). When an employee avoids work, managers must control and threaten them to work hard to carry out their tasks. Managers make assumptions using Theory X that employees want direction and need security at work through clear and unambiguous instructions. Managers may apply this theory on the shop floor of manufacturing facilities with their production workers.

McGregor's Theory Y is the antithesis of Theory X and is geared toward knowledge workers and employees in professional services (Baumgartel & McGregor, 1960). Managers who use Theory Y assume that people view work as a natural part of life and willfully spend the mental and physical effort to carry out tasks. Employees are

initiative-taking and aim to fulfill the goals of the organization by volunteering for new responsibilities. To keep employees engaged and committed, managers could let them use their imagination and creativity to solve problems. The participative management style is best suited for employees working on complex issues (Oketcho et al., 2019). Oketcho et al. (2019) showed that employees are more responsive to Theory Y than X, but neither model was best suited for this study. Managers use the control mechanisms in Theory X and Theory Y to drive productivity postemployment. Because managers cannot force people to apply for a job, a motivation theory applicable to job applicants (like Vroom's expectancy theory) was a better fit for this study.

Substance Use Disorder

Definition and Causes of Substance Use Disorder

It is essential to understand the underlying disease that negatively affects applicants' motivation. According to the American Psychiatric Association (2013), SUD occurs when a person's use of alcohol or another substance (a drug) leads to health issues or problems at work, school, or home. According to Rakel and Rakel (2016), the causes of SUD are unknown. Contributing factors may include a person's genetic makeup, pharmacodynamics, peer pressure, emotional distress, anxiety, depression, or environmental stress (Rakel & Rakel, 2016). People who develop SUD sometimes suffer from depression, attention deficit disorder, posttraumatic stress disorder, or other mental health problems (Rakel & Rakel, 2016). Other risk factors of SUD are living in a stressful or chaotic lifestyle and low self-esteem (Rakel & Rakel, 2016). Children exposed to their parents' drug use are at a higher risk of developing SUD later in life due to genetic and

environmental factors (Rakel & Rakel, 2016). SUD can interfere with adult applicants' motivation to find work.

Commonly Used Substances

Manufacturing business leaders need to know the substances used by some applicants to understand the research problem's significance. These substances include opiates and other narcotics, which are painkillers that can cause drowsiness, intense feelings of well-being, elation, happiness, excitement, and joy (Alozai & Sharma, 2020). Examples include heroin, opium, codeine, and narcotic pain medicines, which people can obtain through prescriptions from a doctor, theft, or illegal sale (Reddy & de la Cruz, 2019). Potent, mind-altering substances can affect an applicant's judgment and motivation, which could pose a problem if hired. Some of these drugs, such as heroin, are classified as Schedule 1 (U.S. Drug Enforcement Administration, 2020a). The U.S. Drug Enforcement Administration takes the possession and sale of drugs seriously and classifies other substances into different schedules. Stimulants are another commonly used drug that stimulates a person's brain and nervous system (Farzam et al., 2020). Examples include cocaine and amphetamines and the drugs used to treat attention deficit hyperactivity disorder, such as methylphenidate or Ritalin (Farzam et al., 2020). Applicants addicted to stimulants can pose the same workplace safety risks as applicants addicted to narcotics if hired (Burke & Richardsen, 2019). Addicts can build a tolerance to stimulants and need higher doses to feel the same effect, further challenging their ability to perform work (Burke & Richardsen, 2019). Business leaders need to understand the safety risks if they hire addicts.

Business leaders should also be aware of depressants, which are another kind of commonly used substance. Depressants cause drowsiness, reduce anxiety, and include alcohol, barbiturates, benzodiazepines (Valium, Ativan, Xanax), chloral hydrate, and paraldehyde (U.S. Drug Enforcement Administration, 2020b). Applicants may gain access to depressants through legal or illegal means and abuse them like any other drug. Abuse of depressants can often lead to addiction (Rakel & Rakel, 2016). The addictive nature of depressants makes them a safety risk for applicants, so business leaders need to consider depressants as seriously as other drugs when testing applicants.

Hallucinogens are other commonly used substances that deserve business leaders' attention due to their severe worker performance effects. Examples of hallucinogens include lysergic acid diethylamide (LSD), mescaline, psilocybin ("mushrooms"), and phencyclidine (PCP, or "angel dust"; National Institute on Drug Abuse, 2020). These substances can lead to psychological addiction, wherein the user develops emotional and motivational withdrawal (Franken, 2003). Hallucinating while on the job could pose severe performance and safety issues, and the likelihood of withdrawal could worsen the problems. To better grasp SUD's potential downward spiral, it is essential for business leaders to recognize its stages and if applicants are currently suffering from it.

Stages of Substance Use Disorder

Business leaders could recognize an applicants' symptoms if they understand the stages of substance use disorder. According to Rakel and Rakel (2016), people who use drugs follow a progression of steps, which may end in addiction, and they found that young people move more quickly through the stages than adults. A similar phenomenon

occurs among people under the age of 25 who are addicted to alcohol (Rapsey et al., 2018). Catching signs of substance use disorder in young applicants could prevent bad hires. Rakel and Rakel defined the first stage as experimental use, characterized by drug use with peers. Users in this stage may take drugs to rebel against parents or other authority figures. Rebellious behaviors in applicants could be a red flag and a potential sign of early substance use disorder. Understanding added stages are essential for business leaders to grasp the full effect of the disease.

Applicants who continue to use drugs may progress into further stages of SUD. Rakel and Rakel (2016) defined the second stage as regular use. In this stage, users miss more and more school or work, worry about losing their source, and use drugs to fix negative feelings (Stanford Children's Health, 2020). Ventura and Bagley (2017) found similar evidence to Rakel and Rakel and discovered that users would withdraw from friends or family members and change their friends to ones who extensively use identical drugs. Withdrawal may be a significant part of the second stage. At this stage, users must take more of the drug to achieve similar effects because their brains have adapted to reduce the reward circuitry, a condition known as tolerance (National Institute on Drug Abuse, 2018). People suffering from SUD may undergo physiological changes to their brains because of using drugs. At this stage, changes in brain chemistry may affect an applicant's ability to interview successfully.

If a user cannot recover after entering the second stage of SUD, they may find themself in the third stage. The third stage of SUD is risky usage (Rakel & Rakel, 2016). In this stage, the user loses motivation and does not care about school or work (National

Council on Alcoholism and Drug Dependence of the East San Gabriel and Pomona Valleys, Inc., 2020). The user experiences overt behavior changes and becomes preoccupied with using drugs rather than engaging in relationships or meaningful work (Mendola & Gibson, 2016). Medina (2020) reported consistent results with Mendola and Gibson (2016) and found that the user becomes secretive about how much they use and may begin dealing drugs to support his habit. The user may find themself in financial hardship due to their usage. Weiss (2020) found that users start taking harder drugs and that the onset of legal problems typically begins in this stage, which was consistent with Rakel and Rakel (2016). The burgeoning financial and legal issues of applicants with SUD may distract them from fully engaging in the hiring process.

If users continue their consumption of drugs, they may find themselves in the last stage of SUD and unsuitable for employment. Rakel and Rakel (2016) discovered that the fourth and final stage of SUD is addiction. Sinha (2008) reported consistent results to Rakel and Rakel and noted that during this stage, the user cannot cope with daily living without using drugs and is in denial of his problem. His physical condition usually worsens, and he experiences a loss of control over his use (Sinha, 2008). Physical and psychological ailments due to SUD may make an applicant ineffective. Dragisic et al. (2015) also found that users in this stage are addicts, like Rakel and Rakel's conclusion, and are at a higher risk of suicide. Applicants who suffer from SUD may isolate themselves from friends and family, reducing an essential social network during unemployment. Researchers came to a slightly different conclusion than Dragisic et al. in that users at this stage often visit supervised injection facilities to curb their cravings in a

safe environment (Hood et al., 2019; Ng et al., 2017). Stage five can be difficult for a person suffering from SUD, which adds challenges to finding a job.

Symptoms

Applicants who suffer from SUD may have difficulty performing on the job if hired due to symptoms. Rakel and Rakel (2016) defined a set of symptoms and behaviors common to substance users, including confusion and continuing to use drugs in the face of harm to health, work, or family. Users may become violent and hostile when confronted about their drug dependence. McCabe et al. (2016) did similar research and found that users show a lack of control over their drug abuse and become unable to limit or stop their consumption. Like McCabe et al., Ghodse (2017) found that many users make excuses to use drugs, experience a decline in performance, and end up missing school or work. Users may become dependent on regular drug use to function in daily life and often forget to eat, making finding a job a low priority. Lozano-Madrid et al. (2020) reported results consistent with McCabe et al. and Ghodse. Lozano-Madrid et al. described how drug users stop caring about their physical appearance and stop taking part in regular social activities and end up taking drugs by themselves. The severe symptoms of SUD could easily prevent an applicant from accomplishing tasks while on the job.

Exams and Tests

Employers may detect drug usage in applicants through exams and tests. Osterloh and Becker (1990) explained that tests, known as toxicology screens, on blood and urine could show many drugs in the body. Hadland and Levy (2016) asserted that the test's sensitivity changes test results to the drug, when a drug was taken, the testing laboratory,

and that the samples can become contaminated if not overseen with care. Drug testing may be an essential part of finding candidates, but not the only factor to consider. Li et al. (2017) expressed similar findings to Hadland and Levy's study and contended that blood tests are more likely to detect drugs; however, employers use urine tests most commonly due to cost. Cost may be a limiting factor for manufacturing business leaders when deciding which drug tests to use.

Treatment

Treatment may be necessary for people suffering from SUD; however, it could negatively affect the workplace. SUD is a severe condition that is not easily treatable, and people who suffer from SUD should get treated by trained professionals (Rakel & Rakel, 2016). Adan et al. (2017) reported results consistent with Rakel and Rakel's (2016) study and found that recognition of the problem is often the first step and those individuals who are treated professionally have the best outcomes. Englander et al. (2017) showed that stopping using a substance can occur either abruptly or over time, and often the user must receive medical support during the withdrawal process to overcome the emotional and physical symptoms. Depending on the drug, users may need hospitalization if they overdose. Gryczynski et al. (2016) showed that treatment can occur in an inpatient or outpatient facility and costs $1,122 to $2,783 annually per person for hospitalizations, depending on the substance. Xu and LaBar (2019) came to similar conclusions as Gryczynski et al. and found that doctors may need to treat other diseases resulting from SUD, which compounds the costs. Business leaders should be aware of the time

commitment and financial costs of treatment and consider those when screening applicants.

Costs and time away from work for treating SUD can increase if a user relapses or other diseases are discovered during treatment. Nordeck et al. (2018) found that relapse is common, so some users become re-hospitalized and enroll in or are court-ordered to join residential treatment programs to watch their behavior and check for withdrawal symptoms. Costs of court-ordered behavior programs may increase the overall costs and duration of SUD treatment. Like Nordeck et al., Anderson et al. (2018) found that doctors sometimes separately treat the underlying causes of SUD (such as depression or other mental illnesses) during hospital stays, which further adds to the costs. Manufacturing business leaders could create better financial plans if they were aware of the costs and time away from work for treating SUD.

Adverse Effects of Substance Use Disorder on the Workplace

SUD can have adverse effects on the user and their coworkers in the workplace. Bush and Lipari (2015) showed that the rate of SUD varies by occupation and industry. Sullivan et al. (2020) showed similar findings to Bush and Lipari and indicated that the number of substances used is a criterion for clinicians when diagnosing SUD in patients. Sullivan et al. showed that clinicians diagnose people who suffer from SUD by asking them a set of questions found in the *Diagnostic and Statistical Manual of Mental Disorders*. The severity of a person's SUD and the types of substances they use can significantly negatively affect a business. The negative impacts include lost productivity, workplace accidents and injuries, increased healthcare use, increased turnover,

replacement, comorbid substance use, mental illness, smoking, and decreased life expectancy.

Lost Productivity

There is some research on the amount of work people miss due to SUD. Goplerud et al. (2017) found that employees who suffer from SUD miss more work than the general population. The results of Van Hasselt et al. (2015) matched Goplerud et al., and Van Hasselt et al. found that most workers miss 10.5 days annually for illness or injury while workers with a SUD miss 14.8 days per year. Van Hasselt et al. also showed that workers with a medication use disorder miss a significantly higher average of 29 days annually. In contrast to Goplerud et al., Van Hasselt et al. found that workers with a SUD, though in recovery, missed only 9.5 workdays per year. Workers suffering from a SUD but in recovery may miss less work than the general population.

Workplace Accidents and Injuries

Manufacturing business leaders need to understand the significance of workplace accidents and injuries caused by hiring an employee with SUD. Wickizer et al. (2004) showed that accidents and injuries resulting from employees with a SUD could be significant, especially in the manufacturing industry. The U.S. Bureau of Labor Statistics (2019) defined examples of nonfatal occupational injuries and included sprains, strains, tears, soreness, pain, bruises, contusions, cuts, lacerations, punctures, fractures, and amputations in their list. The list of workplace injuries may be extensive and varied. Khashaba et al. (2017) showed similar findings to Wickizer et al. and showed that even using legalized drugs could lead to serious workplace injuries. It may not matter if a

person uses illegal or legal substances; workplace accidents can occur in both scenarios. In alignment with Wickizer et al., Richmond et al. (2016) noted that accidents and injuries resulting from driving at work and under the influence could also be severe. The breadth of potential injuries due to SUD may require a different mindset from workers and business leaders.

Manufacturing jobs can be dangerous, complicated, and require an employee's full attention. Singh and Singh (2019) purported that many manufacturing jobs involve the use of heavy equipment or the movement of dangerous materials, which requires operators to be sober and mindful. Brown and Rhinds (2019) asserted that managers must enforce a safety culture to prevent the use of alcohol and drugs. Brown and Rhinds furthered Singh and Singh's findings and claimed that when workers engage in alcohol and drugs at the workplace, they put themselves and other workers at risk of injury and lawsuits. The risk of workplace lawsuits is another reason for manufacturing business leaders to hire qualified drug-free applicants. Goetzel et al. (2004) reported findings consistent with Singh and Singh's and Brown and Rhinds' studies. Goetzel et al. discovered that employees who show up to work after using the night before, a type of presenteeism, are also a safety risk for employers. Working under the influence of drugs or during their withdrawal can both be dangerous. Waehrer et al. (2016) found that setting up an employee assistance program (EAP) to help workers with SUDs reduced the rates of no-lost-work and lost-work injuries. EAPs can be a key component in reducing workplace injuries stemming from SUD.

Manufacturing business leaders should also be aware of the laws that prohibit drug use in the workplace, aiming to prevent accidents and injuries. In 1988, the federal government of the United States passed the Drug-Free Workplace Act, which regulated federal contractors and grantees and prohibited them from the "…unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance by employees in their workplace as a condition of employment" (U.S. House of Representatives, 2020, chapter 81). Gfroerer (2018) found that drug use in the workplace has dropped 75% since the Drug-Free Workplace Act in 1988. Steingold (2017) asserted that companies that have not received federal funding could still use a toolkit provided by the U.S. government to help them set up policies, implement testing and treatment services, and provide drug education for their employees. Manufacturing business leaders can take advantage of these resources to keep their factories compliant and create a safe workplace.

Increased Health Care Use

Employees with SUD may use their health insurance more often, which may increase a business's costs. Goplerud et al. (2017) found that health care usage among workers with a SUD is much higher than the general population. Goplerud et al. defined health care use as hospital stays, emergency room visits, and ambulatory medical care. Goplerud et al. showed that the rate of hospital use for workers with medication use disorders was .65 nights annually, whereas the rate for workers without a SUD was .34 nights annually. The rate of hospital use for workers with a medication use disorder was twice as high as workers without the same disorder. Goplerud et al. reported that the rate

of emergency room use for workers with a medication use disorder was two times annually, while the percentage of workers without a SUD was less than one time per year. Again, the finding for SUD workers was twice as high as those without a SUD. Frank et al. (2012) expressed comparable results to Goplerud et al. and discovered that the use of ambulatory care by workers with a medication use disorder followed a similar pattern with a twofold occurrence in primary care visits per year compared to their non-SUD counterparts. Manufacturing business leaders can expect that their employees with SUD will use their healthcare insurance twice as much as their other employees.

Increased Turnover and Replacement

The problem of employee turnover and replacement may be worsened due to SUD. Goplerud et al. (2017) found that employees with a SUD are 36% more likely to have had more than one job in the past year, while only one-quarter of non-SUD workers have held more than one position. The rate of turnover for workers with SUD is 11% higher than non-SUD workers. Bauman (2017) asserted that employers' cost to replace a worker is usually 20-30% of an employee's annual salary. Manufacturing business leaders need to be aware of high employee replacement costs due to SUD. Liu et al. (2013) concurred with Bauman's study and noted that employees without a SUD still have lower turnover rates even when accounting for poor leadership styles.

Comorbid Substance Use

Comorbid substance use may be a widespread problem among people with SUD, which could complicate and prolong their treatment outcomes. Goplerud et al. (2017) found that workers who suffer from SUD are often dependent on more than one

substance at a time. For example, Goplerud et al. discovered that 40% of workers who suffer from illicit drug use disorder and 38% of workers with a pain medication use disorder are also alcoholics. Roberts et al. (2015) reported results consistent with Goplerud et al. and showed that the dropout rate for people in treatment for comorbid SUDs is also high. Applicants with comorbid substance use may be less inclined to complete the hiring process due to increased complications.

Mental Illness

Mental illness may be another factor to consider when screening applicants. Goplerud et al. (2017) noted that the rates of mental illness among workers with SUD are 20-28% higher than the general population depending upon the type of dependency. The presence of mental illness alongside a SUD does not imply causality of either condition. Jones and McCance-Katz (2019) found results consistent with Goplerud et al. and that for people suffering from opioid use disorder, the occurrence of mental illness was 64% higher. Some SUD has a higher correlation to mental illness than others. Welsh et al. (2019) stressed the importance of increasing access to treatment options comprehensively for people who suffer from SUDs and mental illness. Due to the high correlation of mental illness with SUD, manufacturing business leaders need to recognize potential SUD in their applicants.

Smoking

Smoking may be another risk factor for people with SUD. Goplerud et al. (2017) found that workers with SUD are twice as likely to smoke or be nicotine dependent than workers without SUD. Goplerud et al. noted that workers suffering from a pain

medication use disorder, marijuana, or illicit drug use disorder are three times as likely to smoke as their non-SUD peers. The presence of smoking does not imply causality from SUD or vice versa, but manufacturing business leaders should be aware of the association to understand potential healthcare costs better. Conversely, Goplerud et al. showed that workers in recovery are less likely to smoke than SUD workers and non-SUD workers. Knudsen (2016) opined that smoking by people in recovery led to a higher degree of substance use relapse, a phenomenon not explored by Goplerud et al. Smoking and nicotine dependency may mean that an applicant has a related SUD.

Decreased Life Expectancy

People who suffer from SUD may experience decreased life expectancy. Chesney et al. (2014) discovered that the impact of SUD on mortality and suicide is large. Westman et al. (2015) reported results consistent with Chesney et al. and that the life expectancy for people with a SUD in Denmark, Finland, and Sweden was 24-28 years shorter than the general population. A SUD can shorten the average life expectancy of a person by almost 30%. Pasareanu et al. (2015) noted similar findings to Chesney et al., but that the quality of life and life expectancy of people suffering from SUD can be significantly improved through in-patient treatment. Although costly, inpatient treatment may be the best approach for applicants to recover before entering the workforce.

The cause of death among addicts may be similar. Case and Deaton (2015) discovered a disturbing trend like Chesney et al. (2014) among White non-Hispanic males whose deaths were considered deaths of despair. Case and Deaton found an increase in mortality rates for this group between 1990–2001 and again in 2013–2015 due

to suicide, accidental poisonings (including opioids), chronic liver disease, or cirrhosis. SUD can lead to deaths of despair.

Mortality rates for people with SUD may vary significantly by ethnicity and geographic region. Case and Deaton (2015) also discovered that Hispanic and African American mortality rates were not rising at the same rate during the same periods, and mortality rates in other economically developed countries were declining. Upon further study, Stein et al. (2017) discovered other details, beyond Case and Deaton's results, about the White non-Hispanic group. Stein et al. found that the White non-Hispanic group was primarily found in rural regions, had a high school education or less, and had a high level of stress and hopelessness as they entered the job market due to lower-paying job opportunities compared to the previous generation. The prevalence of SUD and the resulting deaths of despair may be amplified in locations with limited access to education and good-paying jobs. Stein et al. found that joblessness (compounded by family dysfunction, a lack of social support, and addiction) led to an increase in deaths of despair. Manufacturing business leaders may find more candidates in urban settings.

Nestadt et al. (2017) examined the characteristics of the suicides among the White non-Hispanic male group during the 1990–2001 and 2013–2015 periods. Nestadt et al. discovered that the deaths were mostly due to firearms, and like Stein et al. (2017), the victims lived in rural areas. Rural areas may not be a source of candidates who can pass a drug test. O'Neil et al. (2019) reported results like Goplerud et al. (2017) in that the suicide victims from the 2013–2015 period had a higher prevalence of other self-destructive behaviors such as smoking tobacco and e-cigarettes. Life expectancy due to

SUD may be an essential factor for manufacturing business leaders to consider when screening applicants.

Preventing Substance Use Disorder

Manufacturing business leaders can positively impact preventing SUD, thereby creating a pool of drug-free applicants. Compton et al. (2019) discovered that one of the best ways for people to avoid the harm caused by SUD is to prevent it in the first place. Cuijpers (2002) showed that school and community-based drug education programs effectively reach children and adolescents and inform them of the dangers of using drugs. Cuijpers opined that school programs with an interactive delivery method, use a social influence model, focus on norms and commitments not to use, include peer and community leaders, and add life skills teachings are the most effective. Manufacturing business leaders could be an essential partner in educating young people about the dangers of using drugs and alcohol. Breward (2019) showed that if a person develops a SUD later in life, employers are often a useful intervention source to prevent further harm. Manufacturing business leaders may play an essential role in their own employees' health and well-being.

Other means of preventing SUD may also exist. Volkow et al. (2019) purported results like Jones and McCance-Katz's (2019) study in that screening young people for mental illness is an effective measure to prevent SUD since co-morbidity between psychosis and drug addiction is often common. Volkow et al. recommended that practitioners can control SUD patients' relapse by administering methadone or buprenorphine, a practice known as medication-assisted treatment or MAT. Other opioid-

like drugs may help prevent relapse. Ma et al. (2018) reported similar findings to Volkow et al. and showed that the use of MAT on opioid users effectively reduced their mortality rates. Cole et al. 2019 described the practice of administering MAT as limited, especially in rural areas (where the opioid epidemic is high) because the patients who need it are often found far from a clinic. The distance to essential clinic services in rural areas may be another reason for manufacturing business leaders to look elsewhere for applicants. Kleinman and Morris's (2020) findings are like Volkow et al. but differ because they found that the U.S. Federal Government has implemented strict MAT regulations since the substances are opiates. The use of opioid-like substances to curb cravings may pose addiction risks for patients. Kleinman and Morris continued that these restrictions often prevent access for the people who need the medication because only specific clinics can dispense it. There are only a few licensed MAT clinics in rural areas, which could pose a challenge for companies looking to hire.

People from diverse backgrounds may have different opinions about MAT. Andraka-Christou et al. (2019) discovered that court personnel have mixed attitudes towards MAT. Andraka-Christou et al. found that methadone was viewed more negatively than buprenorphine, and buprenorphine was viewed more negatively than naltrexone. The type of MAT may influence court personnel's attitudes towards it and could make access to it more difficult for applicants afflicted with SUD. Andraka-Christou et al. asserted that court personnel who had a more educated outlook toward MAT had previous training about medications, and those with a graduate degree had significantly more positive attitudes towards naltrexone. A person's level of education

may influence their attitudes towards MAT. Hammarlund et al. (2018) had similar findings to Andraka-Christou et al. but added that since SUDs are challenging to treat and relapse is common, society's stigma is still an ongoing problem for patients. The prevention of SUD can be a significant step in helping people achieve self-respect and their employment goals.

Current Hiring Strategies

An understanding of current hiring strategies in the manufacturing industry may be necessary for manufacturing business leaders to gain a competitive advantage. Schake and Craft (2019) categorized the hiring strategies for manufacturing workers into face-to-face hiring and virtual and online hiring. Sherba et al. (2018) discovered that people who suffer from SUDs face many challenges when trying to gain employment through traditional methods. Sherba et al. also claimed that many treatment facility managers view employment services for patients as out of scope and therefore do not supply them. Career preparation for patients while in treatment may be stalled due to a lack of support. Charles et al. (2019) contrasted with Sherba et al. in that current companies' policies, which favor capital investment in automation and specialized skillsets, will only have a modest impact on increasing the number of manufacturing jobs filled in the future. Applicants suffering from SUD may have an even harder time finding employment due to market factors outside of their control. Phillips and Gully (2015) noted that employers had used strategies for hiring candidates, such as strategic hiring with a multilevel perspective, but this method is not tailored for use in populations with SUDs.

Manufacturing business leaders may need to use new and creative strategies to fill job openings.

Virtual and Online Hiring

While there is some research about virtual and online hiring, studies on its effectiveness for hiring candidates who can pass a drug test are limited. Zaheera (2018) named virtual and online hiring as more widely used and useful than face-to-face hiring when filling manufacturing positions. Tursunbayeva et al. (2016) reported results consistent with Zaheera and showed how using database technologies, online job advertising boards, and search engines sped up the hiring process. Virtual and online hiring may be a more efficient way to hire candidates. Tursunbayeva et al. opined that since multiple human resource personnel could simultaneously review a candidate's qualifications, the time needed for hiring was less than traditional methods. Nallusamy and Saravanan (2016) discovered that virtual and online hiring cost was much less than other methods due to fewer print costs. Fewer print costs and reduced travel needs could lead to a more cost-effective hiring practice. Nallusamy and Saravanan asserted that the ability to select applicants from multiple platforms by using Software as a Service cut the need for face-to-face hiring. Nallusamy (2018) found that employers' ability to scan for keywords in applicants' resumes was crucial for finding the right candidates to fill the job openings and save time. Using virtual and online hiring technologies could save manufacturing companies money in the long term.

Candidate pools may increase due to the size of online databases. Deshmukh et al. (2015) discovered that candidate pools were largest when businesses used an online tool

for hiring because any applicant with an internet connection could read and apply for an online job opening. Internet access may be crucial for both applicants and employers in the hiring process. Deshmukh et al. showed that companies' ability to expand their applicant search was critical for businesses in areas with a limited pool of workers. Riley et al. (2012) reported equivalent results to Deshmukh et al. and that the use of professional social networks serves as a critical tool for employers since many applicants already can quickly transfer their resume information into the employers' databases. The ease of exporting data from one application and importing it into another could speed up a manufacturing employers' hiring process.

Online hiring could enable consistency and standardization. Collins (2018) found that the consistency and standardization that online hiring brought to the hiring process was essential for large organizations with multiple branches. Nallusamy et al. (2015) purported that a company's policies and their hiring process must coincide with the search and choice of applicants and that larger organizations were usually better equipped for handling higher volumes of online applicants. If a company's policies conflict with their search region, they could face delays in filling job openings. Allen D. G. et al. (2007) found that RSS feeds, blogs, vlogs, and apps on cell phones are other online tools at employers' disposal for finding applicants. However, Allen D. G. et al. asserted that some companies still like to use a combination of online tools and face-to-face hiring, which contrasts with Nallusamy et al., where online hiring was the norm. Online hiring could be the most effective way for manufacturing business leaders to fill job openings due to the broad geographic area.

Face-to-Face Hiring

The traditional method of face-to-face hiring may still hold merit. Yen (2017) discovered that face-to-face hiring happens at career fairs and later stages of the hiring process. Yen found that the sooner an applicant engaged in face-to-face interaction with an employer during the hiring process, the better their chances of landing the job. Face-to-face contact can be a determining factor in landing a job. Chiang and Saw (2018) explained results like Yen's study and found that applicants also engaged in face-to-face hiring when interviewed by a panel and that their looks played a role in an employer's hiring decision. Applicants could positively influence the outcome of interviews by dressing for the part and meeting face-to-face with employers. Knowledge of successful face-to-face interview practices could help manufacturing business leaders hire applicants.

Pre-Employment Drug Testing and Background Checks

Drug testing and background checks can be an essential part of the hiring process. Jorgensen and Brown-Rice (2016) explained that a customary practice for hiring candidates is to screen them for drugs and conduct criminal background checks. Ghosh and Ravichandran (2018) reported results consistent with Jorgensen and Brown-Rice and asserted that the use of drug screens and background checks were necessary for all workers, especially front-line ones; other criteria such as personality and general mental ability were more critical for management positions. Drug tests and background checks can be suitable for manufacturing jobs. Sveinsdottir and Bond (2017) reasoned that pre-employment screenings are barriers to employment for people with SUDs or a criminal

background. Sinakhone et al. (2017) concurred with Sveinsdottir and Bond and stressed that employers looking for workers in places where SUD is high must turn to other strategies to fill job vacancies. Agan and Starr (2017) showed that one strategy included removing some drugs that they usually screen for and not asking about certain criminal charges on job applications. Some employers may reduce the entrance criteria for jobs to fill vacancies. Ispa-Landa and Loeffler (2016) came to a different conclusion than Agan and Starr and suggested that applicants could also try to expunge their criminal records of minor offenses to make themselves more attractive to employers. Applicants can take many steps to improve their chances of getting hired. Smith and Leigh (2014) found that if a job is safety-sensitive, most employers are unwilling to relax stringent pre-employment screening standards.

U.S. Manufacturing and Workforce Statistics

An exploration of the manufacturing industry can be important for understanding the research question. According to the U.S. Bureau of Labor Statistics (2020), the manufacturing sector in the United States includes businesses that specialize in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Many products used in the U.S. may come from American factories. Some manufacturing industry subsectors include food manufacturing, textile mills, paper manufacturing, and others (U.S. Bureau of Labor Statistics, 2020). The list of products a factory can produce varies and depends on its specialization.

The manufacturing industry employs many people in the U.S. As of February 2020, the sector employed 13 million U.S. workers, had a 3.9% unemployment rate, and

over 420,000 job openings (U.S. Bureau of Labor Statistics, 2020). The manufacturing industry may employ a significant percentage of the U.S. population. However, Pierce and Schott (2016) argued that the employment rate before 2016 for the U.S. manufacturing industry declined due to changes in U.S trade policy. 20% of those employed in the manufacturing industry either belonged to a union or were represented by one, and in 2019, the occupation in the manufacturing industry which held the highest number of workers was Team Assemblers (U.S. Bureau of Labor Statistics, 2020). Unions could stand for a significant number of employed workers and may influence the hiring process. The average wage for all full-time manufacturing employees was $28.35 (U.S. Bureau of Labor Statistics, 2020). The rates of SUD may be higher in manufacturing than in other industries.

Substance Use in Manufacturing Versus Other Industries

The rates of SUD vary by industry, and the research is limited. The Substance Abuse and Mental Health Services Administration (2015) combined data from 2008 to 2012 and showed that, on average, 8.7% of full-time workers aged 18–64 from all industries used alcohol heavily; 8.6% used illicit drugs, and 9.5% had a SUD. The Substance Abuse and Mental Health Services Administration discovered that the rates of these categories in the manufacturing industry were 9.7%, 7.4%, and 9.3%, respectively. The rate of SUD for the manufacturing industry was about the same as the average for all industries. Compared to an earlier period from 2003 to 2007, the rates for heavy alcohol use in the manufacturing industry increased from 9.2%, while the rates of illicit drug use also increased from 7.3%. The rates of heavy alcohol use and illegal drug use from 2003

to 2007 compared to 2008 to 2012 increased by only .5% and .1%, respectively. The occurrence of SUDs during the 2008 to 2012 period decreased slightly from 10.4% (Substance Abuse and Mental Health Services Administration, 2015). The industry with the highest rate of heavy alcohol use from 2008 to 2012 was mining at 17.5% (Substance Abuse and Mental Health Services Administration, 2015). Manufacturing business leaders should be aware that SUD can affect any industry.

Some industries have higher rates of SUD than others. From 2008 to 2012, the accommodations and food services industry had the highest rate of illicit drug use at 19.1% and the highest rate of SUDs at 16.9% (Substance Abuse and Mental Health Services Administration, 2015). The SUD rate in the accommodations and food services industry during the 2008 to 2012 period was 7.6% higher than in manufacturing. The industries with the lowest rates of heavy alcohol use, illicit drug use, and SUDs were education, health care, social assistance, and public administration (Substance Abuse and Mental Health Services Administration, 2015). The Office of Personnel Management (2020) noted that it is essential for businesses to understand the differences in usage rates between industries and the users' demographics when designing effective EAPs. EAPs can be explicitly designed for workers suffering from SUD.

Employee Assistance Programs

EAPs may be an essential part of attracting new employees and retaining current ones. The history of EAPs dated to the 1940s when Yale University developed a business and industry plan to help employees with alcohol-related issues (Office of Personnel Management, 2020). In the 1950s, the scope of EAPs increased to include people with

mental health issues (Office of Personnel Management, 2020). By the 1970s, the Hugh's Act mandated EAPs for all Federal agencies, set up the National Institute on Alcohol Abuse and Alcoholism, and private EAP firms began offering fee-based services to companies (Office of Personnel Management, 2020). Joseph et al. (2017) reported similar findings to the Office of Personnel Management (2020) and that EAPs were effective at enhancing employee outcomes by improving levels of presenteeism and functioning in employees. Employees could receive help from using EAPs for multiple personal or work-related issues. Since the 1970s, many laws, regulations, and initiatives have expanded the use of EAPs into other Federal agencies, and many EAPs now cover services for family members (Office of Personnel Management, 2020). Caillier (2016) showed comparable results to the Office of Personnel Management and described that employees' use of EAPs reduced turnover. Employers who offer EAPs to applicants as part of a potential benefits package could receive help from reduced turnover and increased output if the applicant turned employee uses the EAP for a SUD or other issue.

EAPs can help employees, families, employers, and communities. Sonnenstuhl and Trice (2019) discovered that setting up an effective EAP could improve employee productivity and engagement, increase an employee's response to challenges, help manage workplace stress, and reduce workplace absenteeism. Employees can take advantage of EAPs for work-related issues in confidentiality and without fear of reprisal. Attridge (2019) reported similar findings to Sonnenstuhl and Trice and asserted that EAPs could function as a support in times of organizational restructuring, reduce workplace accidents, reduce violence and other safety risks, and support disaster and

emergency preparedness. Applicants with SUD may help themselves by applying to employers who offer EAPs. Managers who utilize EAPs can manage the effect of disruptive incidents, ease an employee's return to work after an extended absence due to a disability or disorder, reduce health care costs associated with stress and other mental illnesses, and reduce the costs related to employee turnover (Office of Personnel Management, 2020). Employers who offer EAPs can expect health care cost savings in the treatment of SUD.

Effective EAPs can have similar components. Roche et al. (2018) discovered that EAPs do have similar characteristics that include delivery by for-profit organizations, counseling services, and four to five encounters with clients during each type of engagement. Weis (2018) reported results like Roche et al. and that the referral can be from a supervisor or employee, and that the delivery modes include face-to-face meetings, phone calls, and instant messaging. Both employers and employees can make the first contact with an EAP for aid, which could increase usage. Walton and Hall (2016) discovered that employers' use of EAPs could be a useful gateway for people with SUDs, and employment can be a powerful deterrent that prevents workers from using again. EAPs may be a valuable tool for preventing relapse in workers with SUD and in attracting new workers.

Manufacturing and the Southeast U.S. Economy

The Southeast region of the United States could be considered the primary manufacturing hub in the country. Charles et al. (2019) found that Illinois, Ohio, and Indiana are important manufacturing centers. Houseman (2018) found that employment

in manufacturing in this region has declined between 2000 and 2018, caused primarily by outsourcing. Acemoglu et al. (2016) reported findings that differed from Houseman and said that manufacturing employment declined in the 2000s due to increased foreign competition. Researchers could be divided on the role that automation has played in reducing work in the manufacturing industry. In the 1940s, manufacturing in this region began due to labor's lower costs (Center on Education and the Workforce, 2019). Carnevale et al. (2019) found that as the United States' services economy grew, the Southeast U.S. share of economic output declined even as the output per manufacturing worker increased. Fort et al. (2018) reported results like Carnevale et al. and that the lack of tariffs on U.S. imports contributed to the employment decline. Charles et al. differed from Carnevale et al. and attributed the decline in employment to SUD's high rate in the region. The reasons for low employment in the Southeast region of the United States may vary, but manufacturing business leaders could receive help from knowing all of them and planning accordingly.

Health Care Plan Requirements

It may be necessary for manufacturing business leaders to know their health care plan requirements before advertising the benefit to applicants. Robst et al. (2013) recommended that employers who offer health insurance need to be aware of the requirements for covering mental health and SUD. In 2008, Paul Wellstone and Pete Domenici passed into federal law the Mental Health Parity and Addiction Equity Act (U.S. Centers for Medicare and Medicaid Services, n.d.). McGinty et al. (2015) opined that the act required commercial insurers that provide group coverage of SUD to offer

benefits on par with those for other medical or surgical treatments. Employers who purchase insurance with SUD coverage could benefit from the parity in coverage to other therapies. McGinty et al. found that the parity's effect in benefits resulted in more out-of-network services given, meaning that more people had access to and used the care they needed. The increased use of insurance for SUD treatment could mean that more employees are less likely to relapse.

Health insurance plans may not cover all the treatments available for SUD. Polsky et al. (2020) noted that of the three treatments available for opioid use disorder (methadone, buprenorphine, and naltrexone), methadone has proven to be the most effective. However, Polsky et al. found that most commercial health plans do not cover methadone as MAT. Polsky et al. argued that private insurers should expand coverage to methadone, remove prior authorizations, reduce out-of-pocket costs, increase provider reimbursement, and incentivize system integration to increase the number of patients who could receive help from it. The increase in treatments covered by insurance could mean that more employees with SUD may get treated. Polsky et al. found that insurers favored buprenorphine and naltrexone over methadone because of reduced access restrictions. Saini and Jawahar (2019) reported similar findings to Polsky et al. and said that persons recovering from SUD could benefit from investigating an employer’s ratings on health care coverage before applying to a job. It may be in the best interest of both employers and applicants to find health insurers covering SUD and mental illness the same as other illnesses.

Discrimination in Employment

Employers must also be mindful of the risks in discriminating against candidates who suffer from SUD. According to Satcher (1992), SUD is considered a disability under Title I of the Americans with Disabilities Act of 1990. Lindsay et al. (2019) noted that employers who interview potential candidates with disabilities must make reasonable accommodations for the interview process and restrict the questions about disabilities. It may be more critical for employers to investigate an applicant's fitness for a job instead of the applicant's current health status. Sanders (2019) came to similar conclusions to Lindsay et al. and said that candidates with a SUD who disclose their disability after being hired are also protected from discrimination under the Americans with Disabilities Act. Employers could avoid litigation by following the employment laws in their state. Nieweglowski et al. (2018) found that many people who suffer from SUD still face discrimination. Moore (2019) concurred with Nieweglowski et al. and discovered that many employers view SUD in terms of criminality instead of disease. Employers who treat SUD as a crime may be missing candidates. Oexle and Corrigan (2018) aligned with Nieweglowski et al. and found that these differences in viewpoints continue to perpetuate the stigma of mental illness and SUD, preventing people from seeking the treatment they need. Applicants with SUD could receive help from seeking employers who are sympathetic to their condition.

Applicants with SUD may gain aid from the U.S. government. To aid applicants and employees, the U.S. government established the U.S. Equal Employment Opportunity Commission (EEOC) in 1965 (Equal Employment Opportunity Commission

[EEOC], 2020). The EEOC's purpose is to enforce the federal laws that make it illegal for employers to discriminate against job applicants and employees based on race, color, religion, sex (including pregnancy, gender identity, and sexual orientation), national origin, age (40 or older), disability, or genetic information (EEOC, 2020). Enforcement of the antidiscrimination laws could improve applicants' chances of getting hired. Most employers, labor unions, and employment agencies with 15 or more employees are subject to the EEOC laws, which cover most work situations, including hiring, firing, promotions, harassment, training, wages, and benefits (EEOC, 2020). The EEOC laws may cover most work-related scenarios. The EEOC has broad authority to investigate charges of discrimination against employers, and their role in the process is to assess the allegations fairly and accurately and then make a finding (EEOC, 2020). Having an agency with broad authority could hasten claims brought by applicants. In the cases where discrimination has occurred, the EEOC attempts to settle the matter, and in instances where a settlement is not possible, the EEOC weighs lawsuits to protect the individual and the public (EEOC, 2020). The EEOC may be compelled to put the interests of the people before the interests of employers. Before filing a lawsuit, the EEOC weighs the strength of the evidence, the issues in the case, and the broader impact the case will have on the EEOC's future efforts (EEOC, 2020).

The EEOC also conducts outreach, technical, and educational programs to help prevent discrimination before it happens (EEOC, 2020). Careful examination of the merits of each case by the EEOC could aid future claimants. The EEOC also supplies leadership to other governmental agencies on compliance, complaint adjudication,

affirmative employment programs, educational materials, training, and appeals from administrative decisions (EEOC, 2020). The EEOC's positive influence may reach beyond their governmental agency. Lavelle (2019) aligned with the EEOC (2020) and showed that because of the power that the EEOC has on hiring and personnel decisions, it benefits manufacturing employers to understand human resource law, especially about job applicants who may have a SUD. Manufacturing business leaders could receive help from proper training in legal hiring practices.

Reducing Unemployment

Employment may be a critical factor in helping people with SUD. Burt (2012) discovered that finding a job and keeping it is important for many people who suffer from SUD. Burt showed that federal and state programs that support unemployed people with SUD effectively help people gain employment. To receive help from federal and state programs, applicants may need to take the first step to enroll. The Substance Abuse and Mental Health Services Administration (2020) found that case managers and employment specialists who work with the local business community can help their clients with SUD by setting and supporting vocational goals, figuring out their strengths and weaknesses, identifying resources for successful re-entry into the workforce, developing job skills, and matching clients with job opportunities. Case managers and employment specialists may work as facilitators to help both applicants and employers meet. Modini et al. (2016) found that employment positively impacts individuals' mental health. Ettlinger et al. (2019) aligned with Modini et al. and purported that employing more people in society has a positive effect because income tax revenues can be increased on hospitals and other

public works. Hiring applicants who may have SUD but can pass a drug test may help the individual, the employer, and society.

Decreasing the Skills Gap

Decreasing the skills gap may be an essential element for hiring candidates who can pass a drug test. Gonzalez et al. (2019) found that to remain competitive, employers must collaborate with educators on what skills they need in the workplace. Gonzalez et al. found that instructors who taught at technical and vocational schools in the Pennsylvania, Ohio, and West Virginia regions emphasized crosscutting knowledge areas and safety but did not prioritize soft skills like teamwork. Gonzalez et al. also found that instructors who collaborated with businesses in the industry taught the skills the employers sought. Romero Gázquez et al. (2020) came to a similar conclusion as Gonzalez et al. and discovered that the skills gap existed because educators were not teaching their students the right topics. Partnerships between educators and manufacturing business leaders may improve the outcomes for students and make them better candidates. Compton et al. (2019) recommended that schools include life skills training in their curriculums to make students aware of SUD and their available resources. Gonzalez et al. found that instructors tended to emphasize cognitive skills over personal ones; however, employers were more often looking for nontechnical skills in interpersonal and management knowledge areas. The inclusion of life skills training could close the skills gap that many employers have found as a risk to their competitiveness. Gonzalez et al. noted that instructors reported that students struggled the most with technical and academic knowledge areas, and the teachers were strapped for

resources to implement programs to their fullest. Partnerships with manufacturing business leaders could supply a source of funding for much-needed life skills training.

Applicants may need to take the initiative to improve their skillsets. Brown (2019) found that to become competitive, American manufacturing applicants must decrease their skills gap. A.S. Brown described that manufacturers face the challenge of training new employees to replace the 2.9 million retiring baby boomers over the next decade. A plethora of jobs could exist in the future for an applicant that is trained in soft and technical skillsets. Bonvillian and Singer (2018) reported related results to A.S. Brown and argued that an increase in the need for digital skills could result in 2.4 million jobs going unfulfilled during the next decade. A.S. Brown showed some employers, like BMW in South Carolina, closing the skills gap by offering an apprenticeship program to new employees. Manufacturing applicants could make themselves more competitive by applying to employers that offer apprenticeships. A.S Brown found that under the apprenticeship program, employees work part-time and receive an associate degree with the promise of more education in the future. Beverly et al. (2019) found that the age of first use of marijuana was a determinant of high school graduation and employment. Beverly et al. discovered that students who had late first use were much more likely to graduate high school and be employed than students who experienced early first use. A student's age of first use could limit the level of skills learned and later success in life. Galla et al. (2019) reported comparable results to Beverly et al. and that high school grades are a good predictor of college completion, so it is essential to ensure that students graduate without developing SUD. Targeting high school educators to decrease the skills

gap may improve manufacturing business leaders' chances to hire candidates who can pass a drug test.

Transition

The purpose of this qualitative multiple case study was to explore the strategies business leaders in the Southeast region of the United States used to hire candidates who could pass a drug test. A description of the purpose statement, the criteria for selecting participants, the research method, and the research design is included in Section 2. I also supplied details about the role of the researcher and ways to mitigate bias. I gave a breakdown of the data collection and data analysis techniques.

Throughout the study, I described how I ensured data reliability and validity. I presented the findings from the data from the interviews, data collection, and data analysis in Section 3. I supplied details of how the information presented in this study applies to professional practice, the impact of social change, and recommendations for action and future research. Finally, I supplied a study summary and offered conclusions revealed in the study.

Section 2: The Project

In Section 2 of this study, I describe the steps I took to complete this study. This section includes a restatement of the purpose and detailed discussions of (a) the role of the researcher, (b) participants, (c) research method, (d) research design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection techniques, (i) data organization techniques, (j) data analysis process, and (k) reliability and validity. In the future, researchers who intend to study a similar topic may find Section 2's contents helpful in achieving dependability, credibility, and transferability.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that some manufacturing business leaders used to hire candidates who could pass a drug test. The target population consisted of four leaders from manufacturing companies that had been in business for at least 5 years in the Southeast region of the United States, who had implemented successful strategies to hire candidates who could pass a drug test. Enhancing leaders' understanding of effective hiring practices might effect positive social change by reducing unemployment, decreasing bodily injuries, increasing life expectancy, and decreasing crime rates in communities.

Role of the Researcher

I was the primary instrument for this qualitative study. This role was consistent with Cronin's (2014) description of the researcher as the primary data collection instrument in a qualitative case study. A researcher's role is to formulate the research question, select a suitable research method and design, collect data, and analyze the data

(Khankeh et al., 2015; Yin, 2018). A researcher should collect, analyze, interpret, and present the data to convey a holistic account of the phenomenon from the participants' perspectives (Morse et al., 2014). In this qualitative study, I used a semistructured interview protocol (see Appendix) with open-ended questions. The rationale for developing the interview protocol was to ask the same questions, remain on a script, and not skew the data collection and analysis process. Indeed, I found standard codes and themes from data analysis, obtaining an in-depth understanding of the strategies used by manufacturing business leaders to hire candidates. I was familiar with the research topic before my investigation. My background is in information technology, and I worked as an information technology service manager in the manufacturing industry. I had limited knowledge of hiring practices and no professional experience engaging with SUD people.

The *Belmont Report* is a set of guidelines and ethical principles that describe how to protect human subjects involved in research (U.S. Department of Health and Human Services, 2020b). Cugini (2015) recommended that researchers adhere to the principles in the *Belmont Report* before engaging participants in studies. I followed the *Belmont Report* protocol by respecting participants' autonomy, securing their well-being, and ensuring fairness and equality within the study's scope. I recognized these ethical considerations as part of the informed consent process and supplied background information to all study participants before their participation. Additionally, I asked participants to verify the accuracy of their responses and told them that they could withdraw from the study before or during the interviews and notify me of their withdrawal via email if they chose.

Researchers can minimize bias by refusing to select participants with whom they have had a past or current personal or professional relationship (Yin, 2018). I had no earlier or existing personal or professional relationships with the participants. Similarly, I had no past or current association with the organizations that I selected to recruit participants for this study. Young and MacPhail (2015) noted that reflective journaling is effective for reducing bias in qualitative studies. Tufford and Newman (2010) described bracketing as the process that researchers should follow to draw awareness to the presuppositions they have about a topic. I mitigated potential personal bias through reflective journaling, bracketing, and auditing.

I reviewed standards included in business conduct documents, U.S. drug and alcohol policies, and blank job applications to explore effective strategies to hire candidates who could pass a drug test in manufacturing. I strove for objectivity in viewing the data. I recorded and reported the data as I found it regardless of what my persuasions were at the time. I remained fair, neutral, and professional. After obtaining the participants' consent, I recorded the interview sessions using a digital audio recorder, summarized the participants' responses, conducted member checking, and uploaded the interview summaries and company documents into NVivo to help me organize the data. NVivo is a data analysis software that researchers use to code and organize data (Castleberry, 2014).

Participants

The eligibility criteria for this study were business leaders of manufacturing companies who used successful strategies to hire candidates who could pass a drug test.

Researchers should use eligibility criteria to screen and select participants for their study within the population's scope (Powell et al., 2016). The companies must have been in operation for more than 5 years. I subscribed to userinterviews.com to obtain a list of potential participants in the Southeast region of the United States who had worked at or owned manufacturing businesses that had been in business for more than 5 years. After receiving the list of potential participants in the area, I reviewed their profiles and contacted them to determine eligibility and interest to participate in the research study.

Researchers should use purposeful sampling to select participants with experience of the phenomenon (Faseleh-Jahromi et al., 2014). In keeping with the *Belmont Report*, I did not interview vulnerable humans; I purposely selected participants who had shown success in hiring candidates who could pass a drug test. Gatekeepers control a researcher’s access to knowledge within an organization (Gülmez et al., 2016). Researchers should first seek permission to perform a study from gatekeepers (Gülmez et al., 2016). Gatekeepers must consider their coworkers and the leaders they stand for when making decisions (Whicher et al., 2015). The gatekeepers for this study included managers or owners of manufacturing companies. Researchers should collect information about potential participants' qualifications before the interview from individuals knowledgeable about the participant’s experience (Yin, 2018). Therefore, in my initial contacts with business leaders, I requested a description of the company's management position to verify that it pertained to a manufacturing business leader with at least 1 year of management experience.

Marshall and Rossman (2016) recommended that researchers encourage information sharing from participants by clearly defining objectives and study goals. I clearly explained the purpose and objectives of the study and answered questions from the participants throughout the research process to establish a working relationship. When necessary, I scheduled follow-up meetings with the participants to answer any process-related questions and further strengthen the working relationship. Wells et al. (2015) suggested that researchers should establish a good working relationship with participants to have a successful research process. I contacted the participants by phone and email to maintain our working relationship.

I provided each participant a copy of the consent form, a description of the procedures; sample questions; and information on the voluntary nature of the study, risks, and privacy. I also provided contact information for myself and the Walden Institutional Review Board (IRB) personnel responsible for enforcing the guidelines and protocols of the study. I could not travel to each participant's location due to COVID-19 restrictions; therefore, I proposed conducting the interviews via phone.

Research Method and Design

In this qualitative multiple case study, my focus was to explore strategies that hiring managers at manufacturing companies in the Southeast region of the United States used to hire candidates who can pass a drug test. Once a researcher has created the research question, they should select the most proper research method and design to answer that question (Kastner et al., 2016). As I discussed, I determined that a qualitative multiple case study was most appropriate for answering the study's research question.

Research Method

According to Merriam (2009), researchers can use quantitative, qualitative, or mixed-methods research methods to complete their study. Researchers use qualitative methods to explain the behaviors and synergies of other people (Bailey, 2014). In this method, researchers conducting interviews use open-ended interview questions to understand individuals' experiences (Marshall & Rossman, 2016). I determined that the qualitative method and use of open-ended interview questions were appropriate for this study. The open-ended questions allowed the participants to explain their experiences developing and implementing strategies for hiring candidates who can pass a drug test.

Researchers use statistics in quantitative studies to evaluate assumptions and create numerical explanations of human behaviors (Barnham, 2015). Quantitative researchers look for relationships between variables that originate from assumptions and try to reduce bias by analyzing the resulting statistical data (Ragin, 2014). They also gather empirical evidence by decoding conclusions from numerical data-driven predictions (Yilmaz, 2013). Researchers who use quantitative methods might generalize their findings to the broader population and include statistical data explaining how the frequency and conditions occur. However, quantitative researchers do not explain why or how the event occurs (Yilmaz, 2013). Qualitative researchers interpret human experiences and happenings in their natural settings using textual data rather than numerical data (Yilmaz, 2013). A qualitative method was a better fit for this study because my focus was on the why and how of the phenomenon. I also rejected the

quantitative method because it would not reveal the managerial strategies and perspectives used to hire candidates who can pass a drug test.

A researcher conducting a mixed-methods study combines qualitative and quantitative research methods into separate phases to analyze numerical data for testing hypotheses (Frels & Onwuegbuzie, 2013). A mixed-methods approach is time-consuming because the researcher must collect and analyze a significant amount of data, primarily conducting two studies (Christ, 2014). I rejected a mixed-methods approach due to time constraints, lack of experience in executing both types simultaneously, and my decision not to collect numerical data.

Research Design

Four popular designs for qualitative studies are case study, phenomenology, ethnography, and narrative (Zou et al., 2014). The case study design is useful when exploring events or experiences from a subject's perspective and the phenomenon is broad and complex (Watts et al., 2016). Case studies can be single or multiple, based on the number of locations under observation (Battistella et al., 2017). The multiple case study design is most proper for researchers who want to access more reliable and more vibrant data about a complex issue through the participants' strategic perspectives (Barkhuizen, 2014; Battistella et al., 2017; Bliss, 2016). Using a multiple case study design, I explored the perspectives of manufacturing business leaders about the complex issues of hiring candidates who can pass a drug test.

Researchers use a phenomenological design to understand a group of people's lived and shared experiences about a phenomenon (Chan et al., 2015; Zou et al., 2014).

By exploring participants' lived experiences and insights, phenological researchers are able to identify common themes to describe a phenomenon (Chan et al., 2015; Conklin, 2013). This research design was not suitable for this study because I was not interested in business leaders' lived experience; rather, I was interested in exploring the hiring strategies used by business leaders.

I also considered ethnographic and narrative designs for my research. Researchers use the ethnographic research design to study social interactions' cultural framework (Ellis, 2015). The ethnographic design was not appropriate for this study because the participants were manufacturing business leaders and not a specific cultural group. Researchers who want to understand individuals' lives, as told through their stories, use the narrative research design (Yin, 2018). This design also was not feasible for this study because I was interested in strategies, not individuals' stories.

Data saturation occurs when a researcher does not discover any added information (codes or themes) from all relevant sources of evidence to the phenomenon under study; this ensures that a researcher has collected enough data to keep the study's integrity (Fusch & Ness, 2015). Viet-Thi et al. (2016) noted that a researcher attains data saturation when additional information becomes repetitive. Therefore, a researcher should increase the number of participants and use secondary data sources (such as internal company documents) whenever possible until they achieve saturation. Hancock et al. (2016) showed that data saturation enables researchers to gauge when they have used an adequate sample size, the point when added participants provide no new information. Cleary et al. (2014) noted that researchers could be assured of data

saturation when added information does not make further contributions or added insights. Fusch and Ness (2015) showed that qualitative researchers could use data saturation to evaluate their studies' quality and validity. To reach data saturation, I interviewed manufacturing business leaders and used triangulation to compare the participants' responses to company documents and public information (e.g., standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications). Once I did not find any new information in the data collected and analyzed, and the data started to repeat, I concluded that I had reached data saturation.

Population and Sampling

Yilmaz (2013) showed that purposeful sampling is essential for collecting in-depth, specific data about the participants' understanding of the phenomenon. To answer the research question, researchers must select participants with firsthand experience of the chosen topic and meet the selection criteria (Grossoehme, 2014; Merriam, 2009). This study's population was all manufacturing organizations in the Southeast region of the United States that had been in business for 5+ years and whose leaders had implemented successful hiring strategies. The sample I used included one business leader from four different organizations in the manufacturing industry in the United States' Southeast region. Palinkas et al. (2015) also observed that choosing participants who have detailed and generalizable knowledge and experience of the phenomenon under study is a primary aim of qualitative researchers.

Palinkas et al. (2015) added that by using a nonprobability sampling strategy, a researcher could choose a population sample that will meet the necessary criteria to

answer the research question. Using a purposeful sampling technique, I recruited knowledgeable participants who could supply data about successfully hiring candidates who could pass a drug test. Pierce et al. (2020) demonstrated that convenience sampling is best for generating quick ideas, gathering consultations on perspectives, and fostering community engagement. I did not use the convenience sampling technique because I sought the perspectives of business leaders with experience in the manufacturing industry.

Regarding the sample size for this study, I selected four participants who had implemented strategies to successfully hire employees who could pass a drug test and who were willing to take part in the study. Researchers have noted that small sample sizes are acceptable for qualitative multiple case studies if the researcher takes steps to avoid personal biases (Kirk, 2017; McQuarrie, 2015). I decided on the final sample size after reaching data saturation, which I achieved by conducting interviews and collecting documentation until no added information emerged. Pattani et al. (2018) targeted six participants to achieve data saturation in their qualitative, multiple case study about hiring strategies. I reached data saturation with four participants.

I contacted manufacturing business leaders in the Southeast region of the United States to gauge their willingness to take part in the research study. The manufacturing business leaders volunteered to take part, and I conducted recorded semistructured interviews via phone. I did not conduct in-person interviews due to the COVID-19 situation restrictions that began in 2019. I received informed consent from all participants before collecting data.

This study continued to interview and collect and analyze data until no new data or themes emerged to ensure data saturation. Researchers should select participants so that enough data exists for saturation to occur, and that further information becomes redundant (Fusch & Ness, 2015; Morse, 2015). Researchers should continue to conduct interviews with new participants until no new answers are given to verify that the interview questions have been thoroughly answered (Morse, 2015; Morse et al., 2014). At that point, researchers claimed that saturation has occurred, and a researcher can be assured that they have collected enough data to support a quality study (Morse, 2015; Morse et al., 2014).

Ethical Research

I followed the guidelines set forth by Walden's IRB and the *Belmont Report* to prevent any unethical actions. According to Yin (2018), researchers must follow formal research guidelines and avoid any unethical behaviors. McClimans et al. (2016) noted that ethical practices guaranty the safety and privacy of the participants. Before the interview process began, I affirmed each participants' voluntary participation and consent by sending the participants an email having the Letter of Invitation and a Participant Consent Form. I asked each participant to send me an email confirmation with the words, "I consent." Before I conducted each interview, I reaffirmed the participant's consent. I informed each participant that they could withdraw from the study for any reason and notify me via email if they chose.

Stang (2015) wrote that participants must know the aims, gains, requirements, and risks before taking part in a study. Stang wrote that they must acknowledge the purpose,

full disclosure, and willingness to take part voluntarily. Goodell et al. (2016) showed that researchers could increase qualitative inquiry's trustworthiness by reviewing ethical standards for research with human subjects.

Meuleman et al. (2017) posited that there was a positive correlation between incentives and response rates. However, I did not offer any incentives for the participants' answers. I informed the interviewees of the benefits to the business community and society. Bengtsson (2016) showed the importance of allowing interviewees to withdraw from a study without experiencing negative consequences. I followed Bengtsson's guidance and removed a participant's data from analysis if they chose to withdraw.

To conform to high-grade research standards and ensure privacy protection, I coded the companies' names as C1-C4 and the participants' names as P1-P4. I will also destroy all copies of the research that pertained to the companies or participants 5 years after graduation. I will securely store all physical and electronic copies of the data collected, such as recordings, company documents, and transcripts, for up to 5 years. Walden University's IRB approval number for the study was 07-22-21-0658456. McClimans et al. (2016) noted that the IRB's standards would protect the interviewees from harm and ensure research integrity. Therefore, I followed the IRB's standards.

Data Collection Instruments

I was the primary data collection instrument. According to Yin (2018), a researcher is the primary data collection instrument in a qualitative study. Marshall and Rossman (2016) noted that qualitative researchers could also use other data sources,

including observations, semistructured interviews, and records from archives, physical artifacts, and business documents. I used semistructured interviews and obtained standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications to collect data to gain insights about effective strategies for business leaders in the United States' Southeast region to hire candidates who could pass a drug test. I used six open-ended interview questions as part of the interview protocol (see Appendix) for consistency. I recorded the phone conversations and took notes to ensure accuracy.

Castillo-Montoya (2016) indicated that semistructured interviews promote a dialogue between the interviewer and participant where the interviewer can get feedback on their understanding of the participants' answers. Fusch and Ness (2015) noted that member checking could reduce bias and increase reliability and validity. Birt et al. (2016) posited that when the researcher shares the informants' responses to verify the accuracy, a qualitative study's trustworthiness could increase. I shared a summary of the collected data with the respondents to review it and held follow up sessions for clarification. I also asked them if they had any added information to share and included that in their responses. Methodological triangulation can be achieved by comparing company documents to interpretive summaries (Yin, 2018). I reviewed the participants' interview answers to their business documents to ensure that they used successful strategies to hire candidates who could pass a drug test.

Data Collection Technique

In this multiple case study, I was the primary data collection instrument. I followed a structured process for data collection that included approval from the IRB,

recruitment of participants, scheduling interviews, collecting documents, and member checking. The data sources were standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications. I used an over-the-phone semistructured interview protocol (see Appendix). I did not conduct in-person interviews due to the COVID-19 restrictions. According to Yin (2018), research questions should be in alignment with interview questions. Marshall and Rossman (2016) postulated that using semistructured interviews in a conversational style may allow a researcher to collect in-depth information about a topic as the participants describe their experiences. After receiving IRB approval and confirmed consent from the participants, I conducted phone interviews using open-ended questions and recorded the conversations via a Sony recorder to ensure data accuracy. I used my mobile phone as a backup recorder. After the interviews, I took journal notes to record other information like my own reactions and potential biases. Cridland et al. (2015) showed that researchers had an advantage when recording responses to semistructured interviews because it encouraged them to follow up with added questions.

McIntosh and Morse (2015) explained that the disadvantage of using over the phone interviews is that the researcher cannot capture nonverbal reactions or emotions; a researcher may not interpret responses accurately, and the participants may get distracted. Yin (2018) said some other disadvantages, including the inexperience of new interviewers to the technique and a lack of time commitment from the participants. Due to these disadvantages, I chose to augment my research with the use of member checking to validate interpretations and multiple data sources to ensure depth of data.

Pollanen et al. (2016) showed that researchers should use secondary data such as company documents (e.g., human resource policies or programs) because it is useful for analyzing and presenting complex information. A researcher uses secondary data to complement and confirm primary data for triangulation and reinforce well–defined knowledge domain areas (Somers, 2018). I collected standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications to understand any drug screening questions and statements. Marshall and Rossman (2016) proposed that the use of multiple data sources enhances a study's reliability and validity. However, Yin (2018) was careful to point out that the participants' choice of secondary data could introduce bias if they only selected items that supported their statements.

To reduce the chances of misinterpretation, I used member checking. I provided summaries of the interview transcripts to the participants and asked them to verify that the summary was accurate. According to Marshall and Rossman (2016), participants should be allowed to change their responses if they later find that the researcher recorded them incorrectly. Therefore, I sent my summary to the participants via email and asked for verification within 3 days.

Data Organization Technique

Yin (2018) suggested that researchers secure the raw data from their studies in a safe and protected location. So, I plan to store handwritten notes and journals in a folder within a locked fire and water-resistant safe for 5 years, and I will be the only one with access to it. I also plan to use a password-protected digital folder to safeguard company documents and all other digital data for 5 years. I organized my data by using Windows

Explorer to manage my files. I named my files to conform to a naming convention to ensure privacy. I used Excel to keep track of my participants and their contact information to reach out to them for member checking later. After 5 years, I will shred both the physical and digital items. Fusch and Ness (2015) recommended that researchers use a coding technique to anonymize and keep their participants' identities confidential. Therefore, I used code names to conceal the participants' identities and the companies where they worked. The naming convention was C1-C4 to identify the four companies and P1-P4 to represent the four participants, and I used Excel to track the information.

Data Analysis

Yin (2018) prescribed a five-step thematic analysis procedure for qualitative studies and showed that researchers should analyze their data until concepts and themes appear. The data analysis steps include (a) compile data, (b) disassemble data, (c) reassemble data, (d) interpret data, and (e) draw conclusions. I followed Yin's recommendations to analyze the data and provide meaning. Cronin (2014) posited that researchers should use methodological triangulation to compare the data from company documents to the interview data. I used the methodological triangulation technique for this qualitative case study due to the types of data that I analyzed.

To compile the data, I imported the raw data, including journal notes, company documents, and interpretations of the interviews, into NVivo for Windows. Researchers use NVivo for online storage, transcription, coding, and analysis, and it is a preferred tool over MAXQDA and Atlas.ti due to its user-friendly interface (Fusch & Ness, 2015). NVivo is aptly suited for small and large data sets and purposely built for qualitative and

mixed-methods research with the capability to transcribe audio files (Rowlands et al., 2015). I decided to use NVivo since I collected a small data set, and I found the user interface easier to navigate than MAXQDA and Atlas.ti. Rowlands et al. (2015) said that researchers should organize their raw data into a database to complete the compiling phase. Leech and Onwuegbuzie (2011) recommended using NVivo for its categorization capabilities.

I used NVivo to disassemble, reassemble, and then label the data. Thomas (2015) told that researchers should divide their compiled data into fragments and labels during the disassembly and reassembly phase using a process called coding. Rowlands et al. (2015) claimed that researchers should categorize and cluster their labels into a sequence during data reassembly. I used NVivo to reassemble my data into a series of groups for identifying emerging patterns. Yin (2018) showed that the data coding process entails describing, grouping, identifying fragments, and naming data to identify themes. I coded my data by categorizing and clustering text segments that included keywords of specific information. The main codes for this study included drug tests, hiring practices, leaders, manufacturing, profitability, and workplace safety.

I interpreted the data by searching for and identifying concepts to find relationships. Yin (2018) stated that researchers could draw themes from labeled data by identifying patterns, organizing thoughts, and drawing relationships. Rowlands et al. (2015) told that researchers should create narratives from the sequences and groups during the interpreting data phase. I set up narratives and meanings from the sequence

and groupings of the strategies business leaders used to hire candidates who could pass a drug test.

To draw conclusions, I relied on participant responses, company documents, findings from previously researched studies, results from current researched works, and their relationship to Vroom's expectancy theory. I focused on the key themes of hiring strategies and profitability that emerged from the data analysis and correlated them to the established literature. I used the patterns found during the data analysis phase to answer the research question.

Reliability and Validity

Marshall and Rossman (2016) showed that researchers must use reliability and validity to support their conclusions. Yin (2018) purported that qualitative researchers must use credibility, confirmability, dependability, and transferability to support their findings. Researchers ensure the rigorousness of their process and their data's trustworthiness (Yin, 2018). I provided detailed information on the research design, research methods, participants, data collection procedures, data analysis, and data organization to ensure reliability and validity.

Reliability

Dependability was a key issue that I addressed. Roulston and Shelton (2015) showed that qualitative research is a progression rather than a process, and the research comes to an acceptable conclusion when the design combines with the researcher's biases. I ensured dependability by using proper data collection techniques during the interview process. Årlin et al. (2015) recommended using methodological triangulation to

review and categorize transcribed data from member-checked interview responses to ensure reliability. I performed methodological triangulation using the interview summaries and compared the summaries with data from standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications. I audio recorded the participant interviews and transcribed the audio. I summarized the interview data and then asked each participant to review the summary via email to check for correct interpretation. I supplied reliability from the interpretation and review of data at various stages, data transcription, member checking, and methodological triangulation, which led to the basis of the strategies for hiring candidates who could pass a drug test.

Validity

I also addressed trustworthiness. Trustworthiness in a qualitative study means that the researcher's results were a true reflection of the phenomenon under study and includes transferability, confirmability, and credibility (Bengtsson, 2016). Sarma (2015) showed that when researchers follow accepted and well-defined procedures defined by the scholarly community, their work's credibility increases. Birt et al. (2016) showed that researchers achieve credibility when collecting the correct data from the right participants, answering the research question. Kornbluh (2015) showed that while participants use constructivism and objectivism to validate the study’s content, researchers use member checking to increase the data's accuracy and completeness.

Transferability

The ability to compare the research results of one study to another study in a different context is called transferability (Bengtsson, 2016). Sarma (2015) showed that

since qualitative researchers use small, nonrandom samples of the population in unique settings, their results cannot be generalized. Yin (2018) explained that researchers could increase transferability by carefully selecting participants, providing thorough demographic information, performing comprehensive data analysis, and providing results in a clear format. I increased the study's transferability by selecting participants that met the eligibility criterion, performed data analysis, and showed results in a clear format. Although researchers cannot generalize case study findings, sometimes they can transfer their details to a different context (Taylor & Thomas-Gregory, 2015). I explained the analysis and data collection process I used to help the reader generalize this study's outcome in their setting.

Confirmability

According to Yin (2018), confirmability is the ability of other readers to corroborate the study results, and researchers must ensure that their study findings are confirmable. I achieved confirmability by keeping detailed notes of the procedures I followed and by frequently auditing my work. I strictly followed the interview protocol (see Appendix) to ensure confirmability. Cope (2014) purported that researchers gain reflexivity when they adopt an attitude during the data collection and analysis phase to reflect how their background and position influence the research process. I kept a reflexive journal to take clear and concise notes that reflected on how my interests and values shaped the research process. By practicing reflexivity, I preserved the integrity of the data collection and analysis process.

Credibility

Yin (2018) showed that credibility is the level of accuracy of the study's findings from a participant's perspective. Yin demonstrated that researchers could enhance their studies' credibility through member checking, data saturation, and methodological triangulation. Researchers achieve data saturation by collecting data from participants using various techniques (Fusch & Ness, 2015). Onwuegbuzie and Byers (2014) showed that researchers achieve data saturation during the data analysis process and when follow-up questions and probing result in no new information. I continued to interview new participants, collect data, and analyze the data until I reached data saturation. Methodological triangulation uses multiple data sources by qualitative researchers to support data saturation (Harvey, 2015). I collected data from audio interviews with manufacturing business leaders, standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications.

Transition and Summary

The purpose of this qualitative multiple case study was to explore the strategies business leaders in the Southeast region of the United States used to hire candidates who could pass a drug test. Section 2 included a description of the purpose statement, the criteria for selecting participants, the research method, and the research design. I also supplied details about the role of the researcher and ways to mitigate bias. I gave a breakdown of the data collection and data analysis techniques.

Throughout the study, I described how I ensured data reliability and validity. I presented the findings from the interviews, data collection, and data analysis in Section 3.

I supplied details of how the information presented in the study applies to professional practice, the impact of social change, and recommendations for action and future research. Finally, I supplied a study summary and offered conclusions revealed in the study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore the strategies that manufacturing business leaders in the Southeast region of the United States used to hire candidates who could pass a drug test. I conducted semistructured interviews and performed thematic data analysis to obtain the study results. The targeted population consisted of manufacturing business leaders from four companies who had implemented successful strategies to hire candidates who could pass a drug test.

Section 3 includes the presentation of the findings, including a detailed explanation of the four thematic findings of the study. It also shows how methodological triangulation occurred from the semistructured interviews and the company documents. I used member checking to ensure the accuracy of data interpretation. The data analysis process involved the use of coding techniques and member checking. Participants shared factors that improved hiring strategies, such as drug testing, company policies, legal requirements, and employee data.

Presentation of the Findings

The research question for this study was: What strategies do manufacturing business leaders in the Southeast region of the United States use to hire candidates who can pass a drug test? I conducted semistructured interviews with open-ended questions and reviewed information obtained from the participants' standards of business conduct documents, U.S. drug and alcohol policies, and blank job applications. Upon finishing the data collection process, I answered the research question regarding the strategies that

manufacturing business leaders in the Southeast region of the United States use to hire candidates who can pass a drug test. I confirmed data saturation after completing the fourth interview due to no new data emerging. I used the collected data from the interviews and documentation to conduct triangulation and found that the interview data agreed with the documentation. I executed each interview over the phone, in a quiet location free of distractions, lasting no longer than 45 minutes. The participants and companies remained anonymous; I labeled each participant as P1–P4, where P1 refers to Participant 1, and each company as C1–C4, where C1 refers to Company 1. I analyzed the data using NVivo.

Expectancy theory was the foundation for this research study. I used the expectancy theory to assist in exploring strategies from manufacturing business leaders to hire candidates who can pass a drug test. During the interview process, participants acknowledged that drug testing, company policies, and legal requirements were essential in hiring candidates who could pass a drug test. P1indicated that randomness in drug testing prior to and after a job offer is necessary to ensure that candidates are drug-free. Manufacturing business leaders could use the study results to develop, implement, or adjust strategies to hire candidates who can pass a drug test. The four themes indicated in the findings have a direct connection to the study's conceptual framework, expectancy theory. The themes are (a) drug testing, (b), company policies, (c), legal requirements, and (d) employee data.

Emergent Theme 1: Drug Testing

Drug testing emerged from Interview Questions 1, 2, 3, 5, and 6. Participants reported that drug testing candidates is essential for hiring candidates who can pass a drug test. P1 stated, “drug testing candidates before and after offering a job filters out the candidates that get clean long enough to pass only a single drug test.” P2 confirmed P1 and reported that “drug testing candidates prior to hiring was essential to finding candidates who can pass a drug test.” P2 stated, “it was important to openly ask candidates about current and previous drug use to gauge a candidate’s ability to pass a drug test.” P3 stated, “candidates immediately undergo a drug test when they complete an application and I test new employees one week after their hiring date.” P4 confirmed what P3 shared and reported, “pre-employment drug testing was the preferred method for hiring candidates who can pass a drug test.” Taskinen et al. (2017) asserted that when employers conduct pre- and post-employment drug tests, they screen candidates and find the ones who are motivated to refrain from using drugs.

Drug Testing Programs and Facilities

Drug testing programs and facilities emerged as a subtheme from Interview Questions 1 and 3. P1 elaborated, “employers must use established drug testing programs and facilities to ensure the accuracy and integrity of the drug test results.” Participants indicated that hiring independent, third-party facilities to conduct urine tests was more cost-effective and that facilities could preserve the chain of custody better than they could. All the participants agreed that manufacturing business leaders should establish drug testing programs and hire independent facilities to conduct drug tests as a strategy

for hiring candidates who can pass a drug test. As mentioned in the literature review, employers who use blood tests are more likely to screen out candidates, but urine tests are more cost-effective. P3 confirmed the information from the literature review by stating, "I follow our company's policy of using drug testing facilities to conduct urine tests because it is the most cost-effective and least invasive method for testing candidates."

Having drug testing programs and facilities could improve the chances of hiring candidates who could pass a drug test. P2 reported, "drug testing programs are integral to the overall hiring process." P4 stated, "serious ramifications occur if the company hires a candidate without drug testing them and then they are later involved in a safety incident due to drugs or alcohol." Mohammadi et al. (2018) aligned with the statement from P4 and reiterated that drug testing programs are a vital step in ensuring workplace safety. P2 aligned with P4 and stated, "employers must have drug testing programs to thoroughly understand which candidates can pass a drug test."

Random Drug Tests

Random drug tests emerged from Interview Questions 1 and 3. P1 and P3 agreed that random drug tests could assist employers by catching candidates off guard and unprepared for a drug test. P1 stated, "drug testing is most effective when it is conducted at random times before and after making an offer for employment." Participants stated that candidates who were aware of when a drug test was scheduled were more likely to temporarily stop using alcohol or drugs for a sufficient time to pass the test. P1 reported, "scheduling more than one random test ensures that candidates are not on guard or prepared for a test." According to Rice et al. (2017), the randomness of drug tests is an

important factor in determining the likelihood of a candidate passing future tests and acts as a drug use deterrent in the candidate population. P1 and P3 agreed that random drug testing could be used in any industry to help hire candidates who can pass a drug test. P1 stated, “changing up the timing of the initial drug test prevents candidates from accurately sharing the timing with other candidates.” P3 shared the same sentiment as P1 and reported, “candidates who are new to drug testing programs are more likely to fail them because they do not know what to expect nor how long drugs and alcohol can remain in someone’s system.” To overcome this problem, P3 carefully explained the expectations and the importance of the drug tests and talked to the candidates about the entire testing procedure. Random drug tests emerged as a subtheme almost twice as often as drug testing programs and facilities (see Table 1).

Table 1

Drug Testing

Subtheme	Frequency of occurrence
Drug testing programs and facilities	9
Random drug tests	17

Emergent Theme 2: Company Policies

Information involving company policies emerged in responses to Interview Questions 3, 4, and 6 as participants shared additional information regarding the research study and their take on hiring candidates who can pass a drug test. P1, P2, and P4 agreed that company policies were an important factor in the hiring process and shaped the

process itself. Akanbi et al. (2020) stated that company policies ensure that a hiring process is standardized and promotes workplace safety. P4 stated, “background checks are important when hiring candidates because there is a correlation between someone’s criminal history and their ability to pass a drug test.” P4 reported, “our company conducts reference checks as part of the background checks to further investigate candidates.” All four participants aligned in the view that interviews were essential to hiring candidates who could pass a drug test because the interviewers gained insight into candidates’ character and past behavior.

Background Checks

Background checks emerged as a subtheme in responses to Interview Questions 1 and 3. P1, P2, and P4 agreed that background checks could provide information about a candidate’s past that may include alcohol- or drug-related convictions. P1 stated, “I use online applications to conduct the background checks to reduce the processing time.” Pierce et al. (2017) found that a correlation does exist between opioid users and criminality, especially among women. P2 reported, “a criminal offense involving marijuana found during a background check is not an automatic rejection because some states have legalized marijuana possession and use.” Due to this challenge, P2 stated, “the attorneys at C2 are considering if they should exclude marijuana from the drug test panel altogether.” P4 reported, “C4 conducts a background check on candidates before conducting a drug test since the outcome of the background check can exclude the candidate from moving further along in the hiring process.” P1, P2, and P4 agreed that

background checks, and when they are performed, are an important aspect for hiring candidates who can pass a drug test.

Interviews

Interviews emerged as a subtheme for Interview Questions 1 and 3. All the participants stated that interviews were required to hire candidates who could pass a drug test. P1 stated, "I prefer to conduct face-to-face behavioral interviews with candidates to understand their personality before discussing the details of the job." P1 reported, "this gives me a perspective on the general health and well-being of a candidate and reduces the amount of potential phone tag." P2 stated, "I conduct interviews and use the time to ask direct questions about a candidate's current and previous drug use." P2 reported, "the face-to-face interview format allows me to better judge a candidates' body language and if they are avoiding the drug usage questions." P3 stated, "interviews also serve to educate the candidates on their privacy rights during the hiring process." P4 stated, "I like to conduct the informal interviews before the formal ones to lower the candidates' inhibitions and get them comfortable talking about their past experiences." P4 reported, "I also judge a candidate's character during an interview by asking tough behavioral and ethical questions to see if they are likely to pass a drug test." However, Afuseh et al. (2020) indicated that SUD is the result of biological disease and not due to personal or moral failures. Roulin et al. (2019) reported that many employers use interviews in the hiring process with varying degrees of structured components like question consistency and evaluation standardization. P4 stated, "if a candidate passes the interview, then the candidate will most likely pass the drug test." Therefore, P4 reported, "I conduct drug

tests after the interviews since the drug tests cost the company money." P4 noted that manufacturing business leaders could save money on drug testing by carefully choosing the timing of when to conduct the tests. Interviews emerged as a subtheme more than 3 times as often as background checks (see Table 2).

Table 2

Company Policies

Subtheme	Frequency of occurrence
Background checks	5
Interviews	16

Emergent Theme 3: Legal Requirements

Legal requirements were a motivating factor for all the participants when implementing strategies for hiring candidates who can pass a drug test. As a business owner, P1 reported, "I had to hire attorneys to help me understand and adhere to all of the hiring laws that the federal and state governments subject me to." Although the legal requirements for hiring can seem burdensome, Kwapisz (2019) stated that the actual and perceived government bureaucracy are not significantly related.

Federal Laws

As indicated in the literature review, the Drug-Free Workplace Act of 1988 is a U.S. federal law that prohibits drug use and possession in the workplace, aiming to prevent accidents and injuries. Companies that receive funding from the U.S. federal government must abide by the law and find ways to hire drug-free candidates (Gfroerer,

2018). P2 acknowledged, “C2 has to follow federal laws along with all the different state laws in which C2 does business.” P2 reported, “C2 is a multinational corporation, so the federal, state, and local laws of the U.S. as well as the laws of each country that C2 does business in, shape the hiring program.” P3 stated, “I routinely answer candidates’ questions about how C3 follows the federal laws and treats drug test results as private and confidential.” (Kulig (2017) reported that the federal laws protecting personal health information included the Health Insurance Portability and Accountability Act of 1996, the Americans With Disabilities Act of 1990, the Drug-Free Workplace Act of 1998, the Fair Credit Reporting Act of 1970, and U.S. Department of Transportation regulations.

State Laws

Like the federal laws, all the participants said they were subject to state laws regulating their drug testing programs. P2 reported, “I have challenges in finding candidates who can pass a drug test because some states have legalized marijuana.” P2 stated, “the challenge compounds because the state laws which legalize the usage of marijuana conflict with the federal laws which outlaw its use.” P2 reported, “C2 also operates in states that have and have not legalized marijuana, so C2 needs to have different policies in place for each state.” In some states, marijuana usage was so high that P2 stated, “C2’s legal department is considering removing the marijuana drug test, thereby lowering the bar for entrance.” P1 indicated a similar problem as P2 but stated, “due to the hazardous nature of C1’s operations, I cannot afford to put the employees or high-cost machinery at risk of someone who is under the influence of marijuana.” Findings from Sevigny (2018) aligned with P1 and showed that an increase in marijuana

dispensaries in a state correlated with an increase in the number of people driving under the influence of marijuana. P1 reported, “the legalization of buprenorphine in some states forced the elimination of that drug test from the panel.” Even so, P1 stated, “I would not allow someone under the influence of buprenorphine to operate heavy machinery due to safety concerns.” The state legalization of buprenorphine forced P1 to randomly test his employees for the commonly used drug. P1, P2, and P3 agreed that manufacturing business leaders need to follow the federal and state hiring laws to ensure they are hiring candidates who can pass a drug test for the safety of their operations and future profitability. State laws emerged as a subtheme almost twice as often as federal laws (see Table 3).

Table 3

Legal Requirements

Subtheme	Frequency of occurrence
Federal laws	6
State laws	10

Emergent Theme 4: Employee Data

Employee data materialized as a theme in responses to Interview Questions 3 and 4. McIver et al. (2018) noted that workforce analytics could be applied by human resource managers in ways to enhance their hiring practices. In a similar fashion, P2 stated, “I use current market pay rates and retention data to make job ads more attractive to find people who are interested in long-term employment.” P3 reported, “poor job performance is a strong indication that a new hire is using drugs.” P3 also used historical

drug test data to predict which candidates and employees were more likely to pass drug tests. P4 evaluated the effectiveness of C4's hiring strategies by analyzing retention data. P4 stated, "as hiring requirements tightened, retention increased because qualified candidates are more likely to pass a drug test."

Attrition and Retention Data

Multiple participants used attrition and retention data to measure how well they had implemented their strategies for hiring candidates who could pass a drug test. Vagi et al. (2019) indicated that teachers who were more qualified for a job opening showed a lower attrition rate two years after their hire date. P4 used a similar hiring method as Vagi et al. described because "it was hard to predict who would and would not pass a drug test." P4 reported, "drug-free candidates are usually more qualified for the roles they apply for." P1 stated, "I use an application that collects data on job applicants in the local community along with leads shared from other businesses to determine which ones have stayed with employers the longest." P1and P4 agreed that candidates who demonstrated previous periods of gainful employment were more likely to pass a drug test. P1 and P4 agreed that manufacturing business leaders who analyze resumes for indications of loyalty to employers would find more candidates who could pass a drug test.

Performance Data

Participants reported using poor performance data as an early indicator of drug usage among candidates. P1 stated, "I drug test all of the candidates prior to hiring them, and then I use performance data to determine which employees I need to drug test again."

P4 reported, “the poorer their job performance, the higher the chances are that an employee is using drugs or alcohol.”

P1 stated,

> I have on-site supervisors who monitor recent hires closely to detect performance issues. I collect performance data to create a profile of the ideal candidate and while interviewing candidates, I evaluate how well they match the profile to make my hiring decisions.

Findings from Allen et al. (2020) aligned with P1. P1 reported, “companies can test the effectiveness of their selection procedures by creating candidate profiles along with outsourced human resources firms to predict performance.” P2 stated, “I offer hiring and retention bonuses to candidates as incentives for passing drug tests and then award them based on performance.” P2 reported, “it is important for companies to start collecting performance data shortly after hiring a candidate to determine if a candidate needs to be drug tested again.” P1, P2, and P4 agreed that manufacturing business leaders could benefit from an early review of a candidate’s performance data to gauge the necessity of further drug testing. Performance data emerged as a subtheme almost twice as often as attrition and retention data (see Table 4).

Table 4

Employee Data

Subtheme	Frequency of occurrence
Attrition and retention data	4
Performance data	7

Applications to Professional Practice

The results of the study revealed strategies for hiring candidates who can pass a drug test. I used the expectancy theory founded by Vroom (1964) to guide the research study. The specific business problem was that some business leaders in the manufacturing industry lack strategies to hire candidates who can pass a drug test. The results from the study may assist in identifying strategies organizations could use to hire candidates who can pass a drug test.

The research findings might extend the existing knowledge about the management of manufacturing businesses to implement strategies for hiring candidates who can pass a drug test. The results within the findings of the study indicated that manufacturing business leaders must develop effective strategies and find new ways to implement the strategies. Manufacturing business leaders must also determine effective methods of drug testing to improve hiring strategies. Leadership must begin to explore new ways of hiring individuals who could pass a drug test.

Using expectancy theory, manufacturing business leaders can improve profitability and adopt changes within their business to incentivize candidates to pass a drug test. Manufacturing business leaders can use the information from the research study as a guide for implementing change and improving hiring strategies to select drug-free candidates. Leadership can use existing performance data as a starting point for making informed hiring decisions.

Implications for Social Change

The results from the research study regarding manufacturing business leaders will display the benefits of implementing strategies to hire candidates who can pass a drug test. Manufacturing businesses can provide a better quality of life for candidates and employees by reducing unemployment, decreasing bodily injuries, increasing life expectancy, and decreasing crime rates in communities. The cost of SUD to businesses is significant and impacts organizations due to decreased productivity, increased accidents, and increased absenteeism (Casal et al., 2020). SUD in a community can adversely reduce the pool of acceptable candidates and impact an organization's ability to hire drug-free candidates and sustain profitability. Manufacturing business leaders who implement effective strategies in these communities may be able to find candidates who can pass a drug test. The findings of this research study could also improve an organization internally and externally by showing the advantages of following federal and state hiring laws.

Implementing the hiring strategies could serve as a benefit for businesses to affect social change by helping communities become aware of the risks associated with SUD and increase individual life expectancy. The results from the study could improve social change by providing knowledge on hiring candidates who can pass a drug test and decrease unemployment. Increased employment in a community could increase well-being and decrease crime, thereby reducing the need for law enforcement and incarceration. Increased employment may also lead to higher tax revenues for communities which they could spend on other social programs.

Recommendations for Action

The results of this study are beneficial for manufacturing business leaders who have been unable to hire candidates who can pass a drug test. Manufacturing business leaders could use the study results to understand and develop effective hiring programs. Els et al. (2020) reported that random drug testing acts as a deterrent against positive test results in a population, which assists in reducing the number of workplace injuries. Manufacturers should consider randomly drug testing their candidates before and after hiring them to ensure compliance with state and federal laws and prevent injuries. Manufacturers looking to increase the accuracy and quality of their drug test results should hire independent third-party facilities to conduct the drug tests. Manufacturers should also conduct background and reference checks along with formal interviews to improve their odds of finding drug-free candidates. Manufacturers who use performance data as a benchmark for evaluating and monitoring candidates could position themselves for better employee retention rates. Incentivizing the hiring process by offering retention bonuses is another way for manufacturers to attract drug-free candidates. Manufacturers who operate in states where marijuana or buprenorphine is legal should consider changing their strategies to eliminate those drug tests from low safety risk jobs.

The purpose of this study was to assist manufacturing business leaders with hiring strategies to find candidates who could pass a drug test. I will publish this study on ProQuest to disseminate the study's findings. I will also send a copy of the study to each participant.

Recommendations for Further Research

The purpose of this research was to provide some manufacturing business leaders with strategies for hiring candidates who can pass a drug test. The limitation of this research study was the involvement of four participants from the Southeast region of the United States. Extending the geographical scope to manufacturers outside of the Southeastern United States is a recommendation for future studies to understand the hiring strategies better. Applying artificial intelligence (AI) and machine learning (ML) to the candidate selection process could be an area to consider for future research. It is possible that AI and ML could evaluate candidates faster and more accurately than humans while considering additional factors. AI and ML may predict which candidates were most likely to pass random drug tests, thereby increasing safety and reducing injury-related costs for the company. Manufacturing business leaders could take advantage of the speed that AI and ML could make candidate selections and fill job openings faster, leading to increased profitability. AI and ML could make less error-prone decisions and use a data-driven process based on much larger data sets. Future researchers may also conduct studies on robots with AI and ML that perform urine tests, which may save companies the costs of outsourcing the work.

Reflections

During the doctoral research, I learned many things about the topic and unrelated things. My understanding of organizational structures and processes has grown, and I have a deeper appreciation for what it takes to hire people. I have realized that hiring drug-free candidates is even more difficult than I first thought. Compounded by the

current opioid epidemic, manufacturing business leaders have significant challenges in filling open positions to ensure that companies remain profitable. During the study, I listened more frequently than I spoke when interviewing participants to understand their experience fully. This approach reduced my inherent biases and prevented me from interjecting my preconceived notions of how hiring processes were supposed to work. Conducting the doctoral study has improved my analytic skills and made me a better researcher. I spent most of the study fully understanding the problem before offering a set of solutions. I have learned that random drug testing is the primary method for hiring candidates who can pass a drug test. Therefore, it is vital that manufacturing business leaders implement hiring strategies that include this step.

Finding time to complete Walden's DBA program while working full time was challenging. I spent many nights, weekends, and vacation days completing assignments and the study. During most of the program, I was single with no kids and was impressed by those students who completed the program with spouses, children, or both. Since joining the DBA program, my writing skills have increased immensely. The improvement in writing has changed how I interpret experiences and has made me a more active rather than passive writer, helping to eliminate ambiguities. I have learned how to develop solutions to business problems and can apply my skills at work. I feel more connected to my community and better understand the negative impacts that drugs and alcohol can have on people's lives.

Conclusion

The purpose of the study was to explore the strategies that manufacturing business leaders use to hire candidates who can pass a drug test. To understand the phenomenon, I used the qualitative multiple case study. Manufacturing business leaders can strengthen hiring strategies and increase profitability by randomly drug testing candidates and recent hires. To reduce the risk of accidents at the workplace, manufacturing business leaders could conduct thorough background checks, interviews, and reference checks of candidates. Hiring drug-free candidates could be a best practice for every manufacturing company. The findings derived from the study indicated that manufacturing business leaders could use the expectancy theory to improve hiring strategies. Finding candidates who are motivated to pass a drug test for work could be the key to sustained profitability for manufacturers in the Southeast region of the United States.

Drug testing, company policies, legal requirements, and employee data were the four main themes that emerged from the study's data collection and analysis phase. I purposely selected participants who had more than 1 year of experience in the manufacturing industry and worked at a manufacturer that was in business for more than 5 years in the Southeast region of the United States. I developed interview questions to prompt responses from the participants on their experience with hiring candidates who could pass a drug test. I coded the transcripts of the participants' responses, including data from drug testing policies and employee handbooks, and used NVivo to analyze the data.

The underlying research question was: What strategies do manufacturing business leaders in the Southeast region of the United States use to hire candidates who can pass a drug test? As summarized by the four themes, the outcome of the study provided satisfactory answers to the question. Stakeholders must understand the impact of effective strategies on hiring drug-free candidates (Murtland, 2018). Manufacturing business leaders who randomly drug test their candidates and closely monitor their job performance will find drug-free candidates and sustain profitability.

References

Acemoglu, D., Autor, D., Dorn, D., Hanson, G. H., & Price, B. (2016). Import competition and the great us employment sag of the 2000s. *Journal of Labor Economics, 34*(Suppl. 1), S141–S198. https://doi.org/10.1086/682384

Adan, A., Antúnez, J. M., & Navarro, J. F. (2017). Coping strategies related to treatment in substance use disorder patients with and without comorbid depression. *Psychiatry Research, 251*(1), 325–332. https://doi.org/10.1016/j.psychres.2017.02.035

Afuseh, E., Pike, C. A., & Oruche, U. M. (2020). Individualized approach to primary prevention of substance use disorder: Age-related risks. *Substance Abuse Treatment, Prevention, and Policy, 15*(1), Article 58. https://doi.org/10.1186/s13011-020-00300-7

Agan, A., & Starr, S. (2017). Ban the box, criminal records, and racial discrimination: A field experiment. *Quarterly Journal of Economics*, *133*(1), 191–235. https://doi.org/10.1093/qje/qjx028

Akanbi, M. O., Iroz, C. B., O'Dwyer, L. C., Rivera, A. S., & McHugh, M. C. (2020). A systematic review of the effectiveness of employer-led interventions for drug misuse. *Journal of Occupational Health, 62*(1), Article e12133. https://doi.org/10.1002/1348-9585.12133

Alderfer, C. P. (1969). An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance*, *4*(2), 142–175. https://doi.org/10.1016/0030-5073(69)90004-x

Allen, D. G., Mahto, R. V., & Otondo, R. F. (2007). Web-based recruitment: Effects of information, organizational brand, and attitudes toward a Web site on applicant attraction. *Journal of Applied Psychology, 92*(6), 1696–1708. https://doi.org/10.1037/0021-9010.92.6.1696

Allen, K. S., Affourtit, M., & Reddock, C. M. (2020). The machines aren't taking over (yet): An empirical comparison of traditional, profiling, and machine learning approaches to criterion-related validation. *Personnel Assessment and Decisions, 6*(3), 4–12. https://doi.org/10.25035/pad.2020.03.002

Alozai, U. U., & Sharma, S. (2020). *Drug and alcohol use*. StatPearls Publishing. https://pubmed.ncbi.nlm.nih.gov/30020635/

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*. https://doi.org/10.1176/appi.books.9780890425596

Anderson, R. E., Hruska, B., Boros, A. P., Richardson, C. J., & Delahanty, D. L. (2018). Patterns of co-occurring addictions, posttraumatic stress disorder, and major depressive disorder in detoxification treatment seekers: Implications for improving detoxification treatment outcomes. *Journal of Substance Abuse Treatment, 86*(3), 45–51. https://doi.org/10.1016/j.jsat.2017.12.009

Andraka-Christou, B., Gabriel, M., Madeira, J., & Silverman, R. D. (2019). Court personnel attitudes towards medication-assisted treatment: A state-wide survey. *Journal of Substance Abuse Treatment, 104*(9), 72–82. https://doi.org/10.1016/j.jsat.2019.06.011

Appelbaum, S. H., Profka, E., Depta, A. M., & Petrynski, B. (2018). Impact of business

model change on organizational success. *Industrial and Commercial Training, 50*(2), 41–54. https://doi.org/10.1108/ict-07-2017-0058

Årlin, C., Börjeson, L., & Östberg, W. (2015). Participatory checking and the temporality of landscapes: Increasing trust and relevance in qualitative research. In C. Isendahl & D. Stump (Eds.), *The Oxford handbook of historical ecology and applied archaeology* (pp. 1–15). Oxford University.

Attridge, M. (2019). A global perspective on promoting workplace mental health and the role of employee assistance programs. *American Journal of Health Promotion, 33*(4), 622–629. https://doi.org/10.1177/0890117119838101c

Bailey, L. F. (2014). The origin and success of qualitative research. *International Journal of Market Research, 56*(2), 167–184. https://doi.org/10.2501/ijmr-2014-013

Ballard, T., Yeo, G., Loft, S., Vancouver, J. B., & Neal, A. (2016). An integrative formal model of motivation and decision making: The MGPM*. *Journal of Applied Psychology, 101*(9), 1240–1265. https://doi.org/10.1037/apl0000121

Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2017). Entrepreneurial motivation and self-employment: Evidence from expectancy theory. *International Entrepreneurship and Management Journal, 13*(4), 1097–1115. https://doi.org/10.1007/s11365-017-0441-z

Barkhuizen, G. (2014). Narrative research in language teaching and learning. *Language Teaching, 47*(4), 450–466. https://doi.org/10.1017/s0261444814000172

Barnham, C. (2015). Quantitative and qualitative research: Perceptual foundations. *International Journal of Market Research, 57*(6), 837–854.

https://doi.org/10.2501/IJMR-2015-070

Battistella, C., De Toni, A. F., De Zan, G., & Pessot, E. (2017). Cultivating business model agility through focused capabilities: A multiple case study. *Journal of Business Research, 73*(4), 65–82. https://doi.org/10.1016/j.jbusres.2016.12.007

Bauman, K. (2017). A twenty-first-century social contract between employers and job candidates. *Employment Relations Today*, *44*(2), 13–19. https://doi.org/10.1002/ert.21620

Baumgartel, H., & McGregor, D. (1960). The human side of enterprise. *Administrative Science Quarterly*, *5*(3), 464–467. https://doi.org/10.2307/2390668

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, *2*(1), 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Beverly, H. K., Castro, Y., & Opara, I. (2019). Age of first marijuana use and its impact on education attainment and employment status. *Journal of Drug Issues*, *49*(2), 228–237. https://doi.org/10.1177/0022042618823007

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking. *Qualitative Health Research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Bliss, L. A. (2016). Phenomenological research: Inquiry to understand the meanings of people's experiences. *International Journal of Adult Vocational Education and Technology, 7*(3), 14–26. https://doi.org/10.4018/IJAVET.2016070102

Board of Governors. (2017). *The beige book*. Federal Reserve System.

https://www.federalreserve.gov/monetarypolicy/beigebook201707.htm

Bonvillian, W. B., & Singer, P. L. (2018). *Advanced manufacturing: The new American innovation policies.* MIT Press Scholarship. https://doi.org/10.7551/mitpress/9780262037037.003.0009

Breward, K. (2019). *Last chance agreements: Tackling alcohol abuse in the workplace*. SAGE. https://doi.org/10.4135/9781529700671

Briony, L., Louisa, D., Nick, L., Adam, W., & Richard, M. (2011). Definitions related to the use of pharmaceutical opioids: Extramedical use, diversion, non-adherence, and aberrant medication-related behaviors. *Drug and Alcohol Review*, *30*(3), 236–245. https://doi.org/10.1111/j.1465-3362.2010.00283.x

Brown, A. S. (2019). The state of American manufacturing 2019. *Mechanical Engineering*, *141*(5), 26–31. https://doi.org/10.1115/1.2019-may1

Brown, D., & Rhinds, D. (2019). Drugs and alcohol in the workplace. In J. Hobson & J. Smedley (Eds.), *Fitness for work* (6th ed., pp. 297–318). Oxford University Press. https://doi.org/10.1093/med/9780198808657.003.0014

Burke, R., & Richardsen, A. (2019). *Increasing occupational health and safety in workplaces: Individual, work, and organizational factors*. Edward Elgar Publishing. https://doi.org/10.4337/9781788118095

Burt, M. (2012). Impact of housing and work supports on outcomes for chronically homeless adults with mental illness: LA's HOPE. *Psychiatric Services*, *63*(3), 209–215. https://doi.org/10.1176/appi.ps.201100100

Bush, D. M., & Lipari, R. N. (2015). *The CBHSQ report: Substance use and substance*

use disorder, by industry. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. https://www.samhsa.gov/data/sites/default/files/report_1959/ShortReport-1959.pdf

Caillier, J. G. (2016). Does satisfaction with family-friendly programs reduce turnover? A panel study conducted in US federal agencies. *Public Personnel Management, 45*(3), 284-307. https://doi.org/10.1177/0091026016652424

Carnevale, A., Ridley, N., Cheah, B., Strohl, J., & Campbell, K. P. (2019). *Upskilling and downsizing in American manufacturing.* Georgetown University. https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/Manufacturing_FR.pdf

Casal, B., Storti, C. C., & Morgan, D. (2020). Expenditure on the treatment of drug and alcohol disorders in hospitals: How much and what explains it? *International Journal of Drug Policy*, *79*(5), 102750. https://doi.org/10.1016/j.drugpo.2020.102750

Case, A., & Deaton, A. (2015). Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proceedings of the National Academy of Sciences, 112*(49), 15078–15083. https://doi.org/10.1073/pnas.1518393112

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *Qualitative Report*, *21*(5), 811–831. https://nsuworks.nova.edu/

Castleberry, A. (2014). NVivo 10 [software program]. Version 10. QSR International; 2012. *American Journal of Pharmaceutical Education, 78*(1), 25. https://doi.org/10.5688/ajpe78125

Center on Education and the Workforce. (2019). *The way we were: The changing geography of US manufacturing from 1940 to 2016.* https://repository.library.georgetown.edu/handle/10822/1055270

Chan, N., Walker, C., & Gleaves, A. (2015). An exploration of students' lived experiences of using smartphones in a diverse learning context using a hermeneutic phenomenological approach. *Computers & Education, 82*(3), 96–106. https://doi.org/10.1016/j.compedu.2014.11.001

Charles, K. K., Hurst, E., & Schwartz, M. (2019). The transformation of manufacturing and the decline in US employment. *NBER Macroeconomics Annual, 333*(2018), 07–372. https://doi.org/10.1086/700896

Chesney, E., Goodwin, G. M., & Fazel, S. (2014). Risks of all-cause and suicide mortality in mental disorders: A meta-review. *World Psychiatry, 13*(2), 153–160. https://doi.org/10.1002/wps.20128

Chiang, C. I., & Saw, Y. L. (2018). Do good looks matter when applying for jobs in the hospitality industry? *International Journal of Hospitality Management, 71*(1), 33–40. https://doi.org/10.1016/j.ijhm.2017.12.001

Christ, T. W. (2014). Scientific-based research and randomized controlled trials, the gold standard? Alternative paradigms and mixed methodologies. *Qualitative Inquiry, 20*(1), 72–80. https://doi.org/10.1177/1077800413508523

Cleary, M., Horsfall, J., & Hayter, M. (2014). Data collection and sampling in qualitative research: Does size matter? *Journal of Advanced Nursing, 70*(3), 473–475. https://doi.org/10.1111/jan.12163

Cochran, G., Woo, B., Lo-Ciganic, W. H., Gordon, A. J., Donohue, J. M., & Gellad, W. F. (2015). Defining nonmedical use of prescription opioids within health care claims: A systematic review. *Substance Abuse*, *36*(2), 192–202. https://doi.org/10.1080/08897077.2014.993491

Cole, E. S., DiDomenico, E., Cochran, G., Gordon, A. J., Gellad, W. F., Pringle, J., & Donohue, J. M. (2019). The role of primary care in improving access to medication-assisted treatment for rural Medicaid enrollees with opioid use disorder. *Journal of General Internal Medicine, 34*(6), 936–943. https://doi.org/10.1007/s11606-019-04943-6

Collins, J. (2018). *HR management in the forensic science laboratory: A 21st century approach to effective crime lab leadership*. Academic Press. https://doi.org/10.1016/b978-0-12-801237-6.00012-9

Compton, W. M., Jones, C. M., Baldwin, G. T., Harding, F. M., Blanco, C., & Wargo, E. M. (2019). Targeting youth to prevent later substance use disorder: An underutilized response to the US opioid crisis. *American Journal of Public Health, 109*(S3), S185–S189. https://doi.org/10.2105/ajph.2019.305020

Conklin, T. A. (2013). Work worth doing: A phenomenological study of the experience of discovering and following one's calling. *Journal of Management Inquiry, 21*(3), 298–317. https://doi.org/10.1177/1056492611414426

Cope, D. G. (2014). Methods and meanings: Credibility and trustworthiness of qualitative research. *Oncology Nursing Forum*, *41*(1), 89–91. https://doi.org/10.1188/14.ONF.89-91

Cridland, E. K., Jones, S. C., Caputi, P., & Magee, C. A. (2015). Qualitative research with families living with autism spectrum disorder: Recommendations for conducting semi-structured interviews. *Journal of Intellectual & Developmental Disability*, *40*(1), 78–91. https://doi.org/10.3109/13668250.2014.964191

Cronin, C. (2014). Using case study research as a rigorous form of inquiry. *Nurse Researcher*, *21*(5), 19–27. https://doi.org/10.7748/nr.21.5.19.e1240

Cugini, M. (2015). Successfully navigating the human subject's approval process. *American Dental Hygienists Association*, *89*(1), 54–56. Retrieved from http://jdh.adha.org/content/89/suppl_1/54.full

Cuijpers, P. (2002). Effective ingredients of school-based drug prevention programs. A systematic review. *Addictive Behaviors*, *27*(6), 1009–1023. https://doi.org/10.1016/s0306-4603(02)00295-2

Deshmukh, P. D., Thampi, G. T., & Kalamkar, V. R. (2015). Investigation of quality benefits of ERP implementation in Indian SMEs. *Procedia Computer Science*, *49*(2015), 220–228. https://doi.org/10.1016/j.procs.2015.04.247

Dragisic, T., Dickov, A., Dickov, V., & Mijatovic, V. (2015). Drug addiction as risk for suicide attempts. *Materia Socio Medica*, *27*(3), 188. https://doi.org/10.5455/msm.2015.27.188-191

Elfenbein, D. W., & Sterling, A. D. (2018). When is hiring strategic? Human capital

acquisition in the age of algorithms. *Strategy Science*, *3*(4), 668–682. https://doi.org/10.1287/stsc.2018.0072

Ellis, P. (2015). The language of research (part 6): Research methodologies - ethnography. *Wounds UK*, *11*(3), 102–103. http://www.wounds-uk.com/journal

Els, C., Jackson, T. D., Milen, M. T., Kunyk, D., & Straube, S. (2020). Random drug and alcohol testing for preventing injury in workers. *Cochrane Database of Systematic Reviews 12*(12). https://doi.org/10.1002/14651858.CD012921.pub2

Englander, H., Weimer, M., Solotaroff, R., Nicolaidis, C., Chan, B., Velez, C., & Korthuis, P. T. (2017). Planning and designing the improving addiction care team (impact) for hospitalized adults with substance use disorder. *Journal of Hospital Medicine*, *12*(5), 339–342. https://doi.org/10.12788/jhm.2736

Equal Employment Opportunity Commission. (2020). *Federal Regulatory Guide*. CQ Press. https://doi.org/10.4135/9781544377230.n10

Ettlinger, M., Hensley, J., & Vieira, J. (2019). *Government spending across the world: How the United States compares* (Issue Brief No. 144). University of New Hampshire Libraries. https://doi.org/10.34051/p/2020.367

Farberman, R. (2019). *Pain in the nation: Building a national resilience strategy* [Issue Brief]. Trust for America's Health. https://wellbeingtrust.org/wp-content/uploads/2019/06/TFAH-2019-YoundAdult-Pain-Brief-FnlRv.pdf?utm_source=STAT+Newsletters&utm_campaign=d90ea217be-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-d90ea217be-150444909

Farzam, K., Faizy, R. M., & Saadabadi, A. (2020). *Stimulants*. StatPearls Publishing. https://pubmed.ncbi.nlm.nih.gov/30969718/

Faseleh-Jahromi, M., Moattari, M., & Peyrovi, H. (2014). Iranian nurses' perceptions of social responsibility: A qualitative study. *Nursing Ethics*, *21*(3), 289–298. https://doi.org/10.1177/0969733013495223

Fort, T. C., Pierce, J. R., & Schott, P. K. (2018). New perspectives on the decline of US manufacturing employment. *Journal of Economic Perspectives*, *32*(2), 47–72. https://doi.org/10.1257/jep.32.2.47

Frank, J. W., Ayanian, J. Z., & Linder, J. A. (2012). Management of substance use disorders in ambulatory care in the United States, 2001-2009. *Archives of Internal Medicine*, *172*(22), 1759–1760. https://doi.org/10.1001/archinternmed.2012.4504

Franken, I. H. A. (2003). Drug craving and addiction: integrating psychological and neuropsychopharmacological approaches. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *27*(4), 563–579. https://doi.org/10.1016/s0278-5846(03)00081-2

Frels, R. K., & Onwuegbuzie, A. J. (2013). Administering quantitative instruments with qualitative interviews: A mixed research approach. *Journal of Counseling & Development*, *91*(2), 184-194. https://doi.org/10.1002/j.1556-6676.2013.00085.x

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report*, *20*(9), 1408–1416. https://nsuworks.nova.edu/

Galla, B. M., Shulman, E. P., Plummer, B. D., Gardner, M., Hutt, S. J., Goyer, J. P., & Duckworth, A. L. (2019). Why high school grades are better predictors of on-time

college graduation than are admissions test scores: The roles of self-regulation and cognitive ability. *American Educational Research Journal*, *56*(6), 2077–2115. https://doi.org/10.3102/0002831219843292

Gezikol, B., Erguzel, O. S., & Tunahan, H. (2019). A literature review on the determinants of human development. *SSRN eLibrary*, 1–11. https://doi.org/10.2139/ssrn.3373520

Gfroerer, J. (2018). *War stories from the drug survey: How culture, politics, and statistics shaped the National Survey on Drug Use and Health.* Cambridge University Press. https://doi.org/10.1017/9781316388563

Ghodse, H. (2017). *Addiction at work.* Routledge. https://doi.org/10.4324/9781315263342

Ghosh, A., & Ravichandran, S. (2018). Understanding hospitality employers' perceptions of pre-employment testing in determining successful hires. *International Journal of Hospitality & Tourism Administration*, *10*(1), 1–30. https://doi.org/10.1080/15256480.2018.1547241

Goetzel, R. Z., Long, S. R., Ozminkowski, R. J., Hawkins, K., Wang, S., & Lynch, W. (2004). Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. *Journal of Occupational and Environmental Medicine*, *46*(4), 398–412. https://doi.org/10.1097/01.jom.0000121151.40413.bd

Gonzalez, G., Doss, C., Kaufman, J., & Bozick, R. (2019). *How educators and employers can align efforts to fill middle-skills STEM jobs.* RAND.

https://doi.org/10.7249/rb10053

Goodell, L. S., Stage, V. C., & Cooke, N. K. (2016). Practical qualitative research strategies: Training interviewers and coders. *Journal of Nutrition Education and Behavior*, *48*(8), 578–585. https://doi.org/10.1016/j.jneb.2016.06.001

Goplerud, E., Hodge, S., & Benham, T. (2017). A substance use cost calculator for us employers with an emphasis on prescription pain medication misuse. *Journal of Occupational and Environmental Medicine*, *59*(11), 1063–1071. https://doi.org/10.1097/jom.0000000000001157

Grossoehme, D. H. (2014). Overview of qualitative research. *Journal of Health Care Chaplaincy*, *20*(3), 109–122. https://doi.org/10.1080/08854726.2014.925660

Gryczynski, J., Schwartz, R. P., O'Grady, K. E., Restivo, L., Mitchell, S. G., & Jaffe, J. H. (2016). Understanding patterns of high-cost health care use across different substance user groups. *Health Affairs, 35(*1), 12–19. https://doi.org/10.1377/hlthaff.2015.0618

Guichard, S. (2019). The decline of US labor force participation: Some insights from regional divergence. *OECD economic survey of the United States: Key research findings*. (Advance online publication). https://doi.org/10.1787/2f1ba1aa-en

Gülmez, M., Sağtaş, S., & Kahyaoğlu, D. Y. (2016). The effects of technoparks on absorptive capacity and the role of gatekeepers in this process. *Cag University Journal of Social Sciences*, *13*(2), 92–102. https://www.cag.edu.tr/en/arama

Guterman, S. S., & Alderfer, C. P. (1974). Existence, relatedness, and growth: Human needs in organizational settings. *Contemporary Sociology*, *3*(6), 511.

https://doi.org/10.2307/2063565

Hadland, S. E., & Levy, S. (2016). Objective testing. *Child and Adolescent Psychiatric Clinics of North America, 25*(3), 549–565. https://doi.org/10.1016/j.chc.2016.02.005

Hammarlund, R. A., Crapanzano, K. A., Luce, L., Mulligan, L. A., & Ward, K. M. (2018). Review of the effects of self-stigma and perceived social stigma on the treatment-seeking decisions of individuals with drug- and alcohol-use disorders. *Substance Abuse and Rehabilitation, 9*(1), 115–136. https://doi.org/10.2147/sar.s183256

Hancock, M. E., Amankwaa, L., Revell, M. A., & Mueller, D. (2016). Focus group data saturation: A new approach to data analysis. *Qualitative Report, 21*(11), 2124–2130. https://nsuworks.nova.edu/tqr/

Harvey, L. (2015). Beyond member checking: A dialogic approach to the research interview. *International Journal of Research & Method in Education, 38*(1), 23–38. https://doi.org/10.1080/1743727X.2014.914487

Herbert, I. P., & Rothwell, A. T. (2016). Employability and contingent finance professionals in the knowledge-based economy. *Chinese and American Scholars Association, Singapore*. https://dspace.lboro.ac.uk/2134/24247

Holland, P., & Tham, T. L. (2019). To test or not to test: Drug and genetic testing in the 21st century workplace. In P. Holland (Ed.), *Contemporary HRM Issues in the 21st Century* (pp. 137–147). Emerald Group Publishing. https://doi.org/10.1108/978-1-78973-457-720191017

Hood, J. E., Behrends, C. N., Irwin, A., Schackman, B. R., Chan, D., Hartfield, K., Hess, J., Banta-Green, C., Whiteside, L., Finegood, B., & Duchin, J. (2019). The projected costs and benefits of a supervised injection facility in Seattle, WA, USA. *International Journal of Drug Policy*, *67*(5), 9–18. https://doi.org/10.1016/j.drugpo.2018.12.015

Houseman, S. N. (2018). *Understanding the decline of U.S. manufacturing employment.* (Upjohn Institute Working Paper Series 18–287). Upjohn Institute for Employment Research. https://doi.org/10.17848/wp18-287

Ispa-Landa, S., & Loeffler, C. E. (2016). Indefinite punishment and the criminal record: Stigma reports among expungement-seekers in Illinois. *Criminology*, *54*(3), 387–412. https://doi.org/10.1111/1745-9125.12108

Jonas, J. (2016). Making practical use of Maslow's hierarchy of needs theory to motivate employees: A case of Masvingo Polytechnic. *Journal of Management & Administration*, *2016*(2), 105–117. https://journals.co.za/doi/abs/10.10520/EJC-50954cc8a

Jones, C. M., & McCance-Katz, E. F. (2019). Co-occurring substance use and mental disorders among adults with opioid use disorder. *Drug and Alcohol Dependence*, *197*(1), 78–82. https://doi.org/10.1016/j.drugalcdep.2018.12.030

Jorgensen, M. F., & Brown-Rice, K. (2016). Analyzing CACREP-accredited programs' utilization of criminal background checks. *The Professional Counselor*, *6*(4), 375–386. https://doi.org/10.15241/mfj.6.4.375

Joseph, B., Walker, A., & Fuller-Tyszkiewicz, M. (2017). Evaluating the effectiveness of

employee assistance programmes: A systematic review. *European Journal of Work and Organizational Psychology*, *27*(1), 1–15. https://doi.org/10.1080/1359432x.2017.1374245

Kanfer, R., & Chen, G. (2016). Motivation in organizational behavior: History, advances, and prospects. *Organizational Behavior and Human Decision Processes*, *136*(1), 6–19. https://doi.org/10.1016/j.obhdp.2016.06.002

Kastner, M., Antony, J., Soobiah, C., Straus, S. E., & Tricco, A. C. (2016). Conceptual recommendations for selecting the most appropriate knowledge synthesis method to answer research questions related to complex evidence. *Journal of Clinical Epidemiology*, *73*(5), 43–49. https://doi.org/10.1016/j.jclinepi.2015.11.022

Khankeh, H., Ranjbar, M., Khorasani-Zavareh, D., Zargham-Boroujeni, A., & Johansson, E. (2015). Challenges in conducting qualitative research in health: A conceptual paper. *Iranian Journal of Nursing & Midwifery Research*, *20*(6), 635–-641. https://doi.org/10.4103/1735-9066.170010

Khashaba, E., El-Helaly, M., El-Gilany, A., Motawei, S., & Foda, S. (2017). Risk factors for nonfatal occupational injuries among construction workers: A case-control study. *Toxicology and Industrial Health*, *34*(2), 83–90. https://doi.org/10.1177/0748233717733853

Kirk, M. (2017). *Strategies for health care administration leaders to reduce hospital employee turnover* (Publication No. 10283032). [Doctoral dissertation, Walden University]. ProQuest Dissertations & Theses Global.

Kirkwood, A., & Price, L. (2013). Examining some assumptions and limitations of

research on the effects of emerging technologies for teaching and learning in higher education. *British Journal of Educational Technology*, *44*(4), 534–543. https://doi.org/10.1111/bjet.12049

Kleinman, R. A., & Morris, N. P. (2020). Federal barriers to addressing the opioid epidemic. *Journal of General Internal Medicine*, *35*(4), 1304–1306. https://doi.org/10.1007/s11606-020-05721-5

Knudsen, H. K. (2016). Implementation of smoking cessation treatment in substance use disorder treatment settings: A review. *American Journal of Drug and Alcohol Abuse*, *43*(2), 215–225. https://doi.org/10.1080/00952990.2016.1183019

Koegl, C. J., & Day, D. M. (2019). The monetary costs of crime for a sample of offenders in Ontario. *Canadian Journal of Criminology and Criminal Justice*, *61*(3), 21–44. https://doi.org/10.3138/cjccj.2018-0017

Kornbluh, M. (2015). Combatting challenges to establishing trustworthiness in qualitative research. *Qualitative Research in Psychology*, *12*(4), 397–414. https://doi.org/10.1080/14780887.2015.1021941

Krueger, A. B. (2017). Where have all the workers gone? An inquiry into the decline of the U.S. labor force participation rate. *Brookings Papers on Economic Activity*, *2017*(2), 1–87. https://doi.org/10.1353/eca.2017.0012

Kulig, K. (2017). Interpretation of workplace tests for cannabinoids. *Journal of Medical Toxicology*, *13*(1), 106–110. https://doi.org/10.1007/s13181-016-0587-z

Kuvaas, B., Buch, R., Gagné, M., Dysvik, A., & Forest, J. (2016). Do you get what you pay for? Sales incentives and implications for motivation and changes in turnover

intention and work effort. *Motivation and Emotion*, *40*(5), 667–680. https://doi.org/10.1007/s11031-016-9574-6

Kwapisz, A. (2019). Do government and legal barriers impede entrepreneurship in the US? An exploratory study of perceived vs. actual barriers. *Journal of Business Venturing Insights*, *11*(6), Article 114. https://doi.org/10.1016/j.jbvi.2019.e00114

Lavelle, J. (2019). *Human resource management*. Macmillan Education. https://doi.org/10.1057/978-1-352-00403-8_13

Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, *26*(1), 70–84. https://doi.org/10.1037/a0022711

Li, Y., Uddayasankar, U., He, B., Wang, P., & Qin, L. (2017). Fast, sensitive, and quantitative point-of-care platform for the assessment of drugs of abuse in urine, serum, and whole blood. *Analytical Chemistry*, *89*(16), 8273–8281. https://doi.org/10.1021/acs.analchem.7b01288

Lievens, D., Vander Laenen, F., Verhaeghe, N., Putman, K., Pauwels, L., Hardyns, W., & Annemans, L. (2017). Economic consequences of legal and illegal drugs: The case of social costs in Belgium. *International Journal of Drug Policy*, *44*(6), 50–57. https://doi.org/10.1016/j.drugpo.2017.03.005

Lindsay, S., Cagliostro, E., Leck, J., Shen, W., & Stinson, J. (2019). Employers' perspectives of including young people with disabilities in the workforce, disability disclosure, and providing accommodations. *Journal of Vocational Rehabilitation*, *50*(2), 141–156. https://doi.org/10.3233/jvr-180996

Lipman, A., & Webster, L. (2015). The economic impact of opioid use in the management of chronic nonmalignant pain. *Journal of Managed Care & Specialty Pharmacy*, *21*(10), 891–899. https://doi.org/10.18553/jmcp.2015.21.10.891

Liu, Z., Cai, Z., Li, J., Shi, S., & Fang, Y. (2013). Leadership style and employee turnover intentions: A social identity perspective. *Career Development International*, *18*(3), 305–324. https://doi.org/10.1108/cdi-09-2012-0087

Lozano-Madrid, M., Clark Bryan, D., Granero, R., Sánchez, I., Riesco, N., Mallorquí-Bagué, N., & Fernández-Aranda, F. (2020). Impulsivity, emotional dysregulation, and executive function deficits could be associated with alcohol and drug abuse in eating disorders. *Journal of Clinical Medicine*, *9*(6), 1936. https://doi.org/10.3390/jcm9061936

Ma, J., Bao, Y.-P., Wang, R.-J., Su, M.-F., Liu, M.-X., Li, J.-Q., & Lu, L. (2018). Effects of medication-assisted treatment on mortality among opioids users: A systematic review and meta-analysis. *Molecular Psychiatry*, *24*(12), 1868–1883. https://doi.org/10.1038/s41380-018-0094-5

Marshall, C., & Rossman, G. B. (2016). *Designing qualitative research* (6th ed.). SAGE Publications.

McCabe, S. E., Veliz, P., & Schulenberg, J. E. (2016). Adolescent context of exposure to prescription opioids and substance use disorder symptoms at age 35: A national longitudinal study. *Pain*, *157*(10), 2173–2178. https://doi.org/10.1097/j.pain.0000000000000624

McClimans, L., Pressgrove, G., & Rhea, J. (2016). A qualitative study of US clinical ethics services: Objectives and outcomes. *Narrative Inquiry in Bioethics*, *6*(2), 127–142. https://doi.org/10.1353/nib.2016.0019

McGinty, E. E., Busch, S. H., Stuart, E. A., Huskamp, H. A., Gibson, T. B., Goldman, H. H., & Barry, C. L. (2015). Federal parity law associated with increased probability of using out-of-network substance use disorder treatment services. *Health Affairs*, *34*(8), 1331–1339. https://doi.org/10.1377/hlthaff.2014.1384

McIntosh, M. J., & Morse, J. M. (2015). Situating and constructing diversity in semi-structured interviews. *Global Qualitative Nursing Research*, *2*(1), 1–12. https://doi.org/10.1177/2333393615597674

McIver, D., Lengnick-Hall, M. L., & Lengnick-Hall, C. A. (2018). A strategic approach to workforce analytics: Integrating science and agility. *Business Horizons*, *61*(3), 397–407. https://doi.org/10.1016/j.bushor.2018.01.005

McQuarrie, E. F. (2015). *The market research toolbox: A concise guide for beginners.* SAGE Publications.

Medina, J. (2020). *Symptoms of substance use disorder*. Psych Central. https://psychcentral.com/addictions/substance-use-disorder-symptoms/

Mendola, A., & Gibson, R. (2016). Addiction, 12-step programs, and evidentiary standards for ethically and clinically sound treatment recommendations: What should clinicians do? *AMA Journal of Ethics*, *18*(6), 646–655. https://doi.org/10.1001/journalofethics.2016.18.6.sect1-1606

Merriam, S. (2009). *Qualitative research: A guide to design and implementation* (2nd

ed.). Jossey-Bass.

Meuleman, B., Langer, A., & Blom, A. G. (2017). Can incentive effects in web surveys be generalized to non–western countries? Conditional and unconditional cash incentives in a web survey of Ghanaian university students. *Social Science Computer Review*, *36*(2), 231–250. https://doi.org/10.1177/0894439317699577

Modini, M., Joyce, S., Mykletun, A., Christensen, H., Bryant, R. A., Mitchell, P. B., & Harvey, S. B. (2016). The mental health benefits of employment: Results of a systematic meta-review. *Australasian Psychiatry*, *24*(4), 331–336. https://doi.org/10.1177/1039856215618523

Mohammadi, A., Tavakolan, M., & Khosravi, Y. (2018). Factors influencing safety performance on construction projects: A review. *Safety Science*, *109*(11), 382–397. https://doi.org/10.1016/j.ssci.2018.06.017

Moore, M. S. (2019). Addiction and responsibility. In: L. Alexander & K. Ferzan (Eds.) *The Palgrave handbook of applied ethics and the criminal law*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-22811-8_2

Morse, J. M. (2015). Data were saturated. *Qualitative Health Research*, *25*(5), 587–588. https://doi.org/10.1177/1049732315576699

Morse, W. C., Lowery, D. R., & Steury, T. (2014). Exploring saturation of themes and spatial locations in qualitative public participation geographic information systems research. *Society & Natural Resources*, *27*(5), 557–571. https://doi.org/10.1080/08941920.2014.888791

Murtland, M. (2018). HR in the stoned age: Prescription pills in the workplace. *Strategic*

HR Review, *17*(2), 97–98. https://doi.org/10.1108/shr-01-2018-0005

Nallusamy, S. (2018). Study on lean tools implementation in various Indian small and medium scale manufacturing industries. *International Journal of Mechanical and Production Engineering Research and Development*, *8*(1), 969–976. https://doi.org/10.24247/ijmperdfeb2018117

Nallusamy, S., & Saravanan, V. (2016). Enhancement of overall output in a small-scale industry through VSM, line balancing, and work standardization. *International Journal of Engineering Research in Africa*, *26*(10), 176–183. https://doi.org/10.4028/www.scientific.net/jera.26.176

Nallusamy, S., Sri Lakshmana Kumar, D., Balakannan, K., & Chakraborty, P. S. (2015). MCDM tools application for selection of suppliers in manufacturing industries using AHP, fuzzy logic, and ANN. *International Journal of Engineering Research in Africa*, *19*(1), 130–137. https://doi.org/10.4028/www.scientific.net/jera.19.130

National Council on Alcoholism and Drug Dependence of the East San Gabriel and Pomona Valleys, Inc. (2020). *Symptoms.* https://www.ncaddesgpv.org/services-provided/symptoms

National Institute on Drug Abuse. (2017). *Trends & statistics*. https://www.drugabuse.gov/related-topics/trends-statistics

National Institute on Drug Abuse. (2018). *Understanding drug use and addiction.* https://www.drugabuse.gov/publications/drugfacts/understanding-drug-use-addiction

National Institute on Drug Abuse. (2020). *Hallucinogens drugfacts.* https://www.drugabuse.gov/publications/drugfacts/hallucinogens

Nestadt, P. S., Triplett, P., Fowler, D. R., & Mojtabai, R. (2017). Urban-rural differences in suicide in the state of Maryland: The role of firearms. *American Journal of Public Health*, *107*(10), 1548–1553. https://doi.org/10.2105/ajph.2017.303865

Ng, J., Sutherland, C., & Kolber, M. R. (2017). Does evidence support supervised injection sites? *Canadian Family Physician*, *63*(11), 866. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5685449/

Nieweglowski, K., Dubke, R., Mulfinger, N., Sheehan, L., & Corrigan, P. W. (2018). Understanding the factor structure of the public stigma of substance use disorder. *Addiction Research & Theory*, *27*(2), 156–161. https://doi.org/10.1080/16066359.2018.1474205

Nordeck, C. D., Welsh, C., Schwartz, R. P., Mitchell, S. G., Cohen, A., O'Grady, K. E., & Gryczynski, J. (2018). Rehospitalization and substance use disorder (SUD) treatment entry among patients seen by a hospital SUD consultation-liaison service. *Drug and Alcohol Dependence, 186(1)*, 23–28. https://doi.org/10.1016/j.drugalcdep.2017.12.043

Oexle, N., & Corrigan, P. W. (2018). Understanding mental illness stigma toward persons with multiple stigmatized conditions: Implications of intersectionality theory. *Psychiatric Services*, *69*(5), 587–589. https://doi.org/10.1176/appi.ps.201700312

Office of National Drug Control Policy. (2011). *How illicit drug use affects business and*

the economy. Executive Office of the President. https://obamawhitehouse.archives.gov/sites/default/files/ondcp/Fact_Sheets/effects_of_drugs_on_economy_jw_5-24-11_0.pdf

Office of Personnel Management. (2020). *Employee assistance programs*. https://www.opm.gov/policy-data-oversight/worklife/employee-assistance-programs/

Oketcho, E., Ssempala, F., Ujeyo Suubi, M., & Atibuni, D. (2019). Headteachers' management styles and teachers' role performance in secondary schools in Tororo District, Uganda. *Journal of Education*, *200*(2), 111–119. https://doi.org/10.1177/0022057419877393

O'Neil, M. E., Henley, S. J., Rohan, E. A., Ellington, T. D., & Gallaway, M. S. (2019). Lung cancer incidence in nonmetropolitan and metropolitan counties — United States, 2007–2016. MMWR. *Morbidity and Mortality Weekly Report*, *68*(44), 993–998. https://doi.org/10.15585/mmwr.mm6844a1

Onwuegbuzie, A. J., & Byers, V. T. (2014). An exemplar for combining the collection, analysis, and interpretation of verbal and nonverbal data in qualitative research. *International Journal of Education*, *6*(1), 183–246. https://doi.org/10.5296/ije.v6i1.4399

Osterloh, J. D., & Becker, C. E. (1990). Chemical dependency and drug testing in the workplace. *Journal of Psychoactive Drugs*, *22*(4), 407–417. https://doi.org/10.1080/02791072.1990.10472214

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K.

(2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*(5), 533–544. https://doi.org/10.1007/s10455-013-0528-y

Pasareanu, A. R., Opsal, A., Vederhus, J. K., Kristensen, Ø., & Clausen, T. (2015). Quality of life improved following in-patient substance use disorder treatment. *Health and Quality of Life Outcomes*, *13*(1), 35. https://doi.org/10.1186/s12955-015-0231-7

Pattani, R., Marquez, C., Dinyarian, C., Sharma, M., Bain, J., Moore, J. E., & Straus, S. E. (2018). The perceived organizational impact of the gender gap across a Canadian department of medicine and proposed strategies to combat it: A qualitative study. *BMC Medicine*, *16*(1). https://doi.org/10.1186/s12916-018-1032-8

Phillips, J. M., & Gully, S. M. (2015). Multilevel and strategic recruiting. *Journal of Management*, *41*(5), 1416–1445. https://doi.org/10.1177/0149206315582248

Pickard, H. (2017). Responsibility without blame for addiction. *Neuroethics*, *10*(1), 169–180. https://doi.org/10.1007/s12152-016-9295-2

Pierce, J. R., & Schott, P. K. (2016). The surprisingly swift decline of US manufacturing employment. *American Economic Review*, *106*(7), 1632–1662. https://doi.org/10.1257/aer.20131578

Pierce, M., Hayhurst, K., Bird, S. M., Hickman, M., Seddon, T., Dunn, G., & Millar, T. (2017). Insights into the link between drug use and criminality: Lifetime

offending of criminally-active opiate users. *Drug and Alcohol Dependence*, *179*(10), 309–316. https://doi.org/10.1016/j.drugalcdep.2017.07.024

Pierce, M., McManus, S., Jessop, C., John, A., Hotopf, M., Ford, T., & Abel, K. M. (2020). Says who? The significance of sampling in mental health surveys during COVID-19. *The Lancet Psychiatry*, *7*(7), 567–568. https://doi.org/10.1016/s2215-0366(20)30237-6

Pollanen, R., Abdel–Maksoud, A., Elbanna, S., & Mahama, H. (2016). Relationships between strategic performance measures, strategic decision–making, and organizational performance: Empirical evidence from Canadian public organizations. *Public Management Review*, *19*(5), 725–746. https://doi.org/10.1080/14719037.2016.1203013

Polsky, D., Arsenault, S., & Azocar, F. (2020). Private coverage of methadone in outpatient treatment programs. *Psychiatric Services*, *71*(3), 303–306. https://doi.org/10.1176/appi.ps.201900373

Potapchik, E., & Popovich, L. (2014). Social cost of substance abuse in Russia. *Value in Health Regional Issues*, *4*(9), 1–5. https://doi.org/10.1016/j.vhri.2014.03.004

Powell, K., Wilson, V. J., Redmond, N. M., Gaunt, D. M., & Ridd, M. J. (2016). Exceeding the recruitment target in a primary care pediatric trial: An evaluation of the choice of moisturizer for eczema treatment (COMET) feasibility randomized controlled trial. *Trials*, *17*(1), 1–10. https://doi.org/10.1186/s13063-016-1659-8

Price, J., & Murnan, J. (2004). Research limitations and the necessity of reporting them. *American Journal of Health Education*, *35*(2), 66–67.

https://doi.org/10.1080/19325037.2004.10603611

Priem, R. L., Wenzel, M., & Koch, J. (2018). Demand-side strategy and business models: Putting value creation for consumers center stage. *Long Range Planning*, *51*(1), 22–31. https://doi.org/10.1016/j.lrp.2017.07.007

Quest Diagnostics. (2019, September 11). Workforce drug positivity increases in more than one-third of U.S. industry sectors [Press release]. https://www.questdiagnostics.com/dms/Documents/Employer-Solutions/DTI-2019/quest-drug-testing-index-industry-press-release-9-2019/quest-drug%20testing%20index-industry-press-release-9-2019.pdf

Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies*. University of California Press.

Rakel, R. E., & Rakel, D. P. (2016). *Textbook of family medicine* (9th ed.). Elsevier Saunders.

Ramdhani, A., Ramdhani, M. A., & Amin, A. S. (2014). Writing a literature review research paper: A step-by-step approach. *International Journal of Basic and Applied Sciences*, *1*(3), 47–56. https://www.sciencepubco.com/index.php/ijbas

Rapsey, C. M., Wells, J. E., Bharat, M. C., Glantz, M., Kessler, R. C., & Scott, K. M. (2018). Transitions through stages of alcohol use, use disorder and remission: Findings from Te Rau Hinengaro, the New Zealand mental health survey. *Alcohol and Alcoholism*, *54*(1), 87–96. https://doi.org/10.1093/alcalc/agy069

Ray, J. (2016). *Staff motivation and its impact on performance in a retail environment*. (Publication No. 3088) [Bachelor dissertation, Dublin Business School]. Dublin

Business School eSource. https://esource.dbs.ie/bitstream/handle/10788/3088/ba_ray_j_2016.pdf?sequence

Reddy, A., & de la Cruz, M. (2019). Safe opioid use, storage, and disposal strategies in cancer pain management. *The Oncologist, 24*(11), 1410–1415. https://doi.org/10.1634/theoncologist.2019-0242

Rice, M. J., Grek, S. B., Swift, M. D., Nance, J. J., & Shaw, A. D. (2017). The need for mandatory random drug testing in anesthesia providers. *Anesthesia & Analgesia*, *124*(5), 1712–1716. https://doi.org/10.1213/ANE.0000000000001796

Richmond, M. K., Pampel, F. C., Wood, R. C., & Nunes, A. P. (2016). Impact of employee assistance services on depression, anxiety, and risky alcohol use. *Journal of Occupational and Environmental Medicine*, *58*(7), 641–650. https://doi.org/10.1097/jom.0000000000000744

Riley, P. L., Zuber, A., Vindigni, S. M., Gupta, N., Verani, A. R., Sunderland, N. L., & Campbell, J. (2012). Information systems on human resources for health: A global review. *Human Resources for Health*, *10*(1), 10–12. https://doi.org/10.1186/1478-4491-10-7

Roberts, N. P., Roberts, P. A., Jones, N., & Bisson, J. I. (2015). Psychological interventions for post-traumatic stress disorder and comorbid substance use disorder: A systematic review and meta-analysis. *Clinical Psychology Review*, *38*(1), 25–38. https://doi.org/10.1016/j.cpr.2015.02.007

Robst, J., Rost, K., & Marshall, D. (2013). Do employers know the quality of health care benefits they provide? Use of HEDIS depression scores for health plans.

Psychiatric Services, 64(11), 1134–1139. https://doi.org/10.1176/appi.ps.201200534

Roche, A., Kostadinov, V., Cameron, J., Pidd, K., McEntee, A., & Duraisingam, V. (2018). The development and characteristics of employee assistance programs around the globe. *Journal of Workplace Behavioral Health, 33*(3–4), 168–186. https://doi.org/10.1080/15555240.2018.1539642

Romero Gázquez, J. L., Bueno Delgado, M. V., Ortega Gras, J. J., Garrido Lova, J., Gómez Gómez, M. V., & Zbiec, M. (2020). Lack of skills, knowledge, and competences in higher education about Industry 4.0 in the manufacturing sector. *Revista Iberoamericana de Educación a Distancia, 24*(1), 285. https://doi.org/10.5944/ried.24.1.27548

Roulin, N., Bourdage, J. S., & Wingate, T. G. (2019). Who is conducting "better" employment interviews? Antecedents of structured interview components use. *Personnel Assessment and Decisions, 5*(1), 2. https://doi.org/10.25035/pad.2019.01.002

Roulston, K., & Shelton, S. A. (2015). Reconceptualizing bias in teaching qualitative research methods. *Qualitative Inquiry, 21*(4), 332–342. https://doi.org/10.1177/1077800414563803

Rowlands, T., Waddell, N., & McKenna, B. (2015). Are we there yet? A technique to determine theoretical saturation. *Journal of Computer Information Systems*, *56*(1), 40–47. https://doi.org/10.1080/08874417.2015.11645799

Saini, G. K., & Jawahar, I. M. (2019). The influence of employer rankings, employment

experience, and employee characteristics on employer branding as an employer of choice. *Career Development International*, *24*(7), 636–657. https://doi.org/10.1108/cdi-11-2018-0290

Sanders, B. (2019). The tyranny of inequity: A close look at accommodation via the Americans With Disabilities Act. *SSRN eLibrary*, 1–21. https://doi.org/10.2139/ssrn.3343764

Sarma, S. K. (2015). Qualitative research: Examining the misconceptions. *South Asian Journal of Management*, *22*(3), 176–191. https://www.sajm-amdisa.org/

Satcher, J. (1992). Responding to employer concerns about the ADA and job applicants with disabilities. *Journal of Applied Rehabilitation Counseling*, *23*(3), 37–40. https://doi.org/10.1891/0047-2220.23.3.37

Schaefer, C. P., Tome, M. E., & Davis, T. P. (2017). The opioid epidemic: A central role for the blood-brain barrier in opioid analgesia and abuse. *Fluids and Barriers of the CNS*, *14*(1), 32. https://doi.org/10.1186/s12987-017-0080-3

Schake, S., & Craft, J. (2019). Job applicants as the new customer: Strategies for successful recruiting in Midwest manufacturers. *International Journal of Managerial Studies and Research*, *7*(4), 1–14. https://doi.org/10.20431/2349-0349.0704001

Sevigny, E. L. (2018). The effects of medical marijuana laws on cannabis-involved driving. *Accident Analysis & Prevention*, *118*(6), 57–65. https://doi.org/10.1016/j.aap.2018.05.023

Sherba, R. T., Coxe, K. A., Gersper, B. E., & Linley, J. V. (2018). Employment services

and substance abuse treatment. *Journal of Substance Abuse Treatment*, *87*(1), 70–78. https://doi.org/10.1016/j.jsat.2018.01.015

Sinakhone, J. K., Hunter, B. A., & Jason, L. A. (2017). Good job, bad job: The employment experiences of women in recovery from substance abuse. *Work*, *57*(2), 289–295. https://doi.org/10.3233/wor-172552

Singh, L. P., & Singh, S. (2019). Strategic enhancement of workplace safety in small scale manufacturing industries using AHP approach. *International Journal of the Analytic Hierarchy Process*, *11*(2), 269–282. https://doi.org/10.13033/ijahp.v11i2.621

Sinha, R. (2008). Chronic stress, drug use, and vulnerability to addiction. *Annals of the New York Academy of Sciences*, *1141*(1), 105–130. https://doi.org/10.1196/annals.1441.030

Smith, D. E., & Leigh, D. D. (2014). Strategies of drug prevention in the workplace: An international perspective of drug testing and employee assistance programs (EAPs). In: N. el-Guebaly, G. Carrà, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspectives* (1st ed., pp. 1111–1127). Springer-Verlag Italia. https://doi.org/10.1007/978-88-470-5322-9_1

Somers, M. J. (2018). Strategies for improving measurement models for secondary data in public administration research: Illustrations from the federal employee viewpoint survey. *Public Administration Review*, *78*(2), 228–239. https://doi.org/10.1111/puar.12805

Sonnenstuhl, W. J., & Trice, H. M. (2019). *Strategies for employee assistance programs*.

Cornell University Press. https://doi.org/10.7591/9781501717895

Stanford Children's Health. (2020, November). *Stages of substance abuse.* https://www.stanfordchildrens.org/en/topic/default?id=stages-of-substance-abuse-1-3060

Stang, J. (2015). Ethics in action: Conducting ethical research involving human subjects: A primer. *Journal of the Academy of Nutrition and Dietetics*, *115*(12), 2019–2022. https://doi.org/10.1016/j.jand.2015.10.006

Stein, E. M., Gennuso, K. P., Ugboaja, D. C., & Remington, P. L. (2017). The epidemic of despair among white Americans: Trends in the leading causes of premature death, 1999–2015. *American Journal of Public Health*, *107*(10), 1541–1547. https://doi.org/10.2105/ajph.2017.303941

Steingold, F. S. (2017). *The employer's legal handbook: How to manage your employees & workplace*. Nolo.

Substance Abuse and Mental Health Services Administration. (2015). *The CBHSQ report*. U.S. Department of Health and Human Services. https://www.samhsa.gov/data/sites/default/files/report_1959/ShortReport-1959.html

Substance Abuse and Mental Health Services Administration. (2018). *Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* U.S. Department of Health and Human Services. https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport20

18.pdf

Substance Abuse and Mental Health Services Administration. (2020). *Employment*. U.S. Department of Health and Human Services. https://www.samhsa.gov/homelessness-programs-resources/hpr-resources/employment

Sullivan, M. C., Strainge, L., Blackmon, J. E., Cruess, S. E., Wheeler, D., & Cruess, D. G. (2020). Assessing an epidemic. *Journal of Addictions Nursing, 31*(1), 9–16. https://doi.org/10.1097/jan.0000000000000318

Sveinsdottir, V., & Bond, G. R. (2017). Barriers to employment for people with severe mental illness and criminal justice involvement. *Journal of Mental Health*, *1*(3), 1–9. https://doi.org/10.1080/09638237.2017.1417556

Taskinen, S., Beck, O., Bosch, T., Brcak, M., Carmichael, D., Fucci, N., & Weinmann, W. (2017). European guidelines for workplace drug testing in urine. *Drug Testing and Analysis*, *9*(6), 853–865. https://doi.org/10.1002/dta.2178

Taylor, R., & Thomas-Gregory, A. (2015). Case study research. *Nursing Standard*, *29*(41), 36–40. https://doi.org/10.7748/ns.29.41.36.e8856

Thomas, S. J. (2015). *Exploring strategies for retaining information technology professionals: A case study* (Publication No. 1656168274) [Doctoral dissertation, Walden University]. ProQuest Dissertations & Theses Global.

Tufford, L., & Newman, P. (2010). Bracketing in qualitative research. *Qualitative Social Work: Research and Practice*, *11*(1), 80–96. https://doi.org/10.1177/1473325010368316

Tursunbayeva, A., Bunduchi, R., Franco, M., & Pagliari, C. (2016). Human resource information systems in health care: A systematic evidence review. *Journal of the American Medical Informatics Association*, *141*(1), 633–654. https://doi.org/10.1093/jamia/ocw141

U.S. Bureau of Labor Statistics. (2018). *Labor force statistics from the current population survey.* https://data.bls.gov/timeseries/LNS11300000

U.S. Bureau of Labor Statistics. (2019). *Survey of occupational injuries and illnesses*. https://www.bls.gov/news.release/archives/osh_11072019.pdf

U.S. Bureau of Labor Statistics. (2020). *Industries at a glance*. https://www.bls.gov/iag/tgs/iag31-33.htm

U.S. Centers for Medicare and Medicaid Services. (n.d.). *Mental Health Parity and Addiction Equity Act (MHPAEA).* The Center for Consumer Information and Insurance Oversight. Retrieved August 17, 2020, from https://www.cms.gov/CCIIO/Programs-and-Initiatives/Other-Insurance-Protections/MHPAEA

U.S. Department of Health and Human Services. (2020a). *Medication-assisted treatment*. Retrieved August 13, 2020, from https://www.samhsa.gov/medication-assisted-treatment/treatment#medications-used-in-mat

U.S. Department of Health and Human Services. (2020b). *The Belmont Report.* Retrieved August 21, 2020, from https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html

U.S. Drug Enforcement Administration. (2020a). *Depressants.* Retrieved October 21,

2020, from https://www.dea.gov/taxonomy/term/316

U.S. Drug Enforcement Administration. (2020b). *Drug Scheduling.* Retrieved October 19, 2020, from https://www.dea.gov/drug-scheduling

U.S. House of Representatives. (2020). *United States Code.* Retrieved August 25, 2020, from https://uscode.house.gov/view.xhtml?req=(title:41%20chapter:81%20edition:prelim)%20

Vagi, R., Pivovarova, M., & Miedel Barnard, W. (2019). Keeping our best? A survival analysis examining a measure of preservice teacher quality and teacher attrition. *Journal of Teacher Education*, *70*(2), 115–127. https://doi.org/10.1177/0022487117725025

Van Hasselt, M., Keyes, V., Bray, J., & Miller, T. (2015). Prescription drug abuse and workplace absenteeism: Evidence from the 2008–2012 National Survey on Drug Use and Health. *Journal of Workplace Behavioral Health 30*(4), 379–392. https://doi.org/10.1080/15555240.2015.1047499

Ventura, A. S., & Bagley, S. M. (2017). To improve substance use disorder prevention, treatment, and recovery. *Journal of Addiction Medicine, 11*(5), 339–341. https://doi.org/10.1097/adm.0000000000000331

Viet-Thi, T., Raphael, P., Bruno, F., & Philippe, R. (2016). Point of data saturation was assessed using resampling methods in a survey with open-ended questions. *Journal of Clinical Epidemiology*, *80*(12), 88–96. https://doi.org/10.1016/j.jclinepi.2016.07.014

Volkow, N. D., Jones, E. B., Einstein, E. B., & Wargo, E. M. (2019). Prevention and treatment of opioid misuse and addiction. *JAMA Psychiatry*, *76*(2), 208. https://doi.org/10.1001/jamapsychiatry.2018.3126

Vroom, V. H. (1964). *Work and motivation*. Wiley.

Waehrer, G. M., Miller, T. R., Hendrie, D., & Galvin, D. M. (2016). Employee assistance programs, drug testing, and workplace injury. *Journal of Safety Research*, *57*(1), 53–60. https://doi.org/10.1016/j.jsr.2016.03.009

Walton, M. T., & Hall, M. T. (2016). The effects of employment interventions on addiction treatment outcomes: A review of the literature. *Journal of Social Work Practice in the Addictions*, *16*(4), 358–384. https://doi.org/10.1080/1533256x.2016.1235429

Watts, L. L., Todd, E. M., Mulhearn, T. J., Medeiros, K. E., Mumford, M. D., & Connely, S. (2016). Qualitative evaluation methods in ethics education: A systematic review and analysis of best practices. *Accountability in Research*, *24*(4), 225–242. https://doi.org/10.1080/08989621.2016.1274975

Weis, D. (2018). Employee assistance programs and behavioral health disability. In P. Warren (Ed.), *Handbook of behavioral health disability management* (pp. 289–318). Springer. https://doi.org/10.1007/978-3-319-89860-5_12

Weiss, R. D. (2020). Drugs of abuse. In L. Goldman, & A. I. Schafer (Eds.), *Goldman-Cecil Medicine* (26th ed., pp. 152–156). Elsevier.

Wells, K., Gordon, J., Su, H., Plosker, S., & Quinn, G. (2015). Ethical considerations for informed consent in infertility research: The use of electronic health records.

Advances in Medical Ethics, *2*(1), 1–7. https://doi.org/10.35248/2385-5495.2015.2.7

Welsh, J. W., Shentu, Y., & Boyd, J. W. (2019). Substance use disorders. In M. Riba, S. Parikh, & J. Greden (Eds.), *Integrating psychiatry and primary care* (pp. 131–144). Springer, Cham. https://doi.org/10.1007/978-3-030-04266-0_9

Westman, J., Wahlbeck, K., Laursen, T. M., Gissler, M., Nordentoft, M., Hällgren, J., Arffman, M., & Ösby, U. (2015). Mortality and life expectancy of people with alcohol use disorder in Denmark, Finland, and Sweden. *Acta Psychiatrica Scandinavica*, *131*(4), 297–306. https://doi.org/10.1111/acps.12330

Whicher, D. M., Miller, J. E., Dunham, K. M., & Joffe, S. (2015). Gatekeepers for pragmatic clinical trials. *Clinical Trials*, *12*(5), 442–448. https://doi.org/10.1177/1740774515597699

Wickizer, T. M., Kopjar, B., Franklin, G., & Joesch, J. (2004). Do drug-free workplace programs prevent occupational injuries? Evidence from Washington State. *Health Services Research*, *39*(1), 91–110. https://doi.org/10.1111/j.1475-6773.2004.00217.x

Xu, B., & LaBar, K. S. (2019). Advances in understanding addiction treatment and recovery. *Science Advances*, *5*(10), 1–3. https://doi.org/10.1126/sciadv.aaz6596

Yen, C. L. (2017). The tradeoff between fit perceptions across recruitment stages by new job seekers. *International Journal of Contemporary Hospitality Management*, *29*(10), 2610–2628. https://doi.org/10.1108/ijchm-05-2016-0295

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions:

Epistemological, theoretical, and methodological differences. *European Journal of Education*, *48*(2), 311–325. https://doi.org/10.1111/ejed.12014

Yin, R. K. (2018). *Case study research: Design and methods.* (6th ed.). SAGE Publications.

Young, A., & MacPhail, A. (2015). 'Standing on the periphery': Cooperating teachers' perceptions and responses to the role of supervision. *European Physical Education Review*, *21*(2), 222–237. https://doi.org/10.1177/1356336X14557582

Zaheera, K. M. (2018). Execution of selection process in regular area of industrial application with its current features for manufacturing enhancement in SMEs. *International Journal of Mechanical and Production Engineering Research and Development*, *8*(1), 1191–1198. https://doi.org/10.24247/ijmperdfeb2018140

Zarkin, G. A., Dunlap, L. J., Hicks, K. A., & Mamo, D. (2005). Benefits and costs of methadone treatment: Results from a lifetime simulation model. *Health Economics*, *14*(11), 1133–1150. https://doi.org/10.1002/hec.999

Zou, P. X. W., Sunindijo, R. Y., & Dainty, A. R. J. (2014). A mixed methods research design for bridging the gap between research and practice in construction safety. *Safety Science*, *70*(12), 316–326. https://doi.org/10.1016/j.ssci.2014.07.005

Appendix: Interview Protocol

Topic: Strategies for Hiring Candidates Who Can Pass a Drug Test

Step 1: Provide an Introduction.

Introduce yourself and be sure to thank the interviewee for their participation.

Step 2: State Purpose of the Study.

Introduce that the purpose of this study is to research the strategies business leaders used to hire candidates who could pass a drug test.

Step 3: Describe to the Participants Why They Are Taking Part.

Mention that the participant's information will be of value in supporting the interviewer's partial fulfillment for the award of the degree of Doctor of Business Administration at Walden University.

Step 4: Describe the Benefits of Participating.

Explain that business leaders might use the study results to better understand hiring strategies to fill vacancies with candidates who can pass a drug test.

Step 5: Discuss Ethics.

Request permission from the interviewee to take notes during the session. The notes should include all discussions and adhere to ethical standards and protection of the individual's privacy.

Step 6: Discuss Confidentiality.

Talk about how you will protect the research's confidentiality by keeping it in a database protected with a password. Access to the records will be restricted to me. I will destroy the data and files within 5 years after graduation. I will only use the interviewee's

responses for research purposes, keep them confidential, and only the coded entries will appear in the doctoral study. Once I have transcribed the notes, I will keep all data for 5 years and then destroy the recordings after 5 years.

Step 7: Ask if the Participant Has Any Questions.

Step 8: Transition to the Interview Questions.

Interview by asking semistructured questions. Ask probing questions, see the participant's body language and other verbal cues for subliminal messages, and opportunities for further questions.

Step 9: Wrap Up the Interview.

Thank the person for their time and ask if I may follow up with them if I need any clarifications or confirmation of their responses. Let the person know that I will be conducting member checking. Also, decide which communication method they prefer.