Understanding the alternative work arrangement

by

Frank Giordano

M.S., Kansas State University, 2019

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Psychological Sciences
College of Arts and Sciences

KANSAS STATE UNIVERSITY
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Abstract

The alternative work arrangement, or work that deviates from employment under a single employer with consistent hours and location, has become a common form of employment due to its flexibility in hiring (Landsbergis et al., 2014; Kuhn, 2016), and has been rapidly growing (BLS, 2018; Statista, 2021). Prior research shows that there are reduced financial (Gash, 2008; Reichenberg & Berglund, 2019), health (Rousseau & Libuser, 1999), and well-being outcomes (Åkerblad, 2017) for those that predominantly engage in this type of work, with a potential for positive outcomes like freedom and flexibility (Friedman, 2014; Kuhn, 2016). The current research explores the utility of using proposed work features, Job Characteristics Theory, and Self-Determination Theory as a combined framework to meaningfully compare the alternative work arrangement to their traditional counterparts and other alternative work. Results replicate prominent differences across arrangements, such as alternative workers experiencing lower job security but higher autonomy than traditional workers. Alternative workers were also able to be parsed into four unique profiles based on the features within the combined framework. These results show that while there are broader differences between the alternative and traditional work arrangements, it is necessary to acknowledge their uniqueness. Specifically, certain work features such as flexibility, characteristics of the job, and motivational factors can contribute to understanding this uniqueness within the alternative work arrangement.

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The alternative work arrangement, or work that deviates from employment under a single employer with consistent hours and location, has become a common form of employment due to its flexibility in hiring (Landsbergis et al., 2014; Kuhn, 2016), and has been rapidly growing (BLS, 2018; Statista, 2021). Prior research shows that there are reduced financial (Gash, 2008; Reichenberg & Berglund, 2019), health (Rousseau & Libuser, 1999), and well-being outcomes (Åkerblad, 2017) for those that predominantly engage in this type of work, with a potential for positive outcomes like freedom and flexibility (Friedman, 2014; Kuhn, 2016). The current research explores the utility of using proposed work features, Job Characteristics Theory, and Self-Determination Theory as a combined framework to meaningfully compare the alternative work arrangement to their traditional counterparts and other alternative work. Results replicate prominent differences across arrangements, such as alternative workers experiencing lower job security but higher autonomy than traditional workers. Alternative workers were also able to be parsed into four unique profiles based on the features within the combined framework. These results show that while there are broader differences between the alternative and traditional work arrangements, it is necessary to acknowledge their uniqueness. Specifically, certain work features such as flexibility, characteristics of the job, and motivational factors can contribute to understanding this uniqueness within the alternative work arrangement.

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Chapter 1 – Introduction

Alternative employment has become a common form of staffing in response to the increased demand for flexible human resource management in organizations (Landsbergis et al., 2014; Kuhn, 2016). Similar to the colloquialism of an "alternative lifestyle", the alternative work arrangement comprises work that substantially and consistently deviates from the norm: a traditional 9 AM to 5 PM, Monday through Friday, under a single employer work scheme. This includes work with flexible/unsteady working hours, telecommuting/unstandardized working environments, job-sharing/varied coworker interaction, multiple-job holding, and short- and long-term temporary contracts. This creates organizations that lack commonly established roles regarding organizational functioning and have more permeable boundaries that permit variance in who does the work and where, when, and how they conduct it (Boudreau et al., 2015).

According to a 2018 poll (Gallup, 2018) 36% of workers engage in the gig economy (such as ride-share applications) in some way, which is a common form of alternative work. In the same year, the Bureau of Labor Statistics released that over 55 million people (34%) are considered "gig workers" in the United States, corroborating the previous poll (BLS, 2018). As of 2021, nearly 68 million workers in the United States engaged in some form of alternative work with this number expected to grow to over 90 million by 2028 (Statista, 2021). This number was expected to reach beyond 43% in 2020; however, these projections were before the COVID-19 pandemic, which saw a surge of workers entering alternative work arrangements. Broadly speaking, the percentages in the US are historically lower than those found in Canada, most European countries, and Japan (Cappelli & Keller, 2013). Paradoxically, this surge of workers entering alternative work arrangements creates a dearth of industrial-organizational psychology research simply by deviating from the common conception of what an

"organization" is, and who its members are. True scholarly attention given to the gig economy has only recently begun (Spreitzer et al., 2017), as it is nearly its own realm of "nonorganizational work psychology" (Ashforth et al., 2007).

While often viewed through the same lens, not all work under this umbrella term is commensurate. Temporary, contingent, and precarious employment are all terms used synonymously; however, these frequently refer to similar classes of employment that are nontraditional but vary greatly in certain key aspects. For example, the term "gig economy" may be more frequently used to describe a driver for a ride-share/delivery application such as Uber or Lyft, but a temporary ("temp") driver engaging in short-distance delivery employed by an external agency would be more likely be considered a contingent worker. While the job tasks might seem similar, perceptions may vary greatly due to the differences in their job employment. A ride-share application (e.g., Uber and Lyft) driver takes multiple small contracts a day, may have a distal form of organizational contact due to being employed electronically through an app, and can decide when and where they can offer their services. A temp driver employed through an agency can be employed on one longer contract spanning weeks, may be able to report to their agency or employer directly, and works "traditional" working hours. These seemingly minor components may alter how employees perceive their work assignment, employer, and salary, and affect their overall well-being. Scholars also posit that certain individuals would find alternative arrangements more attractive based on their financial situation (Gash, 2008), perception of freedom and flexibility (Friedman, 2014; Kuhn, 2016), and internal motivation (Spreitzer et al., 2017). By considering features of work, perceptions of the worker, and motivational components of individuals, a more holistic understanding of alternative work and those that engage with it can be achieved.

A greater understanding of alternative work can aid in guiding future research on flexible workforces, as well as guide organizations on how to best design and employ alternative work. Psychological research tends to understand the negative outcomes of types of temporary employment (Åkerblad, 2017; Giordano et al., 2021; Reichenberg & Berglund, 2019), but a comparatively weaker grasp on the potential benefits, best uses, and best practices to properly accommodate alternative work arrangements. A greater understanding in this area can allow for better decision-making regarding various forms of alternative work that can benefit organizations that want to embrace this employment strategy as well as workers looking to gain the perceived benefits of alternative work.

1.1 History of Alternative Work

Although there are substantial industrial demands to shift towards a more "alternative" workforce for its flexibility and affordability for organizations, psychological research has a long history of highlighting the negative outcomes of not being traditionally employed, i.e., being an "alternative" worker (e.g., Benach & Muntaner, 2007; Kivimäki et al., 2003; Wagenaar et al., 2012). In terms of physical well-being, alternative workers' health outcomes are historically worse than traditional workers' (Letournex, 1986; Virtanen et al., 2002). They disproportionately experience financial struggles in junction with notably lower remuneration (Aronsson et al., 2005). Psychologically, they tend to be more vulnerable, belonging to already disadvantaged populations while not benefitting from the same positive psychological outcomes as their traditional counterparts (Benach & Muntaner, 2007; Lewchuk et al., 2003; Rousseau & Libuser, 1997). They also experience work stressors unique to their alternative arrangement, especially regarding contract preference and renewal (Åkerblad, 2017; Bernhard-Oettel et al., 2013; Tran & Sokas, 2017). These disadvantages have often been established with traditional work as a point

of comparison; however, comparisons within alternative arrangements have been given significantly less attention.

Despite this, alternative work is still deliberately sought out for some of its potential benefits. Alternative work arrangements can be frequently preferred and pursued for varying reasons (e.g., sporadic work availability due to other commitments). Some notable desired features are the freedom and flexibility for workers from looser organizational boundaries compared to a traditional work arrangement (Friedman, 2014; Kuhn, 2016). Not all arrangements under this umbrella suffer from all the aforementioned disadvantages at the same time, and resilience to some of these factors is often not considered. When designed for a suitable position, alternative work may be more viable for particular populations than prior research would estimate.

Research has displayed systematic differences across the traditional (being a direct employee of an organization following a regular work schedule) and alternative work arrangements (jobs that do not follow the traditional employer-employee relationship) in terms of psychological resources such as job security and well-being, as well as tangible resources such as payment, insurance, and legal recourse (Hijzen et al., 2017). As alternative work arrangements grow and change, these differences need to be re-examined. The goal of this line of research is to reevaluate these differences across work arrangements and within the alternative work arrangement, as these differences often do not get adequate scholarly attention. Specifically, this aims to reintroduce variables that assess the characteristics of the work itself, perceptions of that work, and individual worker motivational factors that may systematically differ across and within arrangements meaningfully.

1.1.1 The Legal and Economic Underpinnings and Worker Classification

Alternative work is often conflated with precarious jobs that include manual labor like construction, not only for their frequent overlap, but also due to historical factors and legal classifications. The legal misclassification of independent contractors / alternative workers has a rich history hallmarked by the federal dismantling of labor unions in the 1960s (Erlich, 2020). Erlich highlights major turning points in the deliberate misclassification of construction workers spanning nearly 100 years, and how these patterns mirror the modern abuse of alternative or "gig" work in industries including passenger driving, trucking, landscaping, retail, technology, and hospitality work. This systematic misclassification to qualify as many workers as "independent contractors" as possible is often coupled with the deliberate design of business models to include as many independent contractors as possible. Erlich posits that this is a driving factor behind the decline of federal, state, and union protections as well as decreased industry standards for health and safety.

The comparison between the construction industry and the alternative work arrangement does not end with misclassification. Many similar work settings and environmental factors are mirrored, as similar struggles are experienced by both populations. Erlich (2020) makes it a point to draw this comparison by stating that construction as an emerging industry in the 1920s was "gig" long before the term was used to describe the alternative work arrangement. The aspects that made it "gig" include job insecurity and contract variability which were not common for other industries at the time. Specifically, issues such as volatile scheduling, various employer and location changes, frequent temporary layoffs/disruptions in pay, and dangerous conditions were hallmarks of construction work as they are of alternative work today. Employment as a laborer also shares a target demographic, individuals of lower socioeconomic status without a college

education, while also lacking a path for advancement for workers. In terms of construction, the lack of union density is an obstacle for skilled trade workers to advance their craft and make sustainable wages. Many temporary or alternative positions, by the design of their contracts, offer enough resources to vulnerable populations to make the jobs attractive, but not enough to provide gainful and satisfying employment through livable wages and career advancement (Gash, 2008; Reichenberg & Berglund, 2019). Many of these positions require skilled work; however, there are limited training opportunities for these workers, leaving them to their own devices in terms of skill attainment and safety (Hijzen et al., 2017). These similarities in junction with similar misclassification legislation make for an insightful point of comparison, as history might not directly repeat itself, but it may rhyme in this instance.

Due to burgeoning industrial growth, unions were designed to facilitate communication between multiple different industries as a rudimentary form of human resources that provided estimates of time and labor costs, project management, and safety protocols for various physical work (Erlich, 2020). Despite this, multiple large construction companies joined to lobby against labor unions, taking action as the Construction Users Anti-Inflation Roundtable in the early 1960s and later renamed the Business Roundtable in 1972. This organization argued that unions promoted a stranglehold in the construction industry that drove higher wages while creating a passive stance toward management (O'Hanlon, 1968). This sentiment continued, as complaints of fragmentation of the industry were providing less construction for the same amount of money (Business Roundtable, 1983). The goal was to eliminate unions and provide all management and supervision through organizations, rationalizing conventional large-scale corporate functioning. This group attempted to repeal laws that mandated hourly wage rates on federally financed

construction projects (Davis-Bacon Act, 1931); however, they were successful in repealing smaller state-level wage laws.

This sparked a trend leading into the 1980s of organizations reducing the fixed labor costs of traditional employees by employing temporary workers, subcontractors, and part-time workers. Non-union contractors were lured by the demand for new work for sub-contractors in new highly competitive fields, and thus ignored the potential ramifications of worker misclassification and a lack of attention toward employee protections. This was further exacerbated by employing undocumented immigrants entering through the Mexican border during the mid-1980s (Erlich, 2020). Nearly one-third of commercial construction jobs in the Houston area were filled by undocumented workers from south of the United States border (Marshal, 1984) as a means of avoiding tax and adequate wages. Legal consequences were mostly avoided by claiming ignorance of the worker's illegal status and cash payments. This pattern of exploitation, especially directed at immigrants, continued in the construction industry to the present day. There are an estimated 1.7 million undocumented immigrants working in Texas alone as recently as 2014 (Warren, 2016), many of whom suffer from nonpayment, overwork, and volatile employment. This trend of misclassification and lack of protections may have carried into the modern-day, albeit with a different approach to match employment trends.

1.1.2 A Similar Trend: The Present Disadvantages of Alternative Work

The restructuring of the construction industry to accommodate larger institutions at the cost of individual workers mirrors other emerging industries, especially those that frequently offer alternative employment. Organizations have opted to shed legal, financial, and safety obligations to their workers while planning on the long-term and consistent employment of independent contractors, multi-tier supply chains, and subcontractors (Weil, 2014).

The legal definition of a traditional worker is vague and varies at the state level. An example of a clear definition being proposed was in California's Assembly Bill 5 (AB 5) presented in September 2019. It has a clear definition that presumes all workers are considered employees unless they are free from direction and control from another organization, provide services that are outside the realm of the employer's usual business, and typically engage in that trade under other circumstances. The legislature aimed to strictly define traditional employees from independent contractors has been vehemently opposed by businesses that often utilize alternative work to allow for continued ambiguity. The signing of Assembly Bill 5 (AB 5) in September 2019 in California was met with staunch opposition from companies including Uber, Lyft, and DoorDash, claiming it was a direct threat to their established business model, which requires all drivers to be designated as independent contractors. These are similar legal misclassifications that occurred during the boom of construction, or the first "gig" economy.

The effects of misclassification are broad and affect both individual workers as well as the economy in general. Intuitively, independent contractors bear the most cost from the adoption of alternative work without appropriate protections. These include diminished tangible resources such as reduced pay, volatile work hours, a lack of health insurance, and a lack of retirement security benefits. There is a dearth of legal protections as well, including minimum wage, anti-discrimination protections, overtime payment, workers' compensation, unemployment benefits, and unionization rights. Compounded with the lack of intangible/psychological resources, those primarily in the alternative work arrangement by nature are a highly vulnerable population.

During times of economic strain, alternative workers are more often utilized as they require fewer protections legally than their traditional counterparts (Gun, 1993). During the

aftermath of Hurricane Katrina in August of 2005, there was a dearth of labor and a demand for immediate reconstruction. Lower-skilled temporary workers, in which many were illegal immigrants, were hired en masse to compensate for costs, and faced threats of mistreatment or deportation when attempting to gain protections such as insurance coverage (Steffy & Marek, 2020). More recently, tech companies have shifted a sizeable portion of their workforce to legally ambiguous alternative contracts, especially overseas (Praminik & Chandrashekar, 2020). As delivery options grow due to the success of applications that employ gig workers, traditional companies have begun offering internal gig work for these services. This allows them to hire more, pay less, and supply less in terms of benefits, as these workers are not equally protected under state or federal law, specifically Proposition 22 (Ballotpedia, 2020). These alternative work contractors are not legally protected by minimum-wage requirements, overtime rules, and workers' compensation (Rosenberg, 2021).

This is particularly problematic when considering the disparities in compensation. Many delivery-focused applications, such as DoorDash, do not consider the time spent between deliveries as billable hours (the time between finishing a drop-off and a new pick-up), making the calculations of actual work time and wage comparisons difficult. Health insurance also has to be sought through government programs, such as the Affordable Care Act, when they work 15 hours or more a week, making their protections tenuous during times of political change. Lyft introduced a "priority mode", which provides that driver with more clients/rides; however, it comes with a 10% tax to lift for those rides. This was in response to fewer rides due to stay-at-home orders mandated throughout the pandemic since 2019. Beyond questions of ethics of garnering workers' pay to access work, this can contribute to feelings of job insecurity and job theft (Tran & Sokas, 2017). This can be exploited as well, making the standard mode

purposefully barren of clients in order to force priority mode, effectively reducing pay to all Lyft drivers by 10% (Kerr, 2021). The distribution of tips is often predatory for gig workers, as they often do not receive the full "tip" contribution placed on the order.

These legal disadvantages can occur regardless of the features of alternative work. Long-term contract workers and remote workers may also suffer from a lack of protection in the modern world of work. Various social media platforms like Facebook/Meta, YouTube, and Twitter employ alternative workers as content moderators, individuals that scour these platforms in search of content that is either illegal or breaks the terms of service. This is necessary to protect the integrity of the site and shield its users from explicit content/dangerous misinformation. In the wake of the pandemic, most internal moderation offices were closed, leaving the option of automated work and alternative workers (Newton, 2020; Vincent, 2020). As this was commonly the case for this job role, even more work was shifted to alternative workers. These types of positions can easily be done remotely, require little supervision, and are more successful than automated moderation from artificial intelligence. The major issues of workload, exposure to undesirable material (e.g., extreme violence, gore, nudity, extremist ideologies), and lack of timely and tangible support are likely to be exacerbated (Newton, 2020). Symptoms of working in the "violent extremism" queue include loss of hair, weight gain, shortened temper, chest palpitations, depression, anxiety, disturbed sleep, and PTSD. This resulted in a 52-million-dollar settlement from Facebook/Meta to one of the firms supplying the moderators (Vincent, 2020).

Alternative workers also do not benefit from certain established features of work that their traditional counterparts enjoy. King (2021) classifies networking types based on their variety of members and the depth of those relationships. Productivity can stem from networks

that are formed by employees from different parts of the company, and diversity of thought can lead to greater productivity and creativity. When operating alone, these benefits might not be received by alternative workers. Her research also found that communication between colleagues in different departments was linked to salary growth and improved employee satisfaction. In this case, quality communication with consistent coworkers is more important than the raw quantity of interactions; therefore, meaningful relationships and communications occurring more often increase this effect. Without building rapport with consistent coworkers, these conversations may never occur. She also identified three types of networkers: expansionists that have a variety of contacts but with a shallow connection; conveners with a smaller number of relationships but with greater connection; and brokers that help connect people from different networks. This is another support system, means of comparing worker treatment, and a source of collaboration/satisfaction that many alternative workers are not afforded, and are often actively denied.

1.2 Overview of Psychological Research on Work Arrangements

While there has been a long history of worker classification, a respectable body of research assessing specific forms of alternative employment (e.g., temps, short-term contractors, freelancers, etc.), and documentation of their unique disadvantages, little has been done addressing the differences within alternative work. There has been no organizational psychology research that focuses on the distinctions between on-call works, seasonal, or gig workers as of 2017 (Spreitzer et al., 2017). Despite this, speculation, calls to research, and recommendations for this exact line of research exist as far back as 2006 (Feldman, 2006).

While what was commonly referred to as temporary or contingent work was growing in popularity, it was also growing in terms of variety and application. Jobs were specifically

tailored for temporary worker arrangements, and entire industries were built upon interchangeable labor. To better research this emerging and diverse work arrangement, Feldman (2006) released a call to research a better system for assessing contingent work. He claims that a new taxonomy for all nontraditional workers is necessary, as new temporary and part-time positions were becoming available. Along with a list of hypotheses and propositions, he proposes three specific dimensions that should be considered when quantifying temporary work: time, space, and employer type. Time accounts for those that may have multiple part-time work arrangements, as well as the seasonality of their employment. Feldman proposes a few subdimensions such as continuity (how infrequent the stretches of work are), synchronicity (if their work aligns with nontraditional counterparts), and seasonality. Space includes considerations made toward having designated or common workplaces, work arrangement of colleagues, and virtuality. Type of employer is concerned with individuals that may fall under the temporary worker umbrella due to affiliation to a contracting agency, subcontractor, or self-employment, and the simultaneous or sequential nature of employers. Along with these specific dimensions, attention to individual-level factors was also emphasized. These factors were both psychological, including the motivation to maintain a more flexible form of work, and demographic, citing temporary workers frequently belonged to vulnerable populations, such as the financially disadvantaged, immigrants, single mothers, etc. Feldman's call recognizes the vast number of variables to consider, but also accomplishes two specific goals. The first was to observe previously well-established variables through the lens of alternative work. The example of time may be the clearest. Time variables often include tenure (a proxy for experience often measured in years at a position), and job schedule (number of discrete hours worked per week) (Quińones et al., 1995). Both measurements are not as meaningful for an alternative worker as

they were designed with continuity of contract in mind. Second, he also explicitly recognizes that the population of new alternative workers may have already been examined in some way as temporary workers, and that some form of consolidation to allow for greater levels of comparison is necessary, especially as this work arrangement takes up more of the labor force.

A year later, Ashforth et al. (2007) compiled information regarding nontraditional work with the goal to shift research into this "nonorganizational psychology" direction as trends show its increasing growth. As early as 2007, they state that alternative work had a firm hold on the labor market and was only slated to expand, especially in times of economic decline. They also state two future directions regarding research into this area. The first recommendation is that the use of overly specific categories regarding alternative work can be harmful, as it may lump vastly different alternative work arrangements together and reduce the ability to compare and contrast these groupings. Second, they remind researchers that there cannot be one "grand theory" for all workers in alternative arrangements, as arrangements can vary greatly once they are considered "alternative". The experience of work can vary for full-time employees, contractors, freelancers, etc., even if they engage in the same role at the same company with the same tasks, so the same can be assumed for alternative workers. This creates a dichotomy in which both overly specific labels would reduce generalizability and understanding of a niche population, but an overarching framework would introduce error and be misleading. These concerns are echoed a decade later by Spreitzer et al. (2017), as they introduce a multi-dimensional flexibility variable to aid in examining alternative work.

After acknowledging the vast differences that can exist across temporary jobs, the term "alternative work arrangement" gains popularity as an even broader term that can encompass any job in which the individual worker is not considered a direct employee of the organization they

serve. This helps accommodate preexisting terminology such as temps, contract workers, and contingent workers (Spreitzer et al., 2017). Research after this point primarily focuses on these proposed dimensions and recognizes that the flexibility of work is a major component that can distinguish between contingent worker arrangements, such as gaining specificity as to whom can be qualified as a "gig worker" vs a temp. Temporary positions can vary greatly in the flexibility offered, which can differentiate between what was traditionally viewed as a temporary job/contract and what resembles a position in the gig economy that is recognized today. During this time, gig work was as prevalent as it is now with ride-share applications and freelancing websites having become well-established. Spreitzer et al. (2017) note in their review of the literature that there has not been any organizational research published on "on-call, seasonal, or gig workers" as of their publication. To facilitate research in this area, their goal was to quantify one of the defining characteristics of alternative work, flexibility. This is a variable that is commonly associated with high levels of job-crafting in traditional work, and is frequently viewed as an advantage to the worker. As an inherent feature of alternative work, it may represent a source of uncertainty and insecurity, echoing the struggles already established by prior literature on temporary work. They assess flexibility as a 3-factor construct including (a) flexibility in the employment relationship, (b) flexibility in the scheduling of work, and (c) flexibility in where work is accomplished. They also highlight that this flexibility can be what differentiates between highly skilled contractors and a more vulnerable population of lower-skilled employees, as well as recognizing it as most likely a source of strain rather than a benefit to serial alternative workers, which is partially represented in finance and HR literature (Kuhn, 2021). These three dimensions of flexibility reflect Feldman's (2006) dimensions, as the focus on time, space, and employer are distinguishing features across work arrangement.

At this time, more attention was being given to the potential issue of ecological validity or comparing “apples to oranges”, where the assumption of using the same tried and true psychological constructs to learn about alternative worker samples might impede scholarly understanding. Specifically, Brawley (2017) mentions two major concerns when discussing the future of research on a gig worker sample, and the application of precedent. She states that an estimated 10-40% of MTurk workers consider their primary job to be their gig work. When utilizing an MTurk sample, research may be contaminated if it is assumed that these workers are only answering surveys to supplement their income. Without careful screening, a large portion of any MTurk sample may be comprised of alternative workers. In fact, there are projections that certain industries (e.g., survey panel participants, hospitality, construction) can be completely dominated by alternative workers (Morrison, 2017). Second, Brawly mentions that motivation specific to alternative work or a level of “worker seriousness” needs to be addressed as well, being that anyone found on MTurk, Qualtrics, or any other third-party survey platform is technically a gig worker by the nature of their participation. By attaining a measure of their “gigness” or worker seriousness, a continuous measurement can be applied to how much they plan on engaging in and relying on the income from alternative work, granting a greater understanding of the sample.

These implications may be larger than anticipated since gig work, as an arbitrary label within alternative work arrangement, has issues with being accurately reported. Gig work as a specific form of alternative work only accounted for 0.5% of the labor force in 2017 (Katz & Krueger), but is the fastest-growing employment type, projected to reach 43% involvement in 2020 (BLS, 2018). It is unclear if this number was reached or not during the pandemic, as all employment dropped over 38% during the pandemic (BLS, 2018), with the availability and

earning potential of gig work dropping as well (Statista, 2021). These statistics may also be conservative estimates at best, or wildly incorrect at worst, as workers often do not perceive their alternative work as worthy of reporting (Kuhn, 2016). In most cases, the growth statistics are impressive even in the wake of mass underreporting, demanding scholarly attention.

Regarding alternative workers as potential contaminants in industrial-organizational research samples, Keith et al. (2019) examined perceptions of MTurk gig workers in relation to their socioeconomic status and frequency of completing surveys. Those that rely on their gig work as their main source of income had lower personal incomes, lower perceived external employability, and spent more time on their platform completing discrete work tasks, in this case, human intelligence tasks (HITs). They also reported lower life satisfaction for both their current situation as well as anticipated future life satisfaction. This echoes the similar issues experienced by temporary workers already examined in the literature; however, those that only engaged in this work as a supplement to their income displayed perceptions of the commonly associated benefits of alternative work.

1.2.3 Variables Frequently Tied to Work Arrangement Differences

While a lack of consensus regarding terminology exists, an assessment of the disparity across consistent constructs and outcomes for alternative workers makes a large body of the literature. This serves as a basis for acknowledging what psychological, health, and well-being-related outcomes are relevant to understanding the alternative work arrangement in its entirety.

Tangible Benefits and Socioeconomic Status

The cost-effectiveness of alternative workers is often driven by the limited support that can be given to these workers legally, such that the savings come from both their lower pay rates, but also from their cheaper upkeep. Despite the long history of alternative workers' exposure to

occupational hazards (Letourneux, 1986), there are insufficient legal and organizational protections provided for them. To avoid supplying the costly protections that are legally required for traditional workers, specifically training (Hijzen et al., 2017), organizations can hire the less-protected alternative worker. There are psychological implications for denying these tangible support systems to alternative workers, as this support often leads to crucial benefits such as job satisfaction and work-family support (Flickinger et al., 2016 & Mauno & Ruokolainen, 2017).

Alternative workers experience vulnerability from their lower tangible resources, such as pay. Alternative workers frequently earn less money for their work compared to traditional workers and typically make larger economic gains when entering traditional work arrangements (Reichenberg & Berglund, 2019). While examining a Swedish sample, which experienced a boom in the number of temporary workers per capita, temporary workers transitioning to a permanent earn 43.4% more than their contemporaries who are predominantly engaged in alternative work on average, after controlling for other demographic and economic variables. This transition is also tenuous, as alternative work may entrap vulnerable populations into an insecure labor market (Gash, 2008). Moreover, alternative workers report greater financial strain, specifically difficulties obtaining loans, acquiring housing contracts, and paying bills (Aronsson et al., 2005).

Organizational Support

Organizational support variables such as perceived job control and perceived job security are not experienced (as they are commonly operationalized) by some alternative work arrangements simply due to the nature of their work (Giordano et al., 2021). The lack of perceived job security (Landsbergis et al., 2014) and perceived job control (De Cuyper & De Witte, 2007) are common forms of vulnerabilities experienced by various types of alternative

workers. While flexible alternative work arrangements can be preferred and pursued for varying reasons (e.g., short-term and sporadic work availability due to family responsibilities or other commitments); most alternative workers still carry the burden of low job security, as they need to find new sources of income once their contracts expire. Alternative workers also feel less job security as the time remaining on their contracts decreases, which can negatively impact their in-role performance (Clinton et al., 2011). A chronic lack of job security has adverse effects on both self-reported physical and mental health, which cannot be immediately corrected by experiencing organizational support afterward (Ferrie et al., 2002).

While being subject to the psychological disadvantages of low job security, alternative workers also do not experience the benefits of high job security. Greater levels of job security can lead to unique benefits, such as experiencing organizational citizenship behaviors and coworker support. Bartol and colleagues (2009) display that higher levels of job security are associated with increases in knowledge-sharing on the job, which may be particularly useful regarding the dissemination of safety behaviors and other training material that may not be provided to an alternative worker. Even though it is rarely received, coworker support has been shown to be uniquely beneficial to alternative workers, especially when experiencing work-family conflict (Mauno & Ruokolainen, 2017).

Another notable characteristic of the alternative work arrangement is low job control, which is an employee's appraisal of the resources they have at their job and their freedom to use them in their work situations. Temporary workers tend to have lower job control than permanent workers (Karasek, 1979; Aletraris, 2010; Vander Elst et al., 2011). Specifically, alternative workers commonly experience a lack of adequate empowerment and decision latitude (e.g., setting up goals, choosing work hours/deadlines, planning budgets) in the workplace, despite

their arrangement being touted as flexible. This might be attributed to the fact that, outside of gig work, alternative workers' jobs are primarily based on employers' demands (Aletraris, 2010).

Volition and Contract Preference

A major difference between temporary workers and non-temporary workers lies in the volition and control over employment termination decisions. Traditional workers experience challenges in their jobs such as the lack of person-job fit and lower job satisfaction which might lead them to search for alternative job opportunities; however, they are able to actively job search while still maintaining employment (De Cuyper et al., 2008). Traditional workers can reliably stay in their incumbent jobs though they are not satisfied with them and can decide when to quit. On the contrary, alternative workers are uncertain whether they would be re-hired in the next contract and must already be concerned with their next temporary arrangement (Green et al., 2000; Sverke & Hellgren, 2002). Alternative workers' lower feelings of volition and preference for their alternative contract can be caused by their lower job security, which can be indirectly related to lower subjective well-being (Bernhard-Oettel et al., 2013). Uncertainty in their employment, earnings, scheduling, location, and workload are all common strains felt by alternative workers that are not often felt in the same way by their permanent counterparts (Lewchuk et al., 2003).

Acquiescence

Alternative workers' insecure work arrangement can make refusing to engage in specific job tasks difficult, as they may be eager to take work when it is available, regardless of the quality of the work and environment (Hall, 2006). Alternative workers are uncertain whether they would be re-hired, and are frequently concerned with their next alternative arrangement before their current contract ends (Åkerblad, 2017; Green et al., 2000). Alternative workers who

refuse work or to cooperate in a specific fashion can feel threatened. This is represented in the construct known as job theft, as another alternative worker can "steal" their work from the limited demand (Tran & Sokas, 2017). This can result in overwork and psychological strain, as these workers then contemplate the devaluing of their work and specific job roles (Hall, 2006). This can be considered a form of presenteeism unique to alternative workers, such that they feel forced to overwork regardless of other factors such as health and well-being. Attitudes toward work often predict presenteeism behavior (Yusoff et al., 2021), specifically the fear of being replaced (Johns, 2011) which is a consistent concern due to alternative workers' average perceptions of their job insecurity and employability.

Weak Membership

There is also a stigma toward not being a member of the in-group in the same way as a traditional worker. Membership has been studied as the investment of oneself into a group and earning the right to belong after meeting a set of boundary conditions (McMillan & Chavis). These boundaries are often tacit and shared via social queues, status, and titles. Within organizations, perceptions of membership can manifest and can affect the fulfillment of needs, mattering to the group, and a sense of belonging (Masterson & Stamper, 2003). The benefits of group membership, such as a sense of belonging and identification, are only felt when recognition of group membership is achieved. Knowledge-sharing, which is often not experienced by alternative workers, can be increased among those that feel as if they are a member of an organization, which is facilitated by perceptions of organizational commitment, justice, and fairness (Han et al., 2010; Hameed et al., 2019). Alternative workers also view their short-term contracts as a means to gain permanent work, which can be favored even when seeking more alternative work (Gash, 2008). This desire is also demonstrated by alternative

workers' out-group favoritism. Alternative workers show both implicit and explicit bias against other alternative workers when asked to consider the distribution of remuneration and praise (Von Hippel, 2006). Often, alternative workers may seek to socially exchange with traditional workers as opposed to other alternative workers in their same position.

Potential Differences within the Alternative Work Arrangement

While there has been a sizeable body of research assessing specific alternative samples such as temp, short-term contractors, freelancers, etc. regarding their disadvantages compared to their traditional counterparts, there has been little addressing the differences within alternative work. There has been no organizational psychology research on on-call works, seasonal, or gig workers as of 2017 (Spreitzer et al., 2017), and calls to research to address this are still recent (Retkowsky et al., 2022). Most of the research mentioned prior focused on freelancers, short-term contract workers, and workers with tenuous long-term contracts. Despite this lack of expansive research on the alternative work arrangement, speculation and calls to research all forms of alternative work exist as far back as 2006. These recommendations are based on assumptions built off precedent from different alternative samples (Feldman, 2006), specifically regarding constructs that can be used to elucidate the features and perceptions of alternative work that contribute to motivation, productivity, health, and safety.

Most of the research in this area focuses on traditional work as a benchmark, with the assumption that perceptions of work are commensurate across both traditional and alternative populations. Fixating on traditional work as the benchmark is expected, being that most research assumes this position; however, it is a normative view that may create room for assumption. Being able to distinguish between both traditional and alternative arrangements by anchoring them to descriptors of the job tasks, work environment, and individual perceptions may aid in the

comparison across populations, especially for jobs that tend to have their labor force split into varied arrangements. Identifying differences across perceptions can allow for the understanding of what variables are truly pertinent to each population separately. Consequently, it may inform research and policy in identifying the best way to design and support workers based on their arrangement status. This can allow for greater support and protections that can be applied uniquely on a position-by-position basis.

Concisely, prior research focusing on alternative work has focused on three aspects that are unique to using disparate outcomes as descriptors for alternative work. These aspects are highlighting the features of work that generate a unique work environment (e.g., Feldman, 2006), quantifying the freedom that comes with alternative work (such as understanding flexibility per Spreitzer et al., 2017), assessing motivation (per Brawley, 2017; Keith et al., 2019). These aspects are intended to differentiate alternative work from traditional work in meaningful ways; however, they may also have utility in understanding differences within the alternative work arrangement as well. Separately, these approaches can miss the nuance and interplay between each aspect, but may benefit from being viewed in tandem to help understand the alternative work arrangement. They also overlap with other prominent theories within psychology that can help apply precedent without maintaining assumptions of relevance and ecological validity. Together, they can provide dimensions that can meaningfully describe alternative work arrangements.

Understanding the features of work is important, but not sufficient. As many can be relevant and easily applicable, determining important and relevant features can be difficult. This can be seen in Feldman's call to research, as he refers to his list of 23 propositions of important features as non-exhaustive (2006). Using theory and precedent can be helpful in identifying

major features that will be meaningful in drawing conclusions about the alternative work arrangement. Using a list of variables of interest or perceptions that derived from certain features can serve as a means of data reduction, which can be driven by the precedent that has described the disparity between alternative and traditional work arrangements.

Using flexibility as a hallmark of the alternative worker arrangement has merit as well; however, it comes with a few limitations. First, flexibility can be understood as a subdimension of job control (Meyer et al., 2021). Flexibility is one construct intended to measure workers' ability and potential to exert influence over their work-life; however, it refers to a type of decision latitude that can be given to a worker by their superior, nestling it into the definition of job control (Meyer et al., 2021; Hacker & Richter, 1990). Job control is complemented by another major higher-level construct used to assess workers' freedom over their work-life, autonomy. Autonomy refers to the subjective experience of having agency (Ryan & Deci, 2000; Hackman & Oldham, 1975). While flexibility may be useful as a component, it may be remiss as the hallmark of the worker arrangement when applied alone. Assessment of higher-level constructs related to agency such as autonomy may be more useful and allow for relationships to be established to outcomes such as motivation.

Motivation is important to acknowledge considering the documented disparity in outcomes. If the outcomes are demonstrably worse compared to traditional workers, there should not be a surge in popularity. Research has posited that alternative work arrangements serve to entrap vulnerable populations (Gash, 2008), while others suggest that genuine freedom exists in these arrangements to the benefit of some (Friedman, 2006; Kuhn, 2010). Utilizing existing frameworks in psychology can reveal potentially motivating components of alternative arrangements and their connection to material conditions. Brawley (2017) suggests that theories

such as Self-Determination Theory and other broadly applicable motivational frameworks can provide a lens for observing alternative work without much normative bias, especially in a population that engages in alternative work in varying degrees and forms (Keith et al., 2019).

Varying levels of certain dimensions may lead to meaningful groupings of alternative workers that can be able to describe the common forms of nontraditional work. The goal is this research is to reevaluate these differences across work arrangement and within the alternative work arrangement, as these differences often do not get adequate scholarly attention. The aim is to use a collection of continuous descriptors that exist in the literature to introduce new combinations of variables that might systematically differ across and within arrangements. Specific perceptions regarding the characteristics of their work may be useful in determining what constructs are comparable between and within each arrangement. In doing so, recommendations made by prior research can be applied. Taking a variety of descriptor variables from multiple theories avoids the pitfall of assuming a monolith of alternative work without ostracizing this line of research from traditional worker comparisons and the wealth of research in industrial-organizational psychology overall (Ashforth et al., 2007; Spreitzer et al., 2017).

1.3 Describing Alternative Work: Job Characteristics Theory

Job characteristics theory (JCT), also referred to as the job characteristics model (JCM), aligns with the idea that features of work and work environments can have meaningful outcomes for the workers themselves. JCT demonstrates that certain qualities or perceptions of a job can enrich the work experience (Hackman & Oldham, 1975). This model originated with a set of five job characteristics (skill variety, task identity, task significance, autonomy, and feedback). These characteristics affect five major work-related outcomes such as motivation, satisfaction,

performance, absenteeism, and turnover, moderated by three psychological states such as experienced meaningfulness, responsibility, and knowledge of results.

Early industrial-organizational psychological research was born as a reaction to the "scientific management" that gained popularity at the beginning of the 19th century (Oldham & Hackman, 2010; Taylor, 1911). The goal of this movement was to standardize work operations and present them in the simplest meaningful pieces possible, such that individual workers can be interchanged as needed without interrupting productivity. The focus on efficiency over individual perceptions leads to problems regarding the management of employees beyond productivity such as the safety and self-sufficiency of employees, and withdrawal of effort or turnover due to repetition and routine (Oldham & Hackman, 2010).

Despite the attempts to brute-force efficiency in the workplace, research on assembly line work found that human factors could negate the efficiencies built into these standardized work systems (Walker & Guest, 1952), resulting in approaches to management that focus on individuals engaging with their work tasks and environment. Herzberg posited that two classes of characteristics could either improve attitudes toward a job or make work feel unwelcoming, dissatisfying, or detestable in his Two-Factor Theory (1966). Factors were categorized as hygiene factors, being extrinsic to work such as pay and working conditions, or as motivator factors, being intrinsic psychological attitudes such as achievement and responsibility. Hygiene factors serve as a safeguard against dissatisfaction but could not promote motivation in the same way as motivators. The premise behind this was to design work in such a way that responsibility, competence, and growth could be fostered, resulting in greater satisfaction on the job. Even during its inception, there were stark criticisms regarding its theoretical foundation. These criticisms included highlighting that the theory was based on only two studies, these studies

primarily used interviews as their means of data collection, and a heavy reliance on the critical incident technique to determine causes of job satisfaction (Ewen et al., 1966). Regardless of its reception, this timely theoretical contribution sparked reactions, either as an academic critique of a growing area of research or as a response to scientific management techniques that ignored multiple human factors, features of work, and how individuals engage with their work and environment.

Several approaches and constructs were introduced to address the human aspect of motivation in the workplace. One important theoretical contribution after Herzberg's Two-Factor Theory is the Expectancy Theory of Motivation first posited by Vroom (1964) and later refined by Lawler and Porter (1968). Vroom initially stated that performance on the job is dependent on the strength of the expectation that it will be followed by a desired outcome. This is further broken down into expectancy, instrumentality, and valence. Expectancy is the belief that effort will lead to the desired goal, which is often the successful performance of job tasks. Instrumentality is the idea that this successful completion of tasks will lead to a positive outcome, such as pay, promotion, etc. Valence is the value the individual places on these positive work outcomes. Lawler and Porter suggest that this was too simplistic, operating on the assumption that an employer could simply motivate by increasing obvious positive outcomes of a certain job. They also critique the heavy focus on outcomes rather than positive attitudes or psychological states that come with some job tasks themselves. Lawler and Porter supported the main tenants of Expectancy Theory but shifted importance to understanding potential reasons why certain jobs are more intrinsically motivating than others (Hackman & Lawler, 1971). Other constructs proposed by Turner and Lawrence (1965) aided in understanding the relationship between performance, motivation, and employee perceptions. Specifically, the constructs of

variety in work tasks and individual-level autonomy provided by the job were given appropriate attention. They also highlighted that motivation can be generated from social interaction that can be provided at work.

Prior research on features of work affecting worker performance and perception prompted Hackman and Oldham to identify job characteristics that can be used to predict job-related outcomes (1975). Specifically, this collation of characteristics occurred after collaboration with management consultants looking to alter job characteristics to enact job design. Taking a job can come with the assumption of accepting all its characteristics, regardless of how aware the incumbent may be or the individual differences among incumbents in the same role (Hackman, 2003). Enrichment can occur by designing work with certain personal, social, and contextual conditions in mind that can appeal to meaningful work in which incumbents can exert control and responsibility. To this end, five "core" job characteristics were derived to highlight aspects of work that can be manipulated to the benefit of job incumbents, by either adding meaningfulness to discrete work tasks or by granting agency. The job characteristics of skill variety, task identity, and task significance capture a sense of relevance to work tasks, while the characteristics of autonomy and feedback can ascertain the degree of responsibility given to the individual in their job.

1.3.4 Assessing Meaningfulness: Skill Variety, Task Identity, and Task Significance

The first set of core job characteristics (skill variety, task identity, and task significance) emphasize the relationship between the individual worker and their work tasks (Robbins & Judge, 2016). Due to this individualistic focus, these constructs have interplay with social demands, personality, and other individual differences along with the features of the work itself (Barrick et al., 2013). During the initial calculation of the motivation potential score (MPS),

these characteristics were additive, and were used to estimate the meaningfulness presented in one's work (Hackman & Oldham, 1975).

Skill variety is the degree to which various tasks are required to perform a job. With higher levels of skill variety, more unique activities are needed to complete work. High levels of skill variety can describe jobs with greater complexity and greater opportunities for mastery. Low levels of skill variety can describe a more routine or mundane job but can also represent one that is less overwhelming. Skill variety can manifest differently based on the type of job being examined as well. Work based on knowledge or creativity rather than a standardized production of something tangible can produce situations in which skill variety is difficult to job-craft for or to control (Reinhard et al., 2011). To some, a wide skill variety can be exhausting, but it can be an enriching experience for those with a high need for achievement and growth (Rentsch & Steel, 1998). Being related to job complexity, a balance of skill variety can vary based on the individual.

Task identity is the degree to which job incumbents identify and complete a piece of work. Witnessing work come to fruition can impart a sense of completeness to the job but may require being involved in all phases of production or service. Individuals with a commensurate level of involvement with their work can be motivated to achieve their given level of completeness in their work (Barrick et al., 2013).

Task significance is the degree to which a job is viewed as impactful in others' lives. This can manifest as an immediate service being provided to an individual, the support given from being part of a team, or the meaning behind an executive decision from a place of leadership (Hackman & Oldham, 1980). This can be combined with feedback, in which the significance can

be recorded directly by those involved, especially 360-degree feedback techniques. This can also impart importance and satisfaction with one's work as well as motivation (Barrick et al., 2013).

1.3.5 Assessing Agency: Autonomy and Feedback

Autonomy is the degree to which a job provides the incumbents with the freedom to determine aspects of their work. This includes decision latitude, input regarding procedures to complete work, scheduling, etc. This is hallmarked by a sense of power that can be exerted at work and subsequent feelings of responsibility over work outcomes and performance (Hackman & Oldham, 1975; 1980). This sense of autonomy can be motivating, protect against the negative effect of job demands, and enhance personal growth (Barrick et al., 2013). Specifically, autonomy can serve as a resource in demanding work situations (Jong, 2016). Jong reports that autonomy strengthens the protective effects of performance feedback when faced with role ambiguity among federal employees of the United States. Autonomy can interact with job demands to enhance the effects of feedback and other positive features of work, while mitigating the negative effects of work demands.

Feedback is the degree to which a job provides knowledge of results, with clear and actionable information related to job performance. Good feedback can lead to positive outcomes, specifically job performance. An important distinction is how feedback is supplied, either by organizational structures (supervisors, peers, etc.) or by the task itself (intrinsic feedback or task feedback) (Hackman and Oldman,1976: 1980). Feedback protects against role ambiguity, which can have a negative effect on satisfaction and performance (Jong, 2016).

In sum, skill variety, task identity, and task significance were aimed at capturing a sense of meaningfulness that can be achieved by features of the job. Autonomy and feedback were aimed at capturing both the freedom and responsibility that can be beneficial to workers, and

subsequently motivating. The combination of meaningfulness, independence, and control over work outcomes theoretically can lead to improvements in motivation, engagement, and job performance. The current study attempts to compare and contrast the traditional and alternative work arrangements, along with distinctions within the alternative work arrangement, from the lens of the job characteristics model centering on these five constructs.

1.3.6 Introducing Individual Differences: Growth Needs Strength

Taking past criticisms levied on Vroom (1965), highly specific job motivators might systematically differ across individuals, so the addition of individual difference variables was necessary. Specifically, criticism made by Hulin and Blood (1968) mentioned that grandiose and/or difficult jobs might not appeal to all workers. To address this, job-relevant knowledge/skill and an individual's inclination towards personal and career growth, known as growth needs strength, were considered. Job-relevant knowledge and skill are the requisite understanding and abilities to complete the job at a high level. Growth need strength is the degree to which personal growth and development are valued by an individual. Growth needs strength should be higher in those willing to take on more challenging work; however, they may also need a certain level of knowledge or skill to continue on this path. Alternatively, a worker that does have the requisite knowledge and skills might not respond well to challenging work without the need for growth. While training and experience can account for knowledge and skill, growth needs strength is considered a trait-level individual difference that can impact motivation and career-related decision-making (Hackman & Oldham, 1980).

As a personality trait, growth needs strength has an influence on motivation and the range of skills able to be applied on the job (Barrick et al., 2013). Typically, highly skilled workers with high levels of job knowledge and growth needs are motivated by challenging work

environments. These workers come equipped with the cognitive resources to meaningfully engage with challenges in the workplace and find these instances gratifying. Growth needs strength is also positively related to the personality trait of openness (De Jong et al., 2001). Specifically, individuals with high growth needs exhibit an openness regarding skill variety, as they have more skills to utilize as well as a greater drive to pursue and master a new and relevant skillset.

1.3.7 Utility beyond Motivation Potential

Hackman and Oldham (1975) developed two instruments to measure these constructs, the Job Diagnostics Survey (JDS) and the Job Rating Form (JRF), with the goal of generating a single number capable of capturing potential motivation. The goal of these measurements was to assess job characteristics as well as incumbents' responses to them, along with the relevant individual-level difference variables. This was initially used to test their theoretical framework in a large field study. This resulted in Hackman and Oldham (1975) proposing a formula for determining how motivating a select job can be using a "motivating potential score" (MPS). Specifically, Hackman and Oldham state that this score represents the degree to which a job has a high positive impact on a person's motivation, thus prompting other favorable outcomes both at work and in their personal lives. Higher scores indicate that incumbents are more likely to experience meaningfulness, responsibility, and knowledge of results, and may consequently benefit from other outcomes including motivation, productivity, and job satisfaction. This is calculated as follows:

(Skill Variety + Task Identity + Task Significance) ÷ 3 × Autonomy × Feedback

Due to how certain characteristics are weighted, a job must be high on at least one of the three factors intended to grant meaningfulness, as well as being high on experienced

responsibility (autonomy) and knowledge of results (feedback). Contrarily, lower levels of autonomy or feedback can greatly reduce the MPS. Even upon acceptance into the literature at the time, critiques of this model exist. These critiques focused on the assumption that the variables were objective in nature (ignoring that perceptions may differ on the five job characteristics), the role of other individual differences in terms of moderating effects, and the psychometric properties of the Motivating Potential Score (Fried & Ferris, 1987; Salancik & Pfiffer, 1978). In fact, the MPS was less predictive of outcomes than linear interpretations of each component (Fried & Ferris, 1987). Admittingly, Hackman and Oldham recognize their formula as an attempt of forcing some conceptual understanding of the beneficial psychological states into a psychometric representation of their model (Hackman, 2003).

Certain features of a job, especially in junction with certain individual-level differences, can create a healthy and motivating work environment on a psychological level which can promote positive work-related outcomes. Specifically, Job Characteristics Theory aims to address three specific states: experienced meaningfulness, experienced responsibility for work outcomes; and knowledge of results (1975). Experienced meaningfulness represents the intrinsic meaning and value in the work itself, especially toward the positive impact of the work on others and the environment. Experienced responsibility for work outcomes encompasses the accountability and control over work-related outcomes that can be allotted by features of the job. Knowledge of the results of work activities serves as the intrinsic feedback that can be offered on a job as well. The probability of motivation, feelings of meaningfulness, and the experience of responsibility and control over work can be increased if these work features are enhanced. Those that revel in challenges may also benefit to a greater degree as the jobs include a higher level of competence and expertise. Those that have acquired the requisite knowledge and skills may also

enjoy the benefits of these enhanced job characteristics as well, being that they can handle the greater difficulty associated with these more complex jobs. Ultimately, the expected outcomes from this model were increased intrinsic motivation, job satisfaction, and performance, as well as reduced absenteeism/turnover. Initial results support this; however, further revisions to the model specify two different performance dimensions, quality/quantity of work, as well as removing absenteeism/turnover as an outcome (Barrick & Mount, 2013; Jong et al., 2016).

Recent research has focused on employees reacting to their job environment; however, an approach that looks to measure the perceptions of the environment might be helpful when distinguishing between traditional and non-traditional work (Allan et al., 2019; Bak, 2020; Tran et al., 2021). While the JCT framework is nearly 40 years old, many of these features have been used as means of assessing work environment quality, either in tandem or in a vacuum. Revisiting this approach of assessing workers' perceptions of the characteristics and environment of their work, especially when classifications can differ systematically, may help in addressing needs that are not met. Specifically, combinations of positive features may yield a systematic understanding of work across different work arrangements.

To summarize, alternative workers with seemingly similar work arrangements might differ greatly and systematically. By measuring features of alternative employment, outcomes can be predicted with greater accuracy. Negative consequences of alternative employment can be actively attenuated by shifting workers into a more advantageous type of alternative work. The proposed dimensions are the level of subjective well-being, the five factors of the job characteristics model (task variety, task identity, task significance, autonomy, and feedback) with special attention to varied growth-need variables, and the three dimensions provided by Feldman (time, space, and employer; 2006) with additions made my Spreitzer et. al (2017). Using the

prior example of a short-term contract delivery driver frequently moving product and an app-based personal delivery driver, we can see that these alternative workers vary greatly despite having similar job tasks. An app-based delivery driver might feel some control due to the ease of the chosen app they use to engage in their work. They may experience more variety, identity, and significance in their driving as they can communicate with patrons, witness the completion of their work, and see how they help multiple individuals per day. They might also have more autonomy regarding Feldman's time dimension, may experience varied quality feedback through ratings, and feel some security in their "employer' by utilizing the associated app. The short-term driver might not feel these benefits; however, they would have greater continuity of work, space, and interaction with other workers when they pick up cargo or return their vehicle, and a richer relationship with their employer who would physically interact with them on a semi-regular basis. Table 1 compares on contrasts three jobs with the same base task of vehicle driving and delivery but differing based on contract. By determining the profiles of temporary workers, specific outcomes may be more specifically predicted, including performance, safety, satisfaction, autonomy, and subjective well-being. Moreover, pertinent organizational resources such as training opportunities and leadership styles can be effectively identified in consideration of the unique contexts of the work arrangements.

1.4 Understanding Differences in Motivation: Self-Determination Theory

Feldman (2006) and Spreitzer et al. (2017) both highlight that the attractiveness of the alternative work arrangement would come from features of the work environment, work contract, or the work itself. They also make mention that these features would be more compelling depending on the individual. While JCT focuses primarily on the perceptions regarding the features of work, Self-Determination Theory (SDT) focuses on individual worker attitudes,

needs, and understanding of their motivation. For the purposes of this study, these theories can be seen as complements, and there is a notable conceptual intersection between JCT and SDT such as autonomy, control, and individual difference in motivation that can accurately describe individuals that are employed through alternative work arrangements.

In 1985, Deci and Ryan wrote "Self-Determination and Intrinsic Motivation in Human Behavior" as the formal introduction to Self-Determination Theory (SDT) that served as a collation of previous research on motivation (Deci & Ryan, 1985). Specific attention was given to highlighting the long history of empirical methodology and experimentation that are at the core of SDT's foundation. Research examining disparities between intrinsic interest and extrinsic rewards regarding motivation frequently concluded that intrinsic motivation is an important and malleable component of motivation, and that this motivation can be rooted in requisite satiety of psychological needs.

Although having its roots in cognitive and evolutionary psychology, research into intrinsic motivation bled into other areas long before the formal introduction of SDT. The interest in intrinsic motivation being a powerful determinant for future behavior existed in the 1950s with Harlow's work examining problem-solving in rhesus monkeys (1950). Harlow noted that there was greater engagement, measured in time, with complex puzzles in the absence of a reward than when a reward was offered. These findings were reflected in human research as well, as Aronson and Mills (1959) noted conflicting reports about the interaction between intrinsic motivation and extrinsic rewards. They suggested that the subsequent reduction in intrinsic motivation when faced with a reward is reduced only when the reward is perceived as insufficient. Research in this vein expanded into other areas, such as education. Results from a

study conducted on school children (deCharmes, 1968) show that interest waned in the face of varying rewards as well.

In an experimental replication of Harlow's work, Deci tested the conflict between intrinsic motivation and extrinsic reward (1971). He proposed that the nature of intrinsic motivation conflicts with extrinsic motivation, as tangible extrinsic rewards for engaging in a task would reduce intrinsic interest. To this end, Deci conducted an experiment in which a participant pool of college students engaged in puzzle-solving tasks. After baseline motivation was established in an initial trial, the sample was split into paid and unpaid conditions. A final trial was given afterward in which neither group received rewards. During the break between sessions, participants were given time to rest but were allowed to use their rest time to continue working on their puzzles. Participants who were paid less frequently engaged with the puzzles during their break than those that were not. This was corroborated with Lepper et al.'s (1973) "over justification" hypothesis, elaborating that the decrease of intrinsic motivation when faced with an extrinsic reward, which was demonstrated in subjects engaging in a task that they would already find enjoyable and would be naturally intrinsically motivated to pursue. They conducted an experiment in which three groups of children engaged in a drawing task, which one group expected and received a reward afterward, another group that did not expect a reward but was given one, and the final group that did not expect a reward and did not receive one. Their results showed that those expecting a reward had the lowest intrinsic motivation, and those that did not receive any reward had the highest. This mirrors similar research conducted a decade earlier by Festinger and Carlsmith (1959), which lent evidence to cognitive dissonance being the mechanism in which those that are not rewarded find their activities more intrinsically valuable.

Deci aimed to broaden the study of motivation with further empirical research on thoughts and perceptions by publishing a collation of the research into intrinsic motivation (1971). Deci breaks down the discussion of intrinsic motivation into two, the conceptualization of intrinsic motivation, and the relationship between intrinsic motivation and extrinsic reward. The discussion of the "why", as Deci describes, begins with breaking away from prior "assumptions" of psychology, mainly the focus on psychoanalytic theory and behaviorism. Specifically, the psychoanalytic approach to motivation was rejected, as many of these conclusions were predicated on conjecture and philosophy as opposed to empirical evidence. Similarly, Deci acknowledges the utility of behaviorism for psychology as a science, but also prefaces that their theory is concerned with the wants and needs as opposed to only reacting to stimuli and environments. He claims that behaviorism was a necessary assumption in order to begin the scientific process, and their expansion by including internal processes can serve as a nuance to previous research. He states that examining thoughts and feelings scientifically has merit and can broaden understanding, citing theories that demonstrate this such as the James-Lange Theory of Emotion (Lang, 1994). Deci discusses the multiple ways intrinsic motivation has been measured in the last two decades, highlighting popular approaches as they can paint a meaningful and complete understanding of the construct. The stimulation approach encompasses gaining something from engaging in the task itself, be it the reduction of a negative psychological state such as anxiety, or the increase in a positive state such as competence or satisfaction. Intrinsic motivation can come from a task that one wishes to excel at, as satisfaction specifically comes from the development of a skill. The cognitive approach highlights that motivation can come from goal achievement such that individuals' goals being incrementally completed comes with its own motivation. This literature review and nod to prominent schools

of thought allowed the concept of intrinsic motivation to be applied more freely to both old and new research.

Deci and Ryan formally introduce SDT in 1985 with a two-fold focus; they establish differences in intrinsic and extrinsic motivation and highlight psychological needs that can feel self-motivating to satisfy. Deci and Ryan mention in their introduction that SDT takes an organismic approach, similar to prior behavior and cognitive models of motivation that precede it. SDT assumes that active organisms act to satisfy their needs, which stem from their internal and external environments with a focus on the broad range of innate and universal human needs. While prior motivational theories focus on proximal needs for survival, Deci and Ryan posit that psychological needs such as proactive engagement, establishing connections with others, and the achievement of mastery are similarly important; however, the process of satisfying these needs itself can provide satisfaction and motivation. This implies a positive feedback loop, in which motivation can provide intrinsic motivation itself, which they define as a satisfying proactive engagement with one's surroundings.

They also incorporate other prominent theories into their framework that examine extrinsic rewards that contribute to the motivation literature. Cognitive Evaluation Theory (Deci & Porac, 1978) posits that attaining competence and autonomy are main sources of intrinsic motivation that can be crowded by the introduction of extrinsic rewards. Cognitive Dissonance Theory (Festinger, 1957) highlights the discrepancy felt by resources exerted on a task and the evaluation of the extrinsic reward, such that intrinsic motivation may increase if the reward does not justify the time or effort. Similarly, Equity Theory (Lawler, 1968) encompasses how fair compensation is relative to the work put into the task. Lower levels of perceived fairness might lead to higher levels of motivation by means of cognitive dissonance or the "crowding out" by

inequitable compensation. They recognize that there are some common threads regarding the interaction between intrinsic motivation and extrinsic reward; however, they acknowledge the need for further research to assess context and individual differences. Extrinsic motivation should not be viewed as the antagonist to intrinsic motivation, as it may manifest differently depending on circumstance. Overall, the introduction of extrinsic rewards has an impact on intrinsic motivation, self-perception, attributions to motivation, and other external forces. This sparked the collating of both intrinsic and extrinsic motivation into one broad framework that considers their interaction.

After this formal introduction to SDT as a "macro" theory that can incorporate multiple frameworks of motivation, modern research has largely supported Deci and Ryan's list of psychological needs that require fulfillment and drive intrinsic motivation. Initially, these needs were discussed broadly, acknowledging many approaches to understanding motivation; however, there was a focus on a need for competence and control. Adequately satisfying these needs would yield a sense of self-determination, experiencing an internally perceived locus of causality (Deci & Ryan, 1985). They posit that attaining mastery and autonomy over tasks in one's life can help one achieve self-determination, or the ability to exercise control and make meaningful choices that generate an impact in one's life. While discussed in their prior work, the needs for relatedness and autonomy are added as unique contributors to self-determination adopted by many that use SDT as a general framework (Baumeister & Leary, 1995; Deci & Vansteenkiste, 2004).

Competence is understood as the control one has over outcomes and the experience of achieving mastery. Early findings suggest that unexpected positive feedback on a task can increase intrinsic motivation, as it appeals to the need for competence and growth (Deci, 1971).

The attainment of feedback framed to increase mastery also supplies individuals with increased well-being and supplies value in internal growth (Bauer et al., 2018).

Autonomy occurs when an individual gains agency in their life, such that their actions and decisions result in meaningful self-directed outcomes. It is the freedom that comes with causal impact. As mentioned prior, extrinsic reward can stymie intrinsic motivation. Deci (1971) concluded that this was due to losing control, and the motivation or the task is overridden by external factors. Reward systems may remove the individuals' innate decision-making, creating an ultimatum to engage with a task that is restrictive. Recent research suggests that this may not always be the case, as giving individuals choice and agency through reward can increase perceptions of autonomy. Greater decision latitude comes with greater perceptions of autonomy, and the satisfaction or frustration due to autonomy can promote or stifle motivation, growth orientation, and well-being (Van Assche et al., 2018).

Relatedness is the meaningful interaction and connection with others, such that forming relationships can generate a common perception of healthy attachment. Obtaining this attachment has been shown to be intrinsically motivating (Deci & Vansteenkiste, 2004). Initially studied in children, the benefits of relatedness surpass simple developmental benchmarks and improve motivation and growth. This cuts both ways, as social deprivation can also yield negative effects (Schüler et al., 2019). A lack of relatedness can lead to decreased well-being and demotivation, and can negatively impact growth orientation.

1.4.8 Contextualizing SDT: Work-related Motivation

Autonomous vs Controlled: How extrinsic motivation can be internalized

Further distinction between types of motivation exists for understanding motivation in the workplace. Motivation lies on a spectrum of autonomy and not all extrinsic motivation can be

viewed as demotivating. A blanket term for positive motivation is organized under "autonomous motivation" (Deci et al., 2017). Autonomous motivation is achieved when job incumbents engage in their work with volition, choice, and an understanding of the work's importance. It is comprised of three subdimensions including intrinsic motivation, identified regulation, and integrated regulation (Roth, 2014). As previously discussed, intrinsic motivation occurs when the completion of the task is satiating and empowering on its own. Identified regulation occurs when incumbents identify and understand the importance of job tasks. Integrated regulation occurs when the activity is deeply internalized by means of being assimilated with other characteristics of the incumbent, such as competence within job roles and providing for those around them. This is contrasted by "controlled motivation" or motivation that is provided outside of the control of the incumbent. This includes external regulation, or when the behavior is only motivated by external reward and punishment contingencies, and introjected regulation, a superficial internalization that is not integrated by the incumbent.

Positive Motivational Outcomes

Autonomous motivation being prioritized over controlled motivation and the satisfaction of psychological needs can yield a host of positive organizational outcomes (Vallerand, 1997; Williams & Deci, 1996). Regarding performance, autonomous motivation was positively associated with higher self-reported work performance in public sector employees (Kuvaas, 2009). Foss et al. (2009) reported that knowledge-sharing and performance could be predicted positively by autonomous motivation and negatively by controlled motivation. Research conducted by Grant et al. (2011) shows that personal initiative is positively associated with objective performance in those high in autonomous motivation and low in controlled motivation.

Self-Determination Theory posits positive outcomes regarding health and well-being at work as well, specifically reduced exhaustion and stress. Autonomous motivation was negatively related to exhaustion and positively related to commitment, and that controlled motivation was positively related to exhaustion (Fernet et al., 2012). This corroborates the negative effects of certain extrinsic rewards on motivation and continuance of behavior found prior (Deci, 1971; Deci & Ryan, 1985). Research shows that employees that are higher in autonomous motivation experience less stress during times of high job demands (Trepanier et al., 2013). When the psychological needs of autonomy, relatedness, and competence are met, employees experience less exhaustion in the workplace (Van den Broeck et al., 2008), operationalized as "needs-satisfaction". Employees with higher levels of needs-satisfaction at work also displayed higher levels of autonomous motivation (De Cooman et al. 2013).

A lack of satisfaction with the three basic needs can also be associated with negative outcomes. A meta-analysis of 119 unique samples showed that needs-satisfaction was more effective at predicting positive work-related outcomes than negative ones, suggesting the use of a "needs-frustration", as an antipode to satisfaction, as well to predict positive and negative outcomes with greater efficacy (Van den Broeck, 2016). Precedent for this exists in research conducted by Vander Elst et al. (2012), which displayed that frustration with the three basic needs was associated with poorer work-related well-being and greater exhaustion, operationalized as needs-frustration.

Individual Differences Towards Motivation

An important individual difference explored within the framework of SDT is the orientation of aspirations (Ryan et al. 1996), which holds predictive validity over certain organizational outcomes. Aspirations are two-dimensional, with aspirations focused on wealth,

recognition, and self-image loading onto an extrinsic aspiration dimension, and aspirations of personal development, community, relationships, and fitness/health loading onto an intrinsic dimension. Typically, greater importance on extrinsic aspirations is related to reduced well-being even when those aspirations are achieved, compared to a focus on intrinsic aspirations. Outcomes of well-being can be independent of the quality and type of motivation, meaning individual differences can be associated with positive outcomes separately from autonomous motivation and negative outcomes separately from controlled motivation (Sheldon et al., 2004). For example, incumbents with stronger extrinsic aspirations compared to intrinsic aspirations exhibited less job satisfaction regardless of motivation (Vansteenkiste et al., 2007). Conversely, Van den Broeck and colleagues (2010) found holding comparatively more intrinsic aspirations was associated with greater perceptions of flexibility at work. Aspirations can also be cultivated by support, as Schreurs' et al. (2014) findings support that having a higher perception of organizational support is associated with the satisfaction of the basic psychological needs and higher engagement at work. Holding individual-level aspirations towards intrinsic growth and having those aspirations fostered is associated with positive organizational outcomes.

There are particularly unique outcomes associated with money-focused extrinsic aspirations that highlight the importance of examining individual differences within motivation. Landry et al. (2016) found that people who were autonomously motivated to obtain wealth had more of their psychological needs satisfied and were less frustrated by these needs, despite it being considered an extrinsic reward. When these motives were not internalized, there was less satisfaction and more frustration with the satiety of psychological needs. Similar to the distinction made above about intrinsic and extrinsic motivation, shifting motivation towards an internalized and autonomous process comes with a host of benefits. Focusing solely on extrinsic

motivators without this autonomous shift can yield negative outcomes. Sheldon and Krieger (2014) compared the aspirations of lawyers at high-paying law firms against lawyers at public service-focused law firms with subsequently lower pay. The higher-paid lawyers held higher extrinsic aspirations, held higher levels of negative affect, and lower well-being compared to the service-focused lawyers. The individual difference of internalization and the degree of psychological needs satiety can make a difference when considering psychological outcomes.

1.5 A Combined Framework: Conceptual Unity between JCM and SDT

There is substantial conceptual overlap between Self-Determination Theory (SDT) and Job Characteristics Theory/Model (JCT or JCM) and relevant individual differences. Both theories have a rich history and provide complementary empirical evidence describing how certain jobs and individuals are related to motivation and consequent outcomes. Research has shown that certain job characteristics can facilitate the satisfaction of the psychological needs posited by SDT (Humphrey et al, 2007), which is unsurprising as both models emphasize autonomy, some form of mastery (either by attaining feedback or striving for competence), and importance and impact of the job to others. Both theories also posit important individual difference variables that are associated with an employee's orientation toward expectations of their work. SDT places emphasis on an individual's intrinsic or extrinsic aspirations, separating internalized motivation and growth under intrinsic aspirations and the raw attainment of resources and other controlled motivational factors under extrinsic aspirations. JCT's use of growth needs strength (GNS) mirrors SDT's intrinsic aspirations, particularly professional development, and the attainment of competence. In junction, these theories can help capture a holistic understanding of how jobs and individuals interact regardless of work arrangement.

Aspects of JCM, such as feedback and growth needs strength, operate in junction with other motivational components of SDT. Feedback can enhance motivation when delivered positively to job incumbents (Jong, 2016). This has an enhanced benefit when applied through social means described by SDT's relatedness. Uruthirapathy and Grant's research (2015) on social dynamics in employees via JCM, feedback shared a positive relationship with motivation, job satisfaction, and reduced turnover intention. Regarding social dynamics, relatedness to the company mission (e.g., IT professionals in an IT-focused organization) displayed an even greater reduction in turnover intention, highlighting the need for relatedness as a potential contributing factor to overall group dynamics when utilizing a JCM framework. As a trait, growth needs strength (GNS) has an influence on motivation and the range of skills able to be applied on the job, which are related to competency as described by SDT (Barrick et al., 2013). Workers can come equipped with the cognitive resources to meaningfully engage with challenges in the workplace and find these instances gratifying, which implies there may be a potential ceiling effect on the need for competency in jobs with a limited expression of skill variety.

Similarly, aspects of SDT such as needs for autonomy and competence are represented in JCM. The need for competency, a core tenant of SDT, is related to JCM's skill variety, such that those with a high need for competency will exhibit an openness to skill variety, regarding both the use of a broader array of skills and the acquisition of new and relevant skill sets (De Jong et al., 2001). Autonomy, with similar operationalizations, is a core variable in both frameworks (Gagne & Deci, 2005). Sripirabaa and Maheswari (2015) highlight autonomy's connection to employee risk-taking creativity when decision latitude/job-crafting is offered to employees. This nontrivial overlap can allow for an evaluation of competency, skill, and creativity.

Research has observed similar outcomes for both JCM and SDT when considering their similar core variables, specifically the ability of positive job characteristics to promote the satiety of psychological needs and the fostering of autonomous motivation. According to their model, Gagne et al. (1997) posit that jobs that facilitate autonomy, grant feedback, impart task significance, and empower employees would all positively impact the intrinsic and internalized motivation of job incumbents via needs satisfaction. Similar research conducted by Millette and Gagne (2008) suggests that JCM-focused interventions with the goal of increasing motivation can improve job satisfaction and performance. When applying the JCM to volunteer workers with specific attention to promoting autonomy and feedback, workers became more satisfied and had an increase in their performance. JCM is often used when assessing job-crafting, which was the initial intent when conceptualizing the model. Utilizing job-crafting strategies as per JCM (high levels of autonomy, positive feedback, adequate skill variety, etc.) can satiate psychological needs described by SDT (Bindl et al., 2019).

By combining the JCM and SDT framework, along with logistic features of work described by Feldman (2006) and Spreitzer et al. (2017), a more complete picture of the alternative work arrangement can be painted. By utilizing variables such as time, space, and employer type, the uniqueness present in the alternative work arrangement can be meaningfully measured. Applying JCM and SDT can aid in capturing important perceptions and individual differences among workers regardless of arrangement. Combining these recommendations and frameworks can serve as a means of critically examining work arrangements without normative assumptions while maintaining benchmarks established from precedent. This multiaxial approach can assess individual work arrangements as well as those that engage in them, allowing for comparison both between and within arrangements. Figure 1 illustrates this approach.

1.6 Implications for Alternative Work

1.6.9 Disparity between Arrangement

Agency

The frequent disparities in resources and opportunities between work arrangements can yield differences across job characteristics, motivation, and needs satiety. Specifically, certain psychological needs may be satiated at different rates due to this uniqueness. The autonomy and freedom of alternative work arrangements can be preferred in some cases and have been deliberately pursued by individuals for various reasons including sporadic work availability and other social constraints, as was the case with the gig work boom during and post-COVID-19 pandemic. Other notable features that are desired from alternative work are the freedom and flexibility (Friedman, 2014; Kuhn, 2016) that come with the arrangement itself, including features that can add to worker agency such as decision-latitude, skill discretion, and job-crafting. In fact, alternative workers that job-craft on an individual level across various alternative work contracts are engaging in "gig-crafting" (Keith et al., 2019). This is the term for the process of compiling multiple streams of alternative work to create a complete and gainful method of employment. Combining a variety of contracts that meet a particular schedule or financial goal can come with the autonomy to opt in and out of their work, as well as the freedom to engage in a wide array of skills. They can pursue a craft or skill that requires time, or has a delayed payment, and use other forms of alternative work to fill gaps in employment when necessary. The freedom to choose when, where, and how to work that can be provided by gig-crafting can lead to unique benefits, particularly in roles that are secondary, creative, or focused on expertise (Demetry, 2017). In a sample of culinary workers that engaged in pop-up restaurants, qualitative data analysis and interviews displayed greater motivation as this work

was viewed as a “labor of love” and an opportunity to hone and develop relevant job skills. This ability to hone skills may have the pay-off of obtaining greater levels of expertise in a chosen field, which may be necessary to obtain contracts that require high levels of skill, but also may not need to be employed for a year-round position. Highly skilled freelancers leveraging their expertise, typically in IT, make up a portion of useful “talent” that can manage desirable contracts with competitive wages (Kuhn, 2021). Albeit lacking the stability of a full-time contract, these workers may have the ability to opt for desirable, higher paying contracts with a greater degree of certainty regarding employment and financial security.

Despite this potential for freedom, these workers still experience the stress of contract extension, and a lack of job security (Åkerblad, 2017). Predictions made by Sverke and Green (2002) about job market shifts to shorter flexible work arrangements leading to a decline in job security were realized with the rising popularity of alternative work. Clinton et al. (2011) report that temporary workers experience less job security as their contracts come closer to their end date, which negatively impacts in-role performance. This is often associated with the preference towards their given contract, and can be exacerbated by their own perceptions of their employability elsewhere, known as external employability (Clinton & de Jong, 2013). Research also shows that lessened job security experienced by alternative workers can be indirectly related to lower well-being (Bernhard-Oettel et al., 2013), and a chronic lack of job security has long-lasting adverse effects on both self-reported physical and mental health that are not immediately corrected by experiencing job security and other forms of organizational support afterward (Ferrie et al., 2002). This implies that alternative workers may experience a greater perception of autonomy in their work while still holding lower perceptions of resources such as job security, external employability, and well-being.

Hypothesis 1a: Alternative workers will report lower psychological resources than traditional workers, in the form of lower perceived job security, external employability, and subjective well-being.

Hypothesis 1b: Alternative workers will have greater autonomy than traditional workers.

Quality feedback from superiors and colleagues might suffer at the cost of this autonomy in alternative work arrangements. The traditional work arrangement is often described as an environment conducive to fostering feedback and support, as this is facilitated by in-person work with the same groups that answer to a shared supervisor (Raghuram & Wiesenfeld, 2004). Alternative workers often lack consistency in their supervisors and coworkers, and in some cases do not have either. Early research on virtuality shows that remote workers, an overlapping population with common alternative work arrangements, often struggle with self-efficacy and job stress that can be attenuated by managerial interactions (Staples et al., 1999). Communication and modeling of best practices while working remotely lead to improvements in self-efficacy regarding remote work, job stress, job satisfaction, and performance. Fuller and Dennis (2009) corroborate these findings when comparing robust communication technologies including video, audio, and synchronous feedback sessions to communication restricted to text messaging. The groups using more robust communication systems outperformed those using only text messaging; however, this difference stabilized over time. The text messaging group eventually managed to communicate as effectively as the more advanced group; however, this took a minimum of two consecutive days with the same group to begin improving. The lack of consistency in workgroups, time with that group, and explicit technology being used (text, in-app communication, etc.) can interfere with alternative workers' ability to gain meaningful feedback

similarly to their traditional counterparts. Coworker knowledge-sharing is another form of feedback that alternative workers would struggle to experience. Bartol and colleagues (2009) display a positive relationship between high levels of job security and increased knowledge-sharing and feedback on the job, which alternative workers would not get to experience due to the nature of their work. Their experience of feedback would be reserved to feedback intrinsic to the task, leaving them to pursue feedback alone compared to those with these support systems.

Despite rarely receiving it, alternative workers uniquely benefit from both colleague and supervisor attention, especially when experiencing work-family conflict (Mauno & Ruokolainen, 2017). Eddleston and Mulki (2017) found that working from home comes with the embedding of the work role into the family domain. Based on their qualitative findings, employees that work remotely are prone to greater family-to-work conflict and work-to-family conflict, difficulty disengaging from work, and strong work-family integration. This can lead to impaired family roles, decreased work-life balance, and overwork. Alternative workers can struggle to attain support, as there is often a stigma associated with these types of contracts from both traditional workers and other alternative workers. Temporary workers show both implicit and explicit bias against other temporary workers when asked to consider the distribution of remuneration and praise (Von Hippel, 2006). The lack of consistency in their coworkers and supervisors, coupled with the other disadvantages of alternative worker contracts can contribute to lowered perceptions of feedback on the job.

Hypothesis 1c: Alternative workers will have lower self-reported feedback than traditional workers.

In summary, differences in population, protections, and work arrangements have been associated with a dearth of psychological resources and impairments to well-being (H1a). This may also systematically affect perceptions of autonomy and feedback. The structure of the alternative work arrangement allows for some job-crafting and decision latitude in terms of scheduling and other work-related choices, which can be perceived as autonomy (H1b). This autonomy from short-term contracts comes with a unique form of solitude that can detract from receiving meaningful feedback (H1c), which is frequently provided by organizational sources such as coworkers and supervisors.

Motivation

Due to difficulty meeting tangible needs, alternative workers' psychological needs will also be at a deficit compared to traditional workers. Alternative workers are often paid less than their traditional counterparts for similar work (Reichenberg & Berglund, 2019). They also endure worse working conditions and legal protections, as they are often employed to either meet an encroaching deadline or to avoid the cost of supplying adequate pay and safety measures (Gun, 1993; Hijzen et al, 2017). Research has shown that worker groups' willingness to work and perceptions of benefit are different, such that alternative workers place an emphasis on the attainment of tangible benefit from work and value the benefits more greatly than their traditional counterparts regardless of risk or safety in their work (Giordano et al., 2020). This prioritization of assuring adequate compensation for their work can be viewed as a focus on extrinsic reward. Due to this, extrinsic motivation will be higher in alternative workers.

Hypothesis 2a: Alternative workers will report higher extrinsic motivation than traditional workers.

The psychological needs of alternative workers are often not prioritized by organizations. While autonomy may be a feature of the work arrangement, alternative work can be draining on other psychological needs described in SDT, such as competency and relatedness. Supervision, training, feedback, and other forms of organizational support are not mandated, and thus can be ignored by the host organization (Hijzen, 2017; Rousseau & Libuser, 1997). Resources to obtain and hone work skills must be cultivated on their own. They also lack consistency in coworkers, supervisors, location, and contracts (Åkerblad, 2017), making it difficult for them to seek social fulfillment through work. Alternative workers also grapple with unique challenges that can also be frustrating when trying to meet their psychological needs. Alternative workers deal with stressors such as job theft (Tran & Sokas, 2017), in which their freedom to decide when and how to work creates a feeling of "theft" of this work by others when they are not on the job. They feel as if the demand for their work is rapidly diminishing as others are fulfilling the work that are not currently doing, such that they should return to their work as soon as possible. They also struggle with contract preference and renewal (Bernard-Oettel et al., 2013; Clinton & de Jong, 2013), as their opinions of their own work contract can create stress when it is no longer providing them with satisfying outcomes. As a consequence, alternative workers will also experience greater needs-frustration.

Hypothesis 2b: Alternative workers will report higher needs-frustration, regarding the attainment of competence, autonomy, and relatedness than traditional workers.

1.6.10 Individual Difference and Moderation

The individual differences employed by both JCM and SDT to assess motivation can also differ systematically across arrangements. JCM's growth needs strength (GNS) is designed to have interplay with other beneficial characteristics that would most likely be in lower supply

among an alternative worker sample. GNS is typically higher in positions that facilitate a challenging work environment and offer opportunities to gain new job-relevant skills (Hackman & Oldham, 1980; Barrick et al., 2013). Cognitive resources, motivation, and opportunities to grow (often through autonomy on the job) can contribute to the expression of GNS and the subsequent benefits. While alternative workers can experience a high level of autonomy, the lack of opportunity and resources that also accompany their arrangement can shift the focus from growth within their job roles to sustaining their current position adequately.

SDT's aspirations involve the full internalization of internal or external motives. The prioritization of tangible resources among alternative workers can be viewed as a focus on external reward, reflecting their primary pursuit of tangible benefit and laxity of intrinsic aspirations. Research has shown that external motivation that is not internalized as autonomous motivation is related to lower job satisfaction and greater frustration with meeting psychological needs (Landry et al., 2016). The internalization of extrinsic reward can occur; however, it is facilitated by intrinsic motivators as well as the satisfaction of psychological needs and can affect individual aspirations. The focus alternative workers have on finances, current and future contracts, and making ends meet is a common theme found in qualitative research conducted by Åkerblad (2017). Alternative workers expressed their concerns with finances, acknowledged their economic and employment difficulties, and focused on tangible resources even when engaging in contracts they found reasonable. The concern for the next contract was a consistent stressor recorded in their interviews, which can demonstrate a lack of needs satisfaction and internalization. Populations belonging to different work arrangements may differ in their innate need for motivation and growth as per JCM and SDT.

Hypothesis 3a: Intrinsic aspiration will be positively associated with Growth Needs Strength.

Hypothesis 3b: Both Growth Needs Strength and intrinsic aspiration will be lower in alternative workers than traditional workers.

Research has shown that support felt by alternative workers, in the form of training and other social exchange, can have strong positive effects on performance and well-being. In some cases, these benefits are greater than those experienced by traditional employees. Coworker support has been shown to be more beneficial to nurses on terminal contracts as opposed to permanent nurses, especially when they experienced work-family conflict (Mauno & Ruokolainen, 2017). Coworker support was operationalized as express accommodation, understanding of rescheduling, and other work alterations from both supervisors and coworkers. Alternative workers frequently do not work on contracts long enough for these cultural aspects to be meaningful, even if they exist in their immediate work environment.

Organizational support and investment in alternative workers can be reciprocal, especially in alternative worker dominated fields. Alternative workers are offered training significantly less than their permanent counterparts, as the return on investment does not seem valuable enough; however, there can be direct improvements to performance as well as spillover effects of training that often utilize alternative work. When alternative workers at call centers were provided access to training, they actively engaged in the training and exhibited performance increases comparable to permanent workers which lead to increased firm revenue (Lyons, 2020). This increase in performance was moderated by prior performance, as the benefit from training was increased in those that were already considered higher-ability workers. Research using a

Belgian sample shows that offering training opportunities can also increase perceptions of employability, even with minimal training (Forrier & Sels, 2003). This challenges the belief that alternative workers are destined to experience lower employability solely based on their contract, as these findings show that perceptions of employability can protect against negative outcomes of temporary contracts. Affective commitment toward the host organization can also be increased in an alternative worker sample by offering training (Chambel & Sobral, 2011). Chambel and Sobral display that an organizational investment in training workers on temporary contracts can result in an immediate increase in affective commitment explained by social exchange, in which the alternative workers' commitment was related to their own increase in employability and perceptions of organizational support more so than the discrete number of training hours received. This partial mediation on commitment highlights the importance of relatedness and social investment in alternative workers.

When various forms of organizational support exist, they can greatly improve the working conditions of alternative workers. The improved job characteristics and internalized sources of motivation should provide a uniquely beneficial effect on alternative workers. Support towards scheduling conflicts and family commitments has been shown to be uniquely beneficial, which can transfer to overall autonomy at work. Feedback and other insight on performance may also provide a greater benefit to alternative workers, as they rarely experience performance appraisal in this capacity. They serve to benefit from the perception of support itself in terms of commitment and employability. Internalized motivation is also cultivated through gaining autonomy, experiencing relatedness to those in their workspace, and improving their work skill.

Hypothesis 4a: Autonomy will be positively associated with positive work outcomes (job security, external employability, and subjective well-being) more strongly in alternative workers than traditional workers.

Hypothesis 4b: Feedback will be positively associated with positive work outcomes more strongly in alternative workers than traditional workers.

Hypothesis 4c: Intrinsic motivation will be positively associated with positive work outcomes more strongly in alternative workers than traditional workers.

1.6.11 The Uniqueness of Alternative Work

While there is precedent to hypothesize general differences between work arrangements, considerable systematic differences within the alternative work arrangement can exist as well. Understanding these differences can be helpful in determining organizational interventions and national policy around such arrangements. Spreitzer et al. (2017) mention specific challenges in drawing meaningful conclusions within this line of research. First, a sweeping understanding of alternative work compared to traditional has significant limitations. Multiple explanations based on various frameworks are used to explain phenomena within traditional work, so this same approach should be used when examining alternative work. Notable examples include the study of leadership, which includes applying dyadic relationships to leadership via Leader Membership Exchange Theory (Graen & Uhl-bien, 1995), while also incorporating leadership styles such as transformational leadership (Bass & Avolio, 1990); or the inclusion of multiple work elements to occupational safety through a systems approach that incorporates ergonomics (Carayon, 2006), safety knowledge and participation (Griffin & Neal, 2000), and safety culture and climate (Huang et al., 2017). Second, the comparisons made between work arrangements are helpful for utilizing precedent; however, this can lead to issues of generalizability, as normative assumptions

about work through the lens of the traditional work arrangement can be made. In contrast to the relatively static nature of traditional work arrangements (Boden et al., 2016; Spreitzer et al., 2017), many iterations of alternative work wax and wane in popularity to meet market demands. Most industrial-organizational psychology research assumes job incumbents belong to a traditional work arrangement, which can lead to inappropriate normative assumptions when comparing traditional work to alternative work. In general, most mainstream I/O research may not adequately reflect the alternative worker population compared to a traditional population.

By taking an approach that incorporates characteristics of the job, individuals involved, and features of the work itself, some meaningful understanding of differences within alternative work can be achieved. JCM has a long history of being used to measure job-crafting capabilities as well as potential skill expression and motivation. SDT is a framework with many iterations that address the sources of motivation and internalization of job roles. Both predict similar outcomes, specifically related to well-being and health, which is a focus of prior research addressing the disparities within the alternative work arrangement. Both have individual difference variables that can be used to determine motivation, self-selection into an arrangement, or to assess outcomes per arrangement. This also serves as an opportunity to replicate past literature on specific kinds of alternative work that can aid in understanding its present malleable form. Normative assumptions can be checked, addressing the utility of generalizing research conducted on traditional worker samples to alternative workers, specifically regarding motivation and health. This can answer questions that exist about present alternative work as well as raise new ones to guide policy, organizational interventions, and job design around this specific work arrangement. It can be a tool to maximize efficiency in specific work domains while still providing adequate satisfaction of tangible and psychological needs.

Evidence displaying the diversity that can exist in the alternative arrangement (Katz & Kruger, 2017; Munck, 2018) implies that a closer examination of the alternative work arrangement should include both analyzing the difference between alternative workers and their traditional counterparts, as well as within their own varied group. An assumption of traditional work is that full-time workers employed directly through a single organization will most likely incur issues, boundaries, and responsibilities similar enough to be generalizable. This may not be the case for alternative workers, as Table 1 describes a similar job under the alternative work arrangement that can have significant differences in the details of the contract as well as the expectations of the work. Precedent displays that there are trends of reduced well-being and life outcomes (Åkerblad, 2017; Giordano et al., 2021; Reichenberg & Berglund, 2019) and a potential for greater freedom while engaging in alternative work (Friedman, 2014; Kuhn, 2016); however, it is important to stress that alternative work is not a monolith (Spreitzer et al., 2017; Brawley, 2017). Both the perception of the detriments and benefits should be expected to be as varied as the contracts within the alternative arrangement. This said, there should be greater variance within the alternative work arrangement than those belonging to the traditional work arrangement on all key variables regarding JCM, SDT, and other perceptions.

Hypothesis 5a: Greater variability will be present in the alternative worker sample for all variables.

Patterns Based on Features of Work, Job Characteristics, and Psychological Needs

Including functional aspects of the alternative work arrangement can be useful in establishing relationships between job characteristics, motivation, and the hallmarked "non-traditional" descriptors. Feldman mentions specific dimensions that can help differentiate alternative work arrangements. These dimensions are time, space, and employer type. Time can

help differentiate between multiple discrete contracts over time, such as gig work or longer fixed contracts. Time can also include multiple part-time work arrangements, multiple jobholders, and seasonality of work. Specifically, Feldman proposes potential subdimensions like continuity (the frequency of contracts), synchronicity (the integration with traditional workers), and seasonality (the variability of contract attainment over the course of a year). Space would help understand workplaces, coworker potential, and the virtuality of the work. Type of employer would specifically address the affiliation to a contracting agency or organization, self-employment, or simultaneous employers, which would have potential legal implications. Not all these features are comparable; however, they can offer insight into the structure of certain kinds of alternative work. Broad combinations of these logistical features of work may facilitate or limit certain job characteristics and psychological needs. The conceptual unity between Job Characteristics Theory and Self-Determination Theory can allow for mapping specific profiles of alternative work that may emerge based on the characteristics and needs satiety. There may be broad profiles that both highlight the unique vulnerability and freedom experienced by the alternative worker population. Specifically, there may be broad profiles that both highlight the unique vulnerability and freedom experienced by the alternative worker population. It can be hypothesized that there will be four profiles, each occupying a quadrant in a 2x2 matrix. One axis would be the level of the level of involvement regarding the alternative worker contract, which would be determined by the features posited by Feldman (2006) and Spreitzer et al (2017) and their unique perceptions of seriousness and preference for their contracts (i.e. flexibility, employer relationship complexity [ERC], contract/time details, worker seriousness [WS], and contract preference [CP]). Unique instances of high levels of flexibility presented in time and space, a complicated relationship with employers (multiple employers at once, per year,

employed through an application or agency, etc.), and seriousness/preference for their alternative contracts would determine the involvement regarding their alternative work arrangement. While a normative description, this can be considered the degree of "alternativeness" that worker experiences. The other axis would be desirable/beneficial perceptions of one's work and life, determined by JCM and SDT (i.e., skill variety [SV], task identity [TI], task significance [TS], autonomy, feedback, both autonomous and controlled motivation, needs satisfaction and frustration). Higher levels of characteristics like task significance and identity paired with higher satisfaction of needs would be indicative of desired attitudes. Lower levels of characteristics like skill variety, autonomy, and feedback, along with frustration with psychological needs would display fewer desirable perceptions related to work. This would yield 4 profiles, each capturing some of the circumstances highlighted in the literature (Figure 2). Quadrant I would most likely include workers that are benefitting from their high-level of involvement in alternative work, such as the "top talent" freelance specialist described by Kuhn (2021). These workers would have competitive contracts that are also seasonal, relatively short, or may work multiple contracts during the year at a particularly busy time. Quadrant II would describe gig workers that may have frequent work, contract changes, and seriousness about their work, but would not necessarily benefit from high skill variety, task significance, task identity, or other benefits that may be experienced by alternative workers in more ideal situations. Workers would not feel much benefit, and might even feel unique stressors, such as the workers described by Tran & Sokas (2017). In interviews conducted by Åkerblad (2017), workers with contracts that may even be considered longer can still struggle and be in an unideal alternative worker scenario. Quadrant III would capture these individuals that might not have a high-level of complexity in their work contracts, but still do not experience the ideal benefit that may come from maximized

alternative work. Quadrant IV would be represented by those that augment their life positively with alternative work, similar to the workers honing their skills investigated by Demetry (2017). Those that utilize alternative work as a creative outlet, or those that have an inconsistent craft and fill in gaps with alternative work would fit this description. By using the features of work, as well as the key variables determined by the theoretical combination of JCM and SDT, an understanding of contract variety, perceived characteristics of one's job, psychological needs, and motivation can be used to parse meaningful groupings of alternative work.

Hypothesis 5b: Profiles of alternative work based on the features of work, JCM, and SDT will emerge such that there will be four distinct clusters:

Profile 1: A high involvement; high benefit profile that features workers with an arrangement that is different to a traditional work arrangement, and would benefit from this uniqueness.

Profile 2: A high involvement; low benefit profile that features workers with an arrangement that is different to a traditional work arrangement, but would not benefit from the uniqueness of their work.

Profile 3: A low involvement; low benefit profile that features workers with an arrangement similar to a traditional work arrangement, but would not experience the benefits of alternative work.

Profile 4: A low involvement; high benefit profile that features workers with an arrangement similar to traditional work, but would also experience the benefits of an alternative work arrangement.

This multiaxial approach integrates logistic features of work, characteristics as they are perceived by incumbents, and sources of motivation that all have a bearing on the known health and safety disparity in alternative workers. The goal of this approach is threefold. First, this research aims to re-establish the existence of the occupational health disparity within in JCM and SDT framework for alternative workers at large, with the first set of hypotheses focusing on the disparity between work arrangement (H1 and H2). The second goal is to display the unique importance of job characteristics and motivational factors within this framework on alternative workers, by testing hypotheses 3 and 4. The final goal is to investigate the uniqueness within the alternative work arrangement through workers' perceptions, such that the disparities and potential benefits of certain alternative work styles are no longer obfuscated by jargon and terminology (H5). Unique attention to the alternative work arrangement by utilizing the synthesized prominent IO theories to both address generalizability across populations as well as respecting the varied nature of alternative work.

Chapter 2 - Method

2.1 Design and Participants

The study employs a between-group design in order to compare an alternative worker group to a traditional worker group using non-parametric statistics and generalized linear modeling, followed by a latent profile analysis to examine potential profiles within the alternative work arrangement. The survey consisted of 100 - 110 items (an additional 10 for alternative workers), was anonymous, and did not request any identifying information. Participants were recruited from vetted panels through an online survey panel provider. Participants were compensated with a commensurate monetary reward according to the respective providers' guidelines, based on the average completion time (7.5 minutes) from the

prelaunch data (initial 10% collected), yielding an incentive of $4.25 per participant. Completion times below five minutes (1 SD below mean response time), suspicious responses to open-ended items, failure on attention checks, and suspicious invariance (participants with < .2 were flagged for review; Lopez-Fernandez et al., 2018) were grounds for removal from the dataset. This level of fidelity was communicated with the panel provider during data collection. The attention check matched the panel provider's recommendations to be put in the first half of the survey, and is as follows:

> We care about the quality of our survey data and hope to receive the most accurate measures of your opinions, so it is important to us that you thoughtfully provide your best answer to each question in the survey. Are you committed to providing thoughtful and honest answers to the questions in this survey?

Alternative workers were explicitly requested and used two checks within the survey to verify authenticity. The first was a description of alternative work with the following information, accompanied by their response to whether they belonged to an alternative arrangement:

> The alternative work arrangement includes work that is different from the normal assumptions of work. This means you do not have a set schedule, location, or even an employer. This includes work with highly flexible or unsteady working hours, telecommuting and other nontraditional working environments, and unique coworker interaction (such as job-sharing or gig work). People with this kind of arrangement can have multiple jobs or employers, do freelance work, or take short- and long-term temporary contracts.
>
> People belonging to this work arrangement can have many titles, such as contractor, freelancer, self-employed, part-timer, multiple jobholder, temporary worker, gig worker, etc.
> This is different from a traditional arrangement, which has a set schedule that does not change often, the same employer, and at the same location. This is the standard assumption of most jobs.

The second utilizes inclusion criteria of identifying as a gig worker, on-call worker, contract worker, temporary worker, part-time worker, self-employed, and freelancer from various industries to guarantee variance within the alternative work arrangement. Along with the list mentioned prior, the option of "none" was presented to be used as a screening response if it was the only option selected. Total cleaning removed 183 responses from the dataset, leaving 626 viable respondents. Of the 626 participants, 416 considered themselves alternative workers with 343 identifying as women 57.99%. The average age for alternative and traditional workers was 42.8 and 44.1 respectively. Demographic information split by work arrangement is presented in Tables 2-4.

2.2 Variables and Measures

2.2.12 Shared Arrangement Features

Feldman's (2006) call to research suggested a system of alternative work categorization based on the dimensions of time, space, and employer type. Time would ascertain how often work would be broken up among alternative workers, considering the continuity of contracts, frequency of contracts, and seasonality of contracts. Space would address location, common workplaces, and virtuality. Type of employer would speak to whom the alternative worker is beholden; whether a temporary agency, subcontractor, short-term contract/gig application, or self-employed. Time and space were also identified as key components in addressing workplace flexibility among workers from varied populations (Friedman, 2014; Spreitzer et al., 2017). Specifically, flexibility across time and space may be the main desirable feature of alternative work, which can provide opportunities to those that might not be able to sustain a traditional work arrangement. Spreitzer et al. (2017) explicitly highlight the attention to this kind of

flexibility as an important feature to consider, as it can apply to both alternative and traditional work arrangements should have greater variability within alternative workers than traditional. With these recommendations in mind, a 9-item measure was generated to assess the flexibility in these pertinent domains that can apply to either arrangement. Items were placed on a 5-point Likert scale (None at all – A great deal). Items regarding flexibility in time (3 items) and space (3 items), and employer relationship complexity (3 items) were created with a panel of SMEs before implementation (Appendix C). While these features may be more salient in an alternative worker sample, they can still be shared with their traditional counterparts, so these items were presented to all participants. The efficacy of the shared features measurements is assessed with exploratory and confirmation factor analysis in the Results section.

2.2.13 Features and Characteristics Unique to Alternative Workers

A critique of the approach of focusing solely on flexibility was made by Brawley (2017), as generalizable dimensions of time and space flexibility lacked specificity to the alternative worker population. She suggests that while latent constructs might be similar, the use of identical operationalizations might be "comparing apples to oranges", and could differ more than they would be similar. An additional 3 contract- and time-related items, referred to as contract/time details, that may not apply to traditional workers were also included to gather more detail regarding their work activities and time flexibility. These include items about how long their typical segment of work (contract, HIT, work order, etc.) lasts, the time between these work segments, and how often new work is taken (Appendix C). These were rated on a 7-point Likert scale with each value tied to an approximate amount of time: 1 = a day or less, 2 = a few days to a week, 3 = a few weeks to a month, 4 = 2-3 months, 5 = about 6 months, 6 = about 1 year, 7 = over 2 years.

Similarly, Brawley mentioned that flexibility dimensions may not capture the importance of the outcomes/rewards of alternative work, the level of belongingness to an alternative worker sample, or the internalization of their work arrangement. Brawley employs a single-item measure of "worker seriousness" to address their reliance and motivation towards alternative work as a perception. Items, including Brawley's single-item measure, were generated with the aid of SMEs and were piloted along with suggestions from Feldman (2006) and Spreitzer et al. (2017). An additional 3 items were generated to focus on the seriousness, priority, and importance alternative work has in one's life, rated on a 5-point Likert scale of agreement (Appendix A). Due to their nature, these items were only presented to alternative workers. The efficacy of the unique feature measurements is assessed with exploratory (EFA) and confirmation factor analysis (CFA) in the Results section as well.

The volition behind holding a particular job contract can also be important to measure, so contact preference was assessed after participants self-identified their job arrangement. While more pertinent to alternative workers, traditional workers can also have perceptions about their work arrangement if they consider moving to alternative contracts (Bernhard-Oettel et al., 2008). This was done so all participants were privy to the definition of "work arrangement" and could similarly and more accurately respond. Contract preference (Clinton et al., 2005; [CP]) was measured using a four-item scale rated on a 5-point Likert scale. Items include: "I prefer my present work arrangement", "I will change my arrangement if available" (reverse-coded), "My present arrangement suits me for the time being", and "I like my present work arrangement over others". These items were rated on a 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Cronbach's α ranges across samples with varying work arrangements are typically above 0.70 (Bernhard-Oettel et al., 2008). Confirmatory factor analysis was used for all

shared variables on the entire sample, as there have been concerns that some scales might not be adequately modeling alternative workers (Brawley, 2017). This sample's confirmatory factor analysis (CFI = 0.99, TLI = 0.99, RMSEA = 0.03 [90% CI [0.00, 0.09]) and reliability analysis ($\alpha = 0.73$) display adequate fit. All scales included within the battery are presented in Appendix C.

2.2.14 Psychological Resources

Perceived Job Security

To test Hypothesis 1a, three resources pertinent to alternative workers were assessed: job security, external employability, and subjective well-being. Perceived job security (PJS) was measured using the Job Insecurity Scale, a four-item scale rated on a 5-point Likert scale validate across five countries and languages (Vander Elst et al., 2014). Items include: ‘‘Chances are, I will soon lose my job’’, ‘‘I am sure I can keep my job’’ (reverse coded), ‘‘I feel insecure about the future of my job’’, and ‘‘I think I might lose my job in the near future’’. These items were rated on a 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). This scale was chosen for its prior use on alternative worker samples and as such, the job insecurity score was then reverse-coded. Higher levels indicate job security and lower levels indicate job insecurity, to align the construct with its most frequently discussed direction. Cronbach's α ranges from 0.82 to 0.88 across multicultural samples. In this sample, confirmatory factor analysis (CFI = 0.99, TLI = 0.99, RMSEA = 0.04 [90% CI [0.00, 0.10]) and reliability analysis ($\alpha = 0.81$) display adequate fit.

External employability

To test Hypothesis 1a, perception of external employability (EE) was assessed with an 8-item measure (Rothwell & Arnold, 2007) based on a 5-point Likert scale (1 = strongly disagree;

5 = strongly agree). An example item is, “I could get any job, anywhere, so long as my skills and experience were reasonably relevant.” Cronbach’s α is .83 in prior samples, indicating satisfactory internal consistency. In this sample, confirmatory factor analysis (CFI = 0.99, TLI = 0.99, RMSEA = 0.03 [90% CI [0.00, 0.09]) and reliability analysis (α = 0.86) display adequate fit.

Subjective Well-being

Subjective Well-being (SWB) was measured by the 2014 adaptation of the National Health and Aging Trends Study’s well-being scale (Choi et al., 2014). This is a 7-item measure using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). The NHATS (Kasper & Freedman, 2012) well-being scale was selected for its brevity and utility as a single measure of overall subjective well-being for people from diverse backgrounds (age, SES, health disparities, etc.), with, Cronbach’s α ranging from 0.74 to 0.81 in prior samples. An example item is, “My life has meaning and purpose.” In this sample, confirmatory factor analysis (CFI = 0.99, TLI = 0.97, RMSEA = 0.07 [90% CI [0.03, 0.13]) and reliability analysis (α = 0.71) display adequate fit.

2.2.15 Variables regarding Job Characteristic Model

The Five Core Characteristics

The five core characteristics were measured using the revised Job Diagnostics Survey (Idaszak & Drasgow, 1987) which adapted the original survey of Hackman and Oldman (1975). The initial Job Diagnostics Survey developed by Hackman and Oldham (1975) used three items on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree) for each of the five core characteristics (skill variety [SV], task identity [TI], task significance [TS], autonomy, and feedback). Reliability varies based on version and sample but is often acceptable for both (α >

0.75; Cook et al., 1981; Buys et al., 2007). In this sample, confirmatory factor analysis with a 5-factor solution (CFI = 0.94, TLI = 0.92, RMSEA = 0.07 [90% CI [0.06, 0.08]) and reliability analysis (α range = 0.76-0.85) display adequate fit.

Growth Needs Strength

Growth needs strength (GNS) was assessed with the GNS portion of Hackman and Oldham's (1980) Job Diagnostic Survey (α = 0.88). Items stem from the prompt "considering all the things that are personally important to you in a job, how important is it to you to have a job with. . .". Items complete the prompt with sentences inquiring about challenges at work, growth, and skill acquisition. This portion of the original survey has provided adequate reliability both alone (Shalley et al., 2009; α = 0.88) and as an adapted measure for larger scales (Mumtaz & Parahoo, 2019; α = 0.91). In this sample, confirmatory factor analysis (CFI = 0.99, TLI = 0.98, RMSEA = 0.06 [90% CI [0.04, 0.08]) and reliability analysis (α = 0.85) display adequate fit.

2.2.16 Variables regarding Self-Determination Theory

Autonomous and Controlled Motivation

Motivation for working was measured by an adapted version of the academic self-regulation scale (Ryan & Connell, 1989). This has been successfully adapted for college (Vansteenkiste et al., 2005; 2009) and employee samples (Van den Broeck et al., 2010). This scale is comprised of 16 items on a 5-point Likert Scale which are evenly distributed among four self-regulation domains: intrinsic (α = .89), identified (α = .79), introjected (α = .69), and external regulation (α = .77). The autonomous motivate score is a composite of intrinsic and identified regulations (α = .87). The controlled motivation score is a composite of the introjected and external regulations (α = .72). These correspond to the subtypes of motivations mentioned prior. In this sample, confirmatory factor analyses for both the autonomous (CFI = 0.99, TLI =

0.99, RMSEA = 0.03 [90% CI [.00, .09]) and controlled motivation (CFI = 0.99, TLI = 0.97, RMSEA = 0.08 [90% CI [.06, .10]) and reliability analyses (α range = 0.83-.90) display adequate fit.

Needs Satisfaction and Frustration

The satisfaction and frustration with meeting psychological needs under SDT were measured by the Needs Satisfaction and Frustration Scale (NSFS; Longo et al., 2016). This is a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree) survey with 18 items addressing the satisfaction or frustration with the three core needs per SDT. Each begins with the stem "In my job…", with six items dedicated to each need, split even with three items per need assessing the need or frustration. Internal reliability coefficients for needs satisfaction (NS) and needs frustration (NF) subscales respectively were .81 and .82 for autonomy, .73 and .78 for relatedness, and .76 and .82 for competence. In this sample, confirmatory factor analysis (CFI = 0.97, TLI = 0.96, RMSEA = 0.05 [90% CI [.04, .05]) and reliability analyses (α range = 0.80-.85) display adequate fit.

Aspirations

The Aspiration Index (AI) was used to measure intrinsic and extrinsic aspirations (Kasser & Ryan, 1993; 1996). The AI has several iterations that include indices contributing to understanding intrinsic or extrinsic motivation. The indices of personal growth, community, affiliation, and health culminate to intrinsic aspiration; while the indices of wealth, fame, and image form the extrinsic aspiration score. The first four indices load onto one factor, as they estimate SDT's need for competence (personal growth), autonomy (affiliation & health), and relatedness (community). The final three load on a separate factor, addressing extrinsic reward via tangible resources (wealth) or status (fame & image).

The AI includes 35 5-point Likert scale items spread evenly across seven indices. During an investigation of the factor structure across 15 cultures, the mean internal reliability coefficients ranged from .72 to .84 (Grouzet et al. 2005). The AI has been used cross-culturally, longitudinally, and on a broad range of ages (Grouzet et al., 2005; Grouzet et al., 2006; Kim et al., 2003). It is recommended as a highly adaptable survey that can be broken down and modified to fit varied populations (Utvær, et al., 2014). It is important to note that these individual differences do not cover all personal motivational tendencies, but rather approximate motivation per SDT. Due to the focus of this analysis, the only extrinsic factor being assessed were wealth (AW), and the only intrinsic factors measured were community (AC) and personal growth (APG). In this sample, confirmatory factor analysis with a 3-factor solution (CFI = 0.94, TLI = 0.93, RMSEA = 0.07 [90% CI [.07, .08]) and reliability analyses (α range = 0.82-.87) display adequate fit.

2.2.17 Control and Contextual Variables

All sociodemographic information, including age, race, and gender, was collected at the end of the survey. Organizational surveys may lead to increased concern regarding anonymity, as the participants are directly related to the sponsors. This can create a fear of identification that leads to increased nonresponses and drop-out rates, especially when identifying information is placed at the beginning of a survey (Borg, et al., 2008). This can be compounded when pertinent demographic information is sensitive in nature, such as health status and finances (Teclaw et al., 2012). The placement of demographic information at the end of a survey battery is often recommended to avoid non-responses (Chambers et al., 2016). Collecting data from individuals detached from an organization should avoid these issues; however, common conventions were retained.

Education Level

Education was measured by the 6-level categorical variable item: “Which categories describe you?” The categories are; some high school, high school diploma or equivalent, some college or associate’s degree, bachelor’s degree, master’s degree, applied or professional doctorate degree. It is necessary to control for education level as education level tends to vary systematically when comparing traditional worker groups to alternative worker groups (Rousseau & Libuser, 1997). Features of the job such as job complexity may also impact motivation systematically (Shalley et al., 2009). Similarly, education level may have an effect on certain individual differences such as GNS and aspirations, which should also be accounted for.

Income and Perceived Socioeconomic Status

Income, as an objective measure of financial standing as well as perceived socioeconomic status, was used as a control variable to isolate the effect of work arrangement. Their present wage was measured as a continuous number to the nearest dollar amount. Income was measured categorically (6-level ordered categorical variable) with the item “Which of these categories best describes your total household income for the past 12 months? This should include income (before taxes) from all sources, wages, rent from properties, social security, disability and/or veteran’s benefits, unemployment benefits, workman’s compensation, help from relatives (including child payments and alimony), and so on.” The category range expands every $25k.

Perceived socioeconomic status was measured on a 5-point Likert scale (1 = Far Below Average; 5 = Far Above Average) by the following items (Karraker, 2014; $\alpha = .82$):
“Compared with most of the people you know personally, like your friends, family, neighbors, and work associates, would you say that your household income is:”

"Compared with American families in general, would you say that your household income is:" Socio-economic and individual differences need to be controlled, as they may be systemically associated with an individual's controlled motivation. Alternative workers are often underemployed (Åkerblad, 2018; Quinlan & Sokas, 2009), so economic factors including present wage, family income, and perceived economic status were entered as controls.

Industry

Participants were asked to identify an industry that best fit their primary work from a selection of 17 options. This item was "Which of the following categories best describes the industry your primarily work in (regardless of your actual position)?" This was accompanied with the following response options: Agriculture, Food, & Natural Resources; Architecture & Construction; Arts, Audio/Visual Technology & Communications; Business Management and Administration; Education & Training; Finance & Insurance; Government & Public Administration; Health Science; Hospitality & Tourism; Human Services; Information Technology; Law, Public Safety, Corrections & Security; Manufacturing; Marketing; Science, Technology, Engineering, & Mathematics; Transportation, Distribution, & Logistics; Other. This item had significant missingness, over 75%, and thus was not used in any analysis. A portion of respondents opted to share their industry in more detail in the open-ended item section; however, there often was not enough information to code their responses accordingly.

2.2.18 Open-ended Items

Four open-ended questions adapted from Åkerblad (2017) were added as well and were used to qualify results and garner additional information participants were willing to provide. These were "How do you feel about your current work situation?", "How does the statement 'Short-term jobs are a problem' make you feel?", "How does the statement 'People should try to

have traditional jobs' make you feel?", and "Is there any other information you would like to share with the researcher?". These address work arrangement/contract preference, out-group bias towards alternative workers, and the normativity of traditional work respectively. The final item was presented in case participants felt like sharing more information. These were placed at the end of the survey and were prompted as optional. This served as an opportunity to qualify results as well as offer space for participants to grant additional information that they may deem important that was not incorporated within the battery. For each of the three questions, there were response rates of 92.07%, 90.14%, and 85.58% for all alternative workers and 88.04%, 85.17% and 74.16% for traditional workers. Question 1, asking their current work situation, was coded as indifferent or ambivalent, mostly positive, or mostly negative. In both cases, a majority of workers responded positively when asked about their current work. 230 of 416 alternative workers and 108 of 209 traditional workers responded positively to their work situation. Question 2 asked their opinion if short-term contracts were problematic and was coded as indifferent or ambivalent, agreed with the statement, or disagreed. 208 alternative workers and 80 traditional workers disagreed with this statement. Question 3, asking about traditional work as the norm, was coded similarly. 159 alternative workers and 63 traditional workers disagreed. Tables 5-8 provide more detail on the qualitative responses. Additional comments pertinent to the research findings are highlighted in the discussion section.

2.3 Analyses

2.3.19 Factor Analyses for Adapted Scales

Before hypothesis testing, the adequacy of the adapted scales for both the shared features of work (flexibility in time, space, and employer) and the features unique to alternative workers (alternative worker seriousness and contract details) were assessed using factor analysis. Since

the purpose of these scales is to generate profiles across alternative workers, EFA procedures were conducted first on a hold-out sample of randomly assigned alternative workers, with subsequent CFA procedures being conducted on the remainder of the sample, including traditional workers when applicable. Exploratory factor analysis (EFA) was conducted on the arrangement scale, the assessment of time specific to alternative workers, and worker seriousness to explore the factor structure. Based on recommendations on conducting EFA on samples with questionable normality (Fabrigar et al., 1999), principal axis factoring was used as the extraction method along with an oblique rotation on the shared features of work. Since there are fewer items for the unique features of work (worker seriousness and measures of alternative worker contract time), maximum likelihood estimation was used on the unique features to allow the models to converge.

The shared features of time and space flexibility, and employer relationship were factors proposed in the following CFA on both a hold-out sample of alternative workers and all traditional workers, to confirm the factor structure obtained from the previous sample. Model fit was evaluated with χ^2, comparative fit index (CFI), Tucker-Lewis index (TLI), standardized root mean squared residual (SRMR), and root mean square error of approximation (RMSEA). The recommended cut-off values of CFI and TLI > .90, and SRMR and RMSEA < .08 were used per Hu and Bentler (1999). Items regarding features unique to alternative workers were included in a separate CFA only on the hold-out sample. All other scales in the battery were assessed by CFA using the full sample of all participants to assure they are operating as intended. These factor analyses were conducted in the Jamovi software, which is open-source statistical software that utilizes base r packages (The Jamovi Project, 2019).

2.3.20 Assessment of Hypotheses 1-3

Due to the structure of the data, multiple generalized linear models were used to assess hypotheses 1 - 3. Frequently used before understanding classification designs, participant characteristics are often checked for their relationships with potential outcome variables. In cases like this, analysis of co-variance (ANCOVA) is recommended to remove the contribution of certain categorical variables to assess the effect of variables of interest more accurately (Rutherford, 2011). Covariates were entered into the analysis to have their contribution accounted for before assessing the main effects. When assessing for different levels of between-subject factors sampled from different populations, covariates may be contaminated by differences in the expected values of the covariate measure that exist across these different populations (Schneider et al., 2015). It is recommended to adopt a hybrid procedure by analyzing all effects involving a covariate with ANCOVA, and then conducting an analysis of variance (ANOVA) for any remaining effects. This is particularly important when examining within-subject designs, or when different populations are being measured on mutually exclusive belongingness.

In the case of this data, all assumptions of ANCOVA were met barring the assumption of normality, even after transformations and removal of outliers. This is expected, considering precedent suggests that these variables should not be normally distributed within the anticipated subgroups of alternative workers, such as job security or motivational factors (Vander Elst et al., 2014). These constructs might also not be fully generalizable or be similarly meaningful to alternative samples as well (Brawley, 2017). Since the constructs included might not be generalizable fully across samples, these violations indicate that non-parametric statistics would more accurately represent the data. Even though ANCOVA procedures are typically robust to

violations of normality, they were replaced with nonparametric ANCOVA to more accurately model the data for hypotheses 1-3.

Typically, Friedman or Quade's tests are used when assessing rank-ordered variables for nonparametric two-way analyses of variance to compare several related samples (Ellis & Davidi, 2005; Karolczak et al., 2022; Quade, 1979). Both generate nonparametric partial correlation coefficients that can be compared across groups and are designed to estimate nonparametric (order-scale) correlations by generalizing these partial correlations. Quade's test was selected as it has been shown to be more powerful for a small number of groups (2; alternative worker or traditional worker), and typically reserves power in smaller samples (Theodorsson-Norheim, 1987). Hypotheses 1-3 compare the different work arrangement groups (barring 3a), and therefore were analyzed using Quade's test, a nonparametric ANCOVA. First, all variables (excluding the grouping variable) are ranked. A linear regression of the ranked dependent variables is run on the ranked covariate scores, in which the residuals from this analysis are retained. Then, a one-way ANOVA using the residuals as the dependent variable is conducted, using the grouping variable as the grouping factor. This produces a single effect size for the grouping variable on the DV. For hypotheses 1a, 1b, and 1c, the difference between populations in resources, autonomy, and feedback was analyzed respectively, after covarying sociodemographic information. These were the covariates that shared sufficient homogeneity of covariance to be incorporated into the model. For hypotheses 2a and 2b, the difference between the population in extrinsic motivation and needs frustration were analyzed respectively, after covarying demographic information. Hypothesis 3a was analyzed via correlation in both populations, with 3b using Quade's test to examine differences in GNS and intrinsic aspirations after controls.

2.3.21 Assessment of Hypothesis 4

Hypotheses 4a-c were analyzed using nonparametric regression models to assess the main effects of autonomy, feedback, and intrinsic motivation in traditional and alternative workers. Multiple regression is a common method for assessing the main effects of multiple variables while allowing for potential moderation. It is frequently used when assessing motivation and goal setting, and often proceeds investigations of relationships before latent cluster analyses (Elliot & McGregor, 2001; Pastor et al., 2007). This is done to understand the main effects and interactions continuously before the establishment of discrete categories or subpopulations. Similar issues of non-normality were present, so generalized linear models using a gamma distribution were used to analyze the data. It is important to note that while indices of explained variance in GLM are similar to linear regression, R^2 can be inflated; therefore, will not be used as a fit index or determinant of variance explained (Mittlböck & Heinzl, 2002). Like other generalized linear models, gamma regression models do not use the Ordinary Least Squares Estimation technique for model fit. Adjusted R^2 and other pseudo- R^2 values exist that are either analogous or more accurately describe model fit exist; however, their use and preference under certain circumstances is debated (Ng & Cribbie, 2017). While not interpreted in the same way, model deviance can be used as a similar measurement, as it represents the degree of misfit relative to a saturated model that can perfectly reproduce the same data. Only adjusted R^2 were reported per recommendations, which can be interpreted analogously to R^2, and deviance was used as a primary model fit index. To test Hypothesis 4, perceived job security (4a), employability (4b), and well-being (4c) were regressed on autonomy, feedback, and intrinsic motivation along with control variables for both populations.

2.3.22 Assessment of Hypothesis 5

For Hypothesis 5a, significant differences between the variance of the alternative worker and traditional worker sample were assessed using Levene's test of homogeneity of variance. Typically, this is used to qualify two samples for comparison such as independent sample *t*-test, ANOVA, etc., by testing the assumption of homogeneity of variance. The null hypothesis is that the variance in a continuous variable is the same across a category and is rejected when the test statistic is significant, indicating that the variances are significantly different. Therefore, this test can be used to demonstrate differences in the consistency of responses within each group (Gastwirth et al., 2009). Levene's test was conducted solely on the predictor variables per hypothesis, split by work arrangement. This allowed for testing of the significantly different variances in variables of interest across traditional and alternative worker groups.

Hypothesis 5b was addressed with a latent profile analysis, an extension of latent cluster analysis designed to address continuous data. This estimated potential profiles within alternative work that may exist. Latent profile analysis (LPA), a type of mixture modeling approach, is a data reduction technique like factor analysis; however, the profiles derived from this method are discrete categorical groupings as opposed to addressing belongingness to all variables on a spectrum. LPA is a variant of traditional cluster analysis that has been shown to be superior to other methods for detecting latent taxonomy in simulation-based studies (Cleland et al., 2000; McLachlan & Peel, 2000). The goal of an LPA is data reduction by exploring qualitatively different patterns within a population (Masyn, 2013), in this case by identifying archetypal subgroupings within the alternative work arrangement.

The "r" package, "mclust", was used as it is an efficient and flexible package for exploratory data reduction (Wardenaar, 2021). It selects the best-fitting model, with the best-

fitting configuration and number of profiles. These configurations are either: EEI in which variances only vary within class and covariances are fixed to 0, EEE in which variances and covariances only vary within class, VVI in which variances vary within and between class and covariances are fixed to 0, and VVV in which variances and covariances vary within and between class. This is not suggested for confirmatory purposes, but useful for exploratory purposes when looking to examine the nature of the data considering all possible combinations of model configuration (if class-specific variance and covariance matrices of each indicator are constrained or allowed to vary) and the number of cases. This best-selected model was then be compared to the k+1 and k-1 (number of profiles) models to display the level of superiority over adjacent models using the "tidyLPA" package, as it provides greater control to the researcher in terms of selecting model configuration, fit indices, and model iterations (Wardenaar, 2021). JCM characteristics, SDT variables, and functional descriptions of work arrangement were entered into the LPA to assess a discreet number of cases that differentiate subgroups with the alternative work arrangement.

Chapter 3 - Results

3.1 Assessment of Measures and Analyses

Before hypothesis testing, factor analyses were conducted to assess survey measures. Exploratory factor analyses (EFAs) were conducted on the adapted scales for both the shared features of work (time flexibility, space flexibility, and flexibility in the employer relationship) as well as the unique features of alternative work (worker seriousness and alternative worker-specific time measures regarding contract). Initial EFA was conducted on a hold-out sample consisting of a randomly assigned portion of the alternative worker respondents (n=156). Items with substantial cross-loadings (> 0.30) or lower factor loadings (< 0.30) were removed. Factors

with satisfactory eigenvalues and explain variance were retained. This process generated the proposed scale to be confirmed by CFA for both the adapted scales for the shared and unique features of work.

For the shared features, the 9-item adapted scale responses for the alternative worker hold-out sample were examined by EFA and revealed a 2-factor structure, with the first containing the three items pertaining to employer relationship (named employer relationship complexity [ERC]), and the second factor (named flexibility) containing two items referencing space flexibility (items 1 and 2), and one referencing time flexibility (item 3). This 2-factor model (employer relationship complexity with three items, and overall flexibility with three items) was entered into a CFA on the remaining respondents, including all traditional workers. This model displayed good model fit ($\chi 2(8, 328) = 19.0$, CFI = 0.98, TLI = 0.96, SRMR = 0.03, RMSEA = 0.06 [90% CI [.02, .09]]) and was used in subsequent analyses assessing employer relationship complexity and overall flexibility in time and space. Psychometric information on the adapted scales for shared features can be found in Tables 9 and 10. This shows support for both of the overlapping constructs tapping into the "alternativeness" in a work arrangement proposed by Feldman (2006; time, space, and employer type subdimensions), and Spreitzer et al. (2017; focusing on the unique flexibility in time and space).

For the unique features, the adapted 3-item scale assessing alternative worker contract/time details for the alternative worker hold-out sample was examined by EFA alongside the shared features of work (employer relationship complexity and flexibility), to remain conceptually consistent and to display potential uniqueness between the other forms of flexibility. When added to the model, all alternative contract/time detail items loaded onto their own factor meaningfully (Table 11). Worker seriousness as a characteristic of an individual

alternative worker was examined separately and displayed one meaningful factor with two items (items 1 and 2; Table 11). Combined, these features and characteristics should help describe the working situation of alternative workers, and such were added to their own CFA model to assess overall model fit (Table 12). This 4-factor model (employer relationship, flexibility, alternative contract/time details, and worker seriousness) was entered into a CFA on the remaining alternative worker respondents. This model also displayed good model fit ($\chi 2(8, 328) = 19.0$, CFI = 1.0, TLI = 1.0, SRMR = 0.02, RMSEA < 0.01 [90% CI [.00, .09]]).

All other scales in the battery were assessed through reliability analysis and CFA. The reliability statistics reflect similar results from the literature and CFA demonstrates adequate fit when tested on the full sample. Means, standard deviations, and correlations for all study variables split by group can be found in Tables 13-15.

Prior to analyses, the efficacy of ANOVA procedures using this data was assessed. The assumptions of linearity, homogeneity of variance, and normality of residuals were assessed prior to any use of general linear modeling. Levene's tests were used on each model to test homogeneity of variance, in which no model's Levene's test was significant. Normality was assessed via qq plots per and Shapiro – Wilkes test for each model, which indicated questionable normality. While typically robust to violations of normality, typical ANCOVA procedures were replaced with nonparametric ANCOVA in order to assess hypotheses 1-3 in order to accurately model the data. Nonparametric ANCOVA assumes that covariates are random rather than fixed, as well as homogeneity of covariance (assessed by Box's M). The covariates that remained after assessing these assumptions were Age, Education, and Race ($F = 1.574$, $p = .15$). These three sociodemographic items were used as covariates in all nonparametric procedures (Hypotheses 1-4). Significant differences across work arrangements in all proposed key sociodemographic

variables were assessed with nonparametric ANOVA (Kurkis-Wallis test) for all collected control variables. Two of the proposed control variables are significantly different across work arrangements (Table 16), indicating that alternative workers earned less household income (χ^2 = 7.79, p < .01), and were more diverse compared (χ^2 = 6.33, p < .05) to traditional workers (Figures 3 and 4).

3.2 Testing Hypotheses 1 and 2: Disparity

> *Hypothesis 1*: Alternative workers will have lower resources (1a), greater autonomy (1b), and lower job-related feedback (1c).

The first set of hypotheses serves as a replication of past research to check the assumptions that exist in prior alternative worker populations regarding their lower levels of psychological resources, particularly involving agency and motivation. Results show that there are significant differences in perceived job security ($F(1,624) = 33.68$, $p < .01$), autonomy ($F(1,624) = 21.83$, $p < .01$) and feedback ($F(1,624) = 4.51$, $p = .03$). For perceived job security, alternative workers (M = 3.75) reported lower perceptions of job security on average than their traditional counterparts (M = 4.23; $t(624) = 5.80$). The opposite was noticed for autonomy, in which alternative workers (M = 3.96) reported higher perceptions of autonomy on average than their traditional counterparts (M = 3.64; $t(624) = 4.67$). For feedback, a less robust but still significant trend was noticed such that alternative workers (M = 4.08) reported higher instances of feedback than their traditional counterparts (M = 3.95; $t(624) = 2.12$). The effect of external employability was approaching significance ($F(1,624) = 3.79$, $p = .05$), such that alternative workers (M = 3.71) experienced less employability compared to traditional workers (M = 3.85; $t(624) = -1.95$). The results provide partial support for hypothesis 1, as alternative workers are experiencing the proposed benefit of their arrangement in higher reports of autonomy, while suffering from prior established deficiencies. They are reporting lower perceptions of job

security and external employability; however, they report higher instances of intrinsic feedback in their tasks. Results for hypothesis 1 are reported in Table 17. The differences in job security and autonomy are displayed in Figure 5.

Hypothesis 2: Alternative workers will have higher extrinsic motivation (2a) and needs frustration (2b).

Like the first set of hypotheses, the second serves as a manipulation check to ensure that relationships in past literature exist in a new alternative worker sample. Results show that there are no significant differences in controlled motivation, defined as both introjected and extrinsic motivation, or in frustration with their needs for autonomy, competence, and relatedness. Both frustrations with the need for competence ($F(1,624) = 3.23$, $p = .07$) and relatedness ($F(1,624) = 3.59$, $p = .06$) were approaching significance, in favor of alternative workers reporting higher needs frustration (Figure 6). The results do not support hypothesis 2, such that there are no significant differences in extrinsic motivation and frustration with their needs per SDT. All results for hypothesis 2 are reported in Table 18.

3.3 Testing Hypotheses 3 and 4: Individual Differences and Moderation

Hypothesis 3: Intrinsic aspiration will be positively associated with Growth Needs Strength (3a), and both will be lower in alternative workers (3b).

Hypothesis 3 aims to show the conceptual unity between JCM and SDT as it pertains to alternative workers while also highlighting potential disparities in their combined motivational framework. As different operationalizations of similar constructs, Growth Needs Strength and intrinsic aspirations, captured in by the aspiration for community building ($r(625) = .55$, $p < .01$), and personal growth ($r(625) = .64$, $p < .01$) shared a significant positive correlation, supporting hypothesis 3A. There was no support for hypothesis 3B, as there were no significant differences across GNS, the aspiration for community, or the aspiration for personal growth (Table 19).

Hypothesis 4: Autonomy (4a), feedback (4b), and autonomous motivation (4c) will be positively associated with positive work outcomes more strongly in alternative workers.

Hypothesis 4 was tested using generalized linear models, due to the assumption of normality not being met. Gamma regression was used due to the heavy skew of the data, as it can accommodate conditions of non-normality and heteroscedasticity (Ng & Cribbie, 2017). Ng and Cribbie recommend generating multiple models to compare fit and outcomes given different modeling strategies. Specifically, four models were compared for each hypothesis: a model using a gamma distribution with the inverse link function (the canonical link function); a model using a gamma distribution with the log link function; a model using a Gaussian (normal) distribution with the identity link function (the canonical link function); and a model using the Gaussian distribution with the log link function.

A generalized linear model using a gamma distribution with the inverse link function was used to test if autonomy, feedback, and autonomous motivation (measured as intrinsic motivation and identified motivation) along with associated control variables (age, race, and education) significantly predicted perceived job security. This model converged with no overdispersion and was the superior model among the four comparison models (Table 20). Work arrangement (β = -.04, SE = .01, $p < .01$), perceptions of feedback (β = -.01, SE = .03, $p < .01$), and identified motivation (β = -.01, SE = .03, p = .01) were significantly associated with job security. Regarding control variables, age ($\beta = -4.08^{e-4}$, SE = 1.70^{e-4}, p = .02) was also significantly related to job security (Table 21).

As for the hypothesized interactions, only the interaction between work arrangement and autonomy was significant (β = .02, SE = .01, p = .02; Figure 7). As autonomy increases, perceptions of job security also increase for the alternative workers, but the opposite is found in traditional workers, where their perceptions of job security decrease as their autonomy increases.

This partially support H4a, as the perceived benefit of having greater autonomy at work is related to higher levels of job security in alternative workers. In fact, it does the opposite for traditional workers, as they display a trend in which greater autonomy is associated with lowered perceptions of job security.

To continue assessing hypothesis 4, a generalized linear model using a gamma distribution with the inverse link function was used to test if autonomy, feedback, and autonomous motivation (measured as intrinsic motivation and identified motivation) and associated control variables (age, race, and education) significantly predicted perceived external employability. This model converged with no overdispersion and was the superior model among the four comparison models (Table 22). Work arrangement (β = -.02, SE = 4.00^{e-3}, $p < .01$), perceptions of feedback (β = -.02, SE = 4.00^{e-3}, $p < .01$), and identified motivation (β = -.02, SE = 4.00^{e-3}, $p < .01$) had a significant relationship with perceptions of external employability. As for control variables, age ($\beta = 4.00^{e-4}$, SE = 2.00^{e-4}, $p = .02$) was also significantly associated with employability. All effects are presented in Table 23. None of the hypothesized interactions were significant, therefore there was no support for H4 in regard to external employability.

A final generalized linear model using a gamma distribution with the log link function was used to test if autonomy, feedback, and autonomous motivation (measured as intrinsic motivation and identified motivation) and associated control variables (age, race, and education) significantly predicted subjective well-being. This model converged with no overdispersion and was the superior model among the four comparison models (Table 24). Work arrangement (β = .04, SE = .02, $p = .02$), perceptions of feedback (β = .07, SE = .01, $p < .01$), intrinsic motivation (β = .03, SE = .01, $p = .02$), and identified motivation (β = .04, SE = .01, $p = .01$) was significantly associated with well-being. Regarding control variables, age ($\beta = 2.00^{e-3}$, SE = 6.00

$^{e-4}$, $p < .02$) and education ($\chi^2 = 10.62$, $p = .03$) was also significantly associated well-being. The effects of this model are presented in Table 25. Post hoc comparisons show that group 1 of education (some high school) is significantly lower in SWB than all groups that had at least some college education; groups 3, 4, 5, and 6 (Table 26). None of the hypothesized interactions were significant, not supporting H4. The only support H4 received was for H4a, in which autonomy had a stronger effect on job security among alternative workers than traditional workers.

3.4 Testing Hypothesis 5: Exploration of Uniqueness and Potential Patterns

> *Hypothesis 5a*: Greater variability will be present in the alternative worker sample for all research variables.

To display the variety in perceptions that would come from a sample with more diverse work contracts, the variance within the variables for the first three hypotheses was examined across work arrangement. For the key variables in H1 (PJS, EE, SWB, autonomy, and feedback), the variance within the alternative worker group was greater than that of the traditional workers except for feedback; however, the only significantly differing variances (Alternative SD = 1.02; Traditional SD = .83) were in perceived job security ($F(1,624) = 17.04$, $p < .01$). For the key variables in H2 (extrinsic motivation and needs-frustration), variance within the alternative worker group was greater than that of the traditional workers, with significantly differing variances in extrinsic motivation ($F(1,624) = 9.64$, $p < .01$; Alternative worker SD = 1.16; Traditional worker SD = 1.01) and frustration with autonomy ($F(1,624) = 6.50$, $p = .01$; Alternative worker SD = 1.17; Traditional worker SD =1.04). While all were larger, there were no significant differences in variance between the two work arrangements for the key variables for H3 (intrinsic aspirations and GNS). This lends support for H5a, as a majority of the variances were larger in the alternative worker group, with several being statistically significant. Results can be found in Table 27.

Hypothesis 5b: Profiles of alternative work based on JCM, SDT, and functional aspects will emerge such that distinct clusters will form: low involvement, low benefit (LILB); high involvement, low benefit (HIHB); low involvement, high benefit(LIHB); and high involvement, high benefit (HIHB).

The efficacy of an LPA procedure on the received data was assessed, showing that it could be used with some caveats. The efficacy of LPA is contingent on possessing adequate statistical power and meeting the assumptions of local independence and homogeneity of variance. In terms of power, samples approaching 500 are typically sufficient regardless of the number of indicators (Spurk et al., 2020). Common sample sizes are as small as 250 participants (Tein et al., 2013), and statistical power is determined by a combination of sample size, number of true cases, number of indicators, method of case selection (model fit criteria), and distance between cases (Mahalanobis Distance, considered the multivariate equivalent to Cohen's d). Incorporating a larger number of indicators is recommended to avoid overestimating profiles as well (Tein et al., 2013). The present sample contains 416 cases with 14 predictors, which fit recommendations for maximizing power given that the sample is slightly under the recommended 500 (Tein et al., 2013).

As for the assumptions of local independence and homogeneity of variance, variance inflation factor (VIF) and tests of normality were used. VIF was tested by entering all variables of interest into a model predicting a random variable. Despite adding 14 predictors to the model, there was no evidence of multicollinearity or dependencies (VIF < 5; Table 28). Similar to prior assessments, an inspection of the histograms and tests of normality indicates that the raw data were not normally distributed. Modern conventions and recommendations for LPA use under such conditions were applied, such as using both Akaike Information Criteria and sample-sized adjusted Bayesian information Criteria along with a bootstrapped likelihood ratio difference test for model comparison with smaller sample sizes that lack normality (McLaughlin et al., 2020;

Nylund et al., 2007; Spurk et al., 2020). While it is recommended to screen for outliers that may contribute to the lack of normality (Spurk et al., 2020), there are instances when this is not necessary for LPA. Checks of assumptions and assessments of normality are frequently not reported for LPA when being used for exploratory purposes (Tein et al., 2014). In this particular case, outliers are important and expected due to the nature of the uniqueness of the work environment. Maximizing the opportunity to detect differences and subgroups is necessary and facilitated by retaining outliers and maximizing power including a higher number of predictors in the model. The utility of any detected profiles was tested if they emerged, with attention given to the possibility of spurious profiles due to the violation of normality (Spurk et al., 2020).

When testing for the best fitting model per the data provided, a model using four profiles emerged using a VVI configuration (BIC = -14453.40), allowing variances to vary within and between classes but only allowing covariances to vary within a class/profile, not between. The next best fit was a 5-profile solution using a VVI configuration as well, and the third best was a 2-profile solution using a VVV configuration, allowing both variances and covariances to vary within and between class (Table 29). To further support the 4-profiles solution, it was compared directly to a 3- and 5-profile solution using the VVI configuration. By the recommended fit index for the sample size and the number of indicators, BIC, the 4-profile solution is still the best fit. Entropy also supports the 4-profile solution (Table 29). It is important to note in this instance that entropy does not penalize the model in this specific case. Entropy is based on the uncertainty of classification that is assessed at the individual level by the posterior probability, and thus is a measure of classification uncertainty in aggregate (Tein et al., 2014). When normalized to scale from 0 to 1, it is used as a model selection criterion indicating the level of separation among profiles. This means a higher normalized entropy value would represent better fit with more

unique profiles, with a recommended value of above 0.80 indicating highly discriminating profiles. Table 30 displays the means of test variables within each profile, which lends partial support to H5. There are 4 profiles partially map onto the 2x2 mentioned prior. There is one profile that has lower involvement (flexibility, employer relationships complexity, time/contract details, seriousness) that has some positive perceptions to their arrangement (low involvement, some benefit [LISB]; N = 201), another that has similarly low involvement regarding of alternative work that is also thriving (low involvement, high benefit [LIHB]; N = 68), another that scored higher in the involvement in their alternative work but has both positive and negative perceptions of their work (high involvement, mixed benefit [HIMB]; N = 44), and a final with mixed involvement in their alternative features and lower perceptions towards their work (mixed involvement, low benefit [MILB]; N = 103). Figure 8 shows the distinction of each profile across the 14 predictors. Figure 9 is a relative interpretation of the profiles mapped onto the hypothesized 2x2 matrix. Implications of these profiles are reviewed in the discussion section.

> *Exploratory Analyses*: Prior hypotheses (H1-3) may have greater support given the emerging profiles. Meaningful differences across profiles of alternative workers and traditional workers may emerge across disparity (H1-2) and motivations (H3).

The replication hypotheses, which focused on the differences in support variables (perceived job security, external employability, and subjective well-being) and motivation (GNS, aspirations for wealth, community, and personal growth), were re-examined but the grouping variable was replaced. Instead of examining the differences between just two groups, alternative workers and traditional workers, profile groupings were used. This created 4 unique groups of alternative workers being compared to each other, as well as being compared to traditional workers (a 5-group comparison). Some variables from the original set of replication hypotheses representing perceptual descriptors of work (autonomy and feedback) and internal motivations

(autonomous vs controlled motivation) were included in the LPA model and thus were not re-examined across profiles. Non-parametric ANCOVA without any control variables was used to examine each variable against the profiles without any other influence from other variables. Pairwise comparisons were made using the Dwass-Steel-Critchlow-Fligner procedure, in which all pairwise comparisons are presumed to be "non-different" unless a significant result is indicated (Conover, 1999; Critchlow et al., 1991; Hollander and Wolfe, 1999). While the same assumptions as prior non-parametric procedures hold, results should be interpreted with caution and should be used to guide further investigation due to the exploratory nature and uneven sample size of profiles (Profile 1 [LISB]N = 201; Profile 2 [LIHB]N = 68; Profile 3 [HIMB]N = 44; Profile 4 [MILB]N = 103; Traditional workers N = 210). Implications are discussed in the Discussion section.

Regarding the resource variables, there were significant differences both within and across work arrangements. Perceived job security was significantly different across groups (χ^2 = 169, $p < .01$; $\varepsilon^2 = 0.27$), such that all group pairings were different except profiles 1 and 5 (LISB [M = 3.96; SD = 0.85] and traditional workers [M =4.24; SD = 0.81] respectively), and 3 and 4 (HIMB [M = 2.76; SD = .88] and MILB [M = 3.18; SD = .92]). The effect of external employability (χ^2 = 117, $p < .01$; $\varepsilon^2 = 0.19$), displayed a similar trend as all group pairings differed significantly except profiles 1 and 5 (LISB [M = 3.72; SD = 0.76] and traditional workers [M =3.85; SD = 0.79], and profiles 2 and 3 (LIHB [M = 4.26; SD = 0.77] and HIMB [M =4.35; SD = 0.42] respectively). Subjective well-being (χ^2 = 162, $p < .01$; $\varepsilon^2 = 0.26$) has an identical effect as external employability, as all pairings except profiles 1 and 5 (LISB [M = 3.88; SD = 0.66] and traditional workers [M =3.89; SD = 0.76], and profiles 2 and 3 (LIHB [M = 4.60; SD = 0.47] and HIMB [M =4.42; SD = 0.53]) had significant differences. All main effects

and pairwise comparisons for H1 along with means and standard deviations are presented in Tables 31 and 32, and are visualized in Figure 10. Variables that encompass resources and support seem to not differ between the LISB profile (1) and traditional workers, which is lower on the unique features of alternative work and moderate-high on job characteristics and motivation. The HIMB profile (3), which has the most flexibility and employer relationship complexity, also stands most frequently from the other profiles.

There were also significant differences within and across work arrangements in motivation, presented in Tables 33 and 34. GNS was significantly different across groups (χ^2 = 163, $p < .01$; $\varepsilon^2 = 0.26$), such that only three group pairings were not significantly different, being profiles 1 and 3 (LISB [M = 4.33; SD = 0.54] and HIMB [M = 4.41; SD = 0.39] respectively, profiles 1 and 5 (LISB [M = 4.33; SD = 0.54] and traditional workers [M = 4.20; SD = 0.65] respectively), and 3 and 5 (HIMB [M = 4.41; SD = 0.39] and traditional workers [M = 4.20; SD = 0.65]). The effect of aspirations for wealth ($\chi^2 = 49.50$, $p < .01$; $\varepsilon^2 = 0.08$) displays a different pattern, in which only three pairings were significantly different; profiles 1 and 3 (LISB [M = 3.57; SD = 0.92] and HIMB [M = 4.41; SD = 0.55]), profiles 3 and 4 (HIMB [M = 4.41; SD = 0.55] and MILB [M = 3.45; SD = 0.89]), and profiles 3 and 5 (HIMB [M = 4.41; SD = 0.55] and traditional workers [M = 3.48; SD = 0.93].

Regarding intrinsic aspirations, there were similar effects with multiple significant different comparisons. Six of the ten pairwise comparisons for the effect of aspiration for community ($\chi^2 = 81.20$, $p < .01$; $\varepsilon^2 = 0.13$) were significant; profiles 1 (LISB; M = 4.25, SD = .66) and 2 (LIHB; M = 4.60, SD = 0.59), profiles 1 (LISB; M = 4.25, SD = .66) and 4 (MILB, M = 3.68, SD = 0.81), profiles 2 (LIHB; M = 4.60, SD = 0.59) and 4 (MILB, M = 3.68, SD = 0.81), and profiles 2 (LIHB; M = 4.60, SD = 0.59) and 5 (traditional workers; M = 4.22, SD = 0.69),

profiles 3 (HIMB; M = 4.53, SD = 0.44) and 4 (MILB, M = 3.68, SD = 0.81), and profiles 4 (MILB, M = 3.68, SD = 0.81) and 5 (traditional workers; M = 4.22, SD = 0.69). For aspirations for personal growth ($\chi^2 = 62.80$, $p < .01$; $\varepsilon^2 = 0.10$), the same six pairwise comparisons were significant with an additional significant pairing; profiles 1 (LISB; M = 4.45, SD = .51) and 2 (LIHB; M = 4.76, SD = 0.36), profiles 1 (LISB; M = 4.45, SD = .51) and 4 (MILB, M = 4.00, SD = 0.75), profiles 2 (LIHB; M = 4.76, SD = 0.36) and 4 (MILB, M = 4.00, SD = 0.75), and profiles 2 (LIHB; M = 4.76, SD = 0.36) and 5 (traditional workers; M = 4.38, SD = 0.59), profiles 3 (HIMB; M = 4.57, SD = 0.40) and 4 (MILB, M = 4.00, SD = 0.75), and profiles 4 (MILB, M = 4.00, SD = 0.75) and 5 (traditional workers; M = 4.38, SD = 0.59). The additional pairing, profiles 2 (LIHB; M = 4.76, SD = 0.36) and 3 (HIMB; M = 4.57, SD = 0.40), is significantly different at the $p < .05$ level. All pairwise comparisons, means, and standard deviations are presented in Tables 33 and 34, and are visualized in Figure 11. The extrinsic aspiration of wealth was also examined and presented in these tables, with implications mentioned in the Discussion section. Motivation variables displayed mixed results across profiles, with profile 4 (MILB) being consistently lower and profile 2 (LIHB) being consistently higher. Autonomously motivating aspirations also follow a similar pattern of significance across profiles.

A reevaluation of the socioeconomic and demographic variables split by profile was also completed, displaying mixed results. Tables 35-37 show the spread of profile members across each category of household income, education, and race. Perceptions of socioeconomic status (PSES) were significant when split across profile ($\chi^2 = 52.40$, $p < .01$; $\varepsilon^2 = 0.08$). Table 38 displays the pairwise comparisons between profiles on the combined perception of their household income compared to others. In this case, profiles 4 (MILB) and 1 (LISB) were

significantly lower than the other two alternative profiles (profile 2, LIHB; profile 3, HIMB) in their perceived SES. Profiles 2 (LIHB) and 3 (HIMB) were significantly higher on their perceived SES compared to traditional workers (profile 5). Profile 1 (LISB) and traditional workers were not significantly different, indicating similar levels of perceived SES. While there are uneven sample sizes within profiles and the measurements of financial status were intended to only be used as controls, this can be a loose corroboration of both instances of lowered tangible resources available to a large portion of alternative workers referenced in the literature, as profiles 1 (LCMB) and 4 (MILB) were the profiles with the most members overwhelmingly. This also displays the potential for some workers to maximize their resources by opting for alternative work, as the two profiles (profile 2, LIHB; profile 3, HIMB) with the most benefit are also the least represented in this sample.

Chapter 4 - Discussion

Considering its predicted and considerable growth (Katz & Kruger, 2017; BLS, 2018), research is particularly lacking in regard to a comprehensive understanding of the alternative work arrangement (Retkowsky et al., 2022). What literature does exist primarily focuses on the normative comparison of exploring disparities between the alternative arrangement and its traditional counterparts (Åkerblad, 2017; Landsbergis et al., 2014; Reichenberg & Berglund, 2019), and or sequesters populations into incomparable subcategories (Brawley, 2017). Both the comparison to the more understood traditional work arrangement and a critical exploration of alternative workers in specific industries and positions, this either assumes that traditional and alternative work arrangement able to be compared using the same theories and variables, while also lacking the ability to examine the wide variety of work that falls under the alternative work arrangement. To this end, the present research attempts to accomplish three specific goals. The

first goal is to replicate the occupational health disparity between the alternative and traditional work arrangements, as the nature of work for either arrangement is not static (H1 and H2). Second, this research aims to display the unique importance of job characteristics and motivational factors using the Jobs Characteristics Model (JCM) and Self-determination Theory (SDT) as a means of understanding and analyzing the psychological attributes of work regardless of its arrangement (H3 and H4). The final goal is to investigate differences within the alternative work arrangement broadly as a means of establishing a point of comparison (H5). Understanding the uniqueness within the alternative work arrangement through JCM, SDT, and features of work proposed in past work arrangement literature can allow for meaningful comparisons between work arrangements in such a way that the normative lens is less problematic, while also offering an opportunity to explore difference within the alternative work arrangement as it grows and adapts to meet demands of their respective markets and industries.

The first goal is to replicate the patterns of disparity between the alternative and traditional work arrangements and examine some of the touted benefits, as the nature of alternative work is not static (H1 and H2). Without any grouping of alternative workers, the results indicate that these disparities may exist at large. In this sample, alternative workers experienced lower job security (H1a) in aggregate compared to their traditional counterparts; however, they also perceived the proposed benefit of higher of autonomy (H1b). This aligns with hypothesis 1 and replicates the consistent result of job security being an issue for alternative workers (Landsberg et al., 2014; Vander Elst et al., 2014). Evidence of this sentiment was present in the open-ended responses, as many alternative workers voiced their concerns for continuing work, but also appreciated the autonomy that alternative work provided them, with comments like:

> "I know my current work situation is not going to last forever and I need to prepare for when my time comes up and I need a new job." – Alternative worker, Profile 4 (MILB).

> "Love making my own work schedules and love being creative. I wish i was making more, i have 2 clients that give me regular work, but the hours can irregular." – Alternative worker, Profile 1 (LISB)

> "I feel like they (alternative work) give me freedom to take care of my family whilst still being able to provide for them" – Alternative worker, Profile 1 (LISB)

It is important to note that the difference between autonomy across profile is relative, and those working traditional jobs may notice their specific lack of autonomy as well. This was noted in participant comments such as:

> "I enjoy the work but not so much the lack of flexibility with where I work." – Traditional worker

> "Satisfied but would like more flexibility" – Traditional worker

Alternative workers also reported higher levels of feedback per JCM, which was the opposite direction of the hypothesized effect of feedback (H1c), indicating that there may be a broader range of advantages associated with alternative work. This mostly supports the replication of hypothesis 1, with the caveat that alternative workers may have an additional benefit of being able to perceive feedback at work to a greater degree than traditional workers. While the resource disparity (H1) was mostly supported, the disparity in motivation (H2) was not. There were no significant differences in extrinsic motivation (H2a) and frustration (H2b) with their needs per SDT, which were anticipated due to the lower perception of tangible resources in their pay, institutionalized protections, and opportunities for work (Åkerblad, 2017; Giordano et al., 2021). While this may be considered another boon for alternative work as its more recent iterations may be less detrimental while still maintaining the benefits often associated with a flexible work arrangement, it is important to consider that the "point of comparison", traditional work, might not be ideal either. This is represented in several comments:

> "I feel frustrated by high expectations but lack of control and appreciation." – Alternative worker, Profile 4 (MILB)

> "…sometimes short-term jobs are exactly what people need to get themselves back on even footing." – Alternative worker, Profile 2 (LIHB)

> "I don't feel great about it (current work situation) and I'm openly looking for a better career fit." – Traditional worker

> "I love my job but wish I got paid a little more" – Traditional worker

The second goal of this research was to display the conceptual unity and viability in job characteristics and motivational factors using the JCM and SDT (H3 and H4) as a means of applying broadly applicable industrial organizational theory that should be meaningful regardless of arrangement. Evidence for conceptual unity across similar constructs under each theory was achieved, GNS and intrinsic aspirations, captured by both community building ($r(625) = .55$, $p < .01$), and personal growth ($r(625) = .64$, $p < .01$) shared a significant positive correlation (H3a). Similar to H2a, there was no support for differences in motivation through these individual difference factors from their respective theories (H3b), as there were no significant differences in GNS, the aspiration for community, or the aspiration for personal growth between arrangement. This is another instance in which alternative work, in the aggregate, might not be as precarious as anticipated. This is echoed in several comments, displaying that positive aspects of motivation and the drive for growth may lead people to seek alternative work, be it by the work itself or the freedom to work while achieving something else:

> "Hate it (their present work). On to a different career path. Went back to school for business" – Alternative worker, Profile 4 (MILB).

> "It stressful and rewarding to be a freelancer, but i am happier than i was at my long-term full-time position." – Alternative worker, Profile 1 (LISB)

> "… (alternative work) can also be a great opportunity for cultural creatives like actors, writers, travel freaks, and housewives looking for a bit of extra holiday cash. Opportunities, not problems!" – Alternative worker, Profile 1 (LISB)

The variables for assessing work and motivation from JCM and SDT (autonomy, feedback, and autonomous motivation) were also applied to estimate their relationships with

frequently researched resources differently across work arrangement (H4). The only significant interaction was between work arrangement and autonomy (H4a). As autonomy increases, perceptions of job security also increase for alternative workers only. The opposite is true for traditional workers, as their perceptions of job security decrease as their autonomy increases. This lends some support to the thought that positive workplace features would have a greater effect on alternative workers. They may not have as much opportunity for other avenues of support, be it organizational support or coworker support, so what benefits they do experience can yield greater effects. This begs the question of what other features of work are more important, useful, or beneficial to alternative workers specifically. This does not explain the opposite trend experienced for traditional workers. Greater autonomy, which is often viewed as a benefit, being associated with lower job security can suggest that organizational constraints may be an indicator of investment in a worker. Setting strict supervision, or parameters around their work might be an indication of intention, structure, or resources being applied to their employment (having someone manage them, paying for a space to conduct their work, etc.), which can queue feelings of investment in their job, and security regarding their employment. Considering that the opposite is true for alternative workers, whose contracts are designed to involve the host organization as little as possible, this warrants further investigation.

The final goal is to investigate differences within the alternative work arrangement broadly as a means of establishing a point of comparison (H5). Before examining differences within the arrangement, it was necessary to display that alternative workers were reporting a wider variety of responses, captured by systematically larger variances that have statistical significance. This helps address the issue of the normative comparison between the alternative and traditional work arrangement. Results show support for this (H5a), as a majority of the

variances were larger in the alternative worker group across variables of interest, with several being statistically significant. Some participants posit why there is bound to be greater variance in alternative workers based on belongingness to other vulnerable populations:

> "People should have whatever job suits them and their skill set. Traditional jobs aren't for everyone and for some people (immigrants, felons) they can't get traditional jobs." – Alternative worker, Profile 4 (MILB).

> "You can make an income in a variety of ways. Especially when traditional jobs won't hire you because of racism." – Alternative worker, Profile 4 (MILB).

> "There is definite age discrimination in the workforce" – Alternative worker, Profile 1 (LISB)

Alternative workers were also able to be parsed into four profiles, that loosely match the hypothesized profiles (H5b) supplied in Figure 2. One profile (low involvement, moderate benefit [LISB]) has lower involvement (flexibility, employer relationships complexity, time, seriousness, etc.), while also having some positive perceptions to their arrangement. The second (low involvement, high benefit [LIHB]) has similarly low involvement in their alternative work contracts but is also thriving. The third (high involvement, mixed benefit [HIMB]) scored higher in the involvement of their alternative work while also sharing both positive and negative perceptions of their work. The fourth (mixed involvement, low benefit [MILB]) has mixed involvement in their alternative work and relative lower perceptions towards their work. Some participants' additional comments are emblematic of their profile belongingness:

> "Im grateful that im able to have a job that allows me freedom to work when it's most convenient for me., but its not a job that im necessarily proud of having. Im not going to make the world a better place because of it" – Alternative worker, Profile 1 (LISB)

> "I'm in my ideal work situation." – Alternative worker, Profile 2 (LIHB)

> "it's not that bad I gues"– Alternative worker, Profile 3 (HIMB)

> "The work itself, I like; the changes I have no control over with it, I don't" – Alternative worker, Profile 4 (MILB).

The support garnered by H5, and the exploratory analyses qualify some of the lack of support across other hypotheses. Prior research tapping into specific jobs or contracts under the alternative work arrangement can easily be related to the profiles of alternative work uncovered

by this research. Results show that the profiles that similarly resemble traditional work in their features are often similar to traditional work, like in the instances of profile 1 (LISB) and traditional workers not being different in their perceptions of job security, external employability, subjective well-being, GNS, extrinsic aspirations, and intrinsic aspirations. Profile 2 (LIHB) seems to be benefitting from their alternative work, having higher perceptions of job security, external employability, and approaching a ceiling effect for subjective well-being, as a large portion of those belonging to profile 2 (LIHB) report close to the maximum available score (5-point Likert scale). A similar potential ceiling effect exists for profile 2 (LIHB) for GNS, aspirations for community, and aspirations for personal growth. This indicates that this group of people may be highly intrinsically motivated to be engaged in their alternative work. Profile 3 (HIMB) and 4 (MILB) might resemble the populations that are frequently researched when looking at the disparities between work arrangement, as they display similar patterns of low resources while experiencing some benefit. For example, they both share the lowest mean scores in regard to certain resources. Profile 3 (HIMB) has the lowest perceptions of job security with a large number of its members scoring below the middle point of the scale, followed by profile 4 (MILB). Profile 4 is the lowest in external employability and subjective well-being; however, profile 3 (HIMB) seems to thrive in both of these resources, highlighting the tradeoff that may exist when engaging in alternative work. They also differ significantly regarding motivation, as profile 3 (HIMB) is higher in all motivation variables, with the greatest differences being in GNS and aspirations for wealth, and profile 4 (MILB) is consistently the lowest in all motivation variables. Profile 3 (HIMB) might capture that desire for resource attainment that is often researched in alternative work arrangements (Giordano et al., 2021, Reichenberg & Berglund, 2019), while profile 4 (MILB) represent the demotivated alternative workers that are acutely

aware of their disadvantages (Åkerblad, 2017, Bernhard-Oettel et al., 2013; Tran & Sokas, 2017).

4.1 Theoretical Implications

There were several theoretical hurdles necessary to address while pursuing this research. The first was establishing a means of comparison based on features of alternative work that could both be generalizable within the varied alternative work arrangement but also were not normative and able to capture this uniqueness meaningfully. This was achieved to a certain degree using a combination of recommendations from precedent. Despite the normative framing, "alternativeness" as a construct can be tapped into through dimensions posited by Feldman (2006) and Spreitzer et al. (2017). Feldman's suggestion was to establish three major dimensions of alternative work categorization: time, space, and employer type, which was partially reflected in the factor analysis of the adapted work features scale. The separate dimension of employer type emerged as a unique factor within the adapted scale that accounted for the largest portion of the variance within the alternative worker sample. Spreitzer et al. (2017) took the approach of housing these variety of features through the lens of flexibility, as this can be applied to each subdimension while not being exclusive to alternative workers, which also has support since items designed to capture specific kinds of flexibility (across either time or space) loaded onto one factor, combining the initially proposed dimensions of time and space flexibility. These approaches do not have to be as intertwined as they were in this research, and may benefit from being developed separately; however, their joint application can help protect against the consistent limitations in prior research on alternative work. While this was not an attempt to develop a fully saturated scale, this serves as a proof of concept that the marriage between two

seemingly competing approaches might lead to a more exhaustive framework that can avoid either of the pitfalls of non-generalizability or normative framing.

The second hurdle was re-established precedent while also highlighting the potential oversights from applying past literature to alternative workers in aggregate. In essence, this research attempted to both replicate past research while also displaying that alternative work is not a monolith. Some of the most prominent and heavily researched relationships were replicated. One of the main strains felt by alternative workers is the inherent tenuous nature of their contract, represented by job security. The comfortability of a work contract in which a steady salary is guaranteed as long as certain conditions are met is often not experienced by alternative workers. This said, perceived job security was lower in alternative workers across on the whole, with exceptions only emerging once the alternative sample was split by profile. The nature of their arrangement also offers a distinct level of freedom, as they can opt for work depending on their contract and have greater agency in how, when, and where they work. This freedom is often conceptualized as autonomy and was felt more in the alternative worker sample. This reiterates two of the major relationships associated with the alternative work arrangement, which are lack of security in their job as well as the autonomy that is experience from a more tenuous work arrangement. Some new relationships emerged as well, specifically that alternative workers have an experience of greater job-related feedback from their work. Another interesting contribution is the interaction that was present when autonomy was set to predict perceived job security, such that alternative workers' perceived job security increased with their perceptions of autonomy at work; however, the opposite was true for traditional workers. Re-examination and exploration of these relationships is necessary, as there may be more systematic differences across arrangement that may not be due to alternative work being so fluid, but from traditional

work being so static. This recontextualizing of work, and recognizing that traditional work is considered the "norm" can help in the diversity of thought, causal direction, and a more dynamic thought process overall. Replication was achieved for some of the most prominent relationships in the literature, while also shedding light on new avenues for research regarding the comparison between work arrangements.

There were anticipated relationships that were not supported but were qualified in part when the sample was split by profile. This can serve as an indication that some research may have tapped into a specific type of alternative work, validating the concerns of ecological validity. The only significant effect regarding psychological resources when alternative workers were left as a whole was the experience of lower perceived job security, which could have been driven by profile 3 despite its size (HIMB), although most other profiles were also lower than traditional workers. External employability and subjective well-being had significant differences when split by profile, such that profile 4 (MILB) was significantly lower than all other profiles and traditional workers. Profile 1 (LISB) was not significantly different from traditional workers in any psychological resource, which implies its lower involvement and average perception of benefits would be similar to traditional workers on the whole. Interestingly, profile 2 (LIHB) were significantly higher in their perception of psychological resources than traditional workers and all other profiles except profile 3 (HIMB), which is the opposite effect that we see when alterative workers were left in aggregate. This would indicate the existence of a type of worker that is maximizing the benefits from the alternative work arrangement in some way. Differences in motivation also emerged when alternative workers were split by profile that were not present when they were left as a single entity. Profile 4 (MILB) was lacking in motivation in both GNS, intrinsic, and extrinsic aspirations. Profile 3 (HIMB) also reported the highest extrinsic

aspirations captured by their wish to attain wealth, which can be associated with some negative work-related outcomes (Sheldon & Krieger, 2014). Profile 2 (LIHB) is also benefiting in their alternative work by maintaining higher perceptions of motivation in terms of GNS and intrinsic aspirations compared to their traditional counterparts and all other profiles, barring profile 3. While hypotheses supported for precedent that largely looked at pockets of alternative work and usually generalized them to a whole, instances that were not replicated did emerge when profiles were considered. The findings from this exploratory analysis highlight that there may be instances when alternative work is desirable and beneficial. It also shows that traditional work as the norm may not be as fulfilling as anticipated, especially compared to the benefits that may be experienced by some alternative workers. Being that there are both broader differences that can be detected when considering alternative work as a whole, as well as meaningful and contrary differences within the alternative worker group, collecting information of the details of the population, work contract, and work-related perceptions of individuals should be of great importance when studying alternative workers. This is needed in order to make necessary generalizable statements about the work while also exploring the anticipated idiosyncrasies that will inevitably arise from such a unique worker group. While the distribution across household income and perceived socioeconomic status per profile was not as clear as it was for psychological resources, it is important to note that the environment conducive for "trapping" workers (Aronsson et al., 2005; Åkerblad, 2017; Gash, 2008) with unideal contracts leading to a financial cliff (Reichenberg & Berglund, 2019) may still be present despite the potential benefits. This was echoed by some comments made by alternative workers as well:

> "…it (Alternative work) allows me to have creativity and my success is my own and my credit only with my name on it not someone else." – Alternative worker, Profile 1 (LISB)

> "… some people are stuck with short-term jobs for their entire lives, but it gives people the opportunity to work which is good" – Alternative worker, Profile 4 (MILB).

"A bit trapped in terms of income" – Alternative worker, Profile 1 (LISB)

"They (short-term jobs) can be used to avoid paying benefits" – Alternative worker, Profile 4 (MILB).

More information is needed to see if any of these potential benefits undermine the harms that have been established both by this research and past precedent.

The conceptual unity that emerged between JCM and SDT in diverse sample also helps address the "apples and oranges" conundrum, displaying that the issue of ecological validity is valid but manageable by utilizing a wide array of relevant variables or constructs. The motivational frameworks are similarly related between arrangements, implying that they can be used equitably. With this said, constructs can be applied but relationships should be expected to be different; which is essentially what research often hypothesizes (Spreitzer et al., 2017; Keith et al., 2019). It is important to note that there are constructs or variables that might not apply that are still important to measure. An example of this can be the unique work features used to help parse alternative worker profiles. The additional contract/time details and worker seriousness variables were helpful in being able to differentiate alternative workers; however, these variables could not be applied to a traditional worker. In a more likely scenario, there would be commonly applied variables for traditional workers that could not be applied to an alternative worker sample. Perceptions of organizational support, supervisor-level variables, and other variables that imply a specific organizational structure that may only apply to traditional workers need to be reevaluated for their appropriateness. Attempts to inject alternative worker-specific variations of variables that measure an overarching construct exist, like gig worker specific struggles inventory (Caza et al., 2022) on its ability to approximate unique work stress. The best course of action moving when looking to apply variables and measurements across work arrangement may have been exhibited by this multiaxial approach by utilizing appropriate theory to identify

constructs that would remain meaningful, replication and qualification of anticipated relationships, and ultimately replacement of incompatible constructs with similar or analogous measurements.

4.2 Practical Implications

By adding clarity to the alternative work arrangement and qualifying some precedent, this research can offer practical guidance to scientists and practitioners alike. A minor, but sweeping implication is that, as long as overinterpretation and issues of ecological validity have been considered, most precedent and its associated recommendations can remain useful. This research replicated a majority of the primary findings regarding the disparities across arrangement, and the disparities that were anticipated were eventually supported, at least in part, when spilt by profile. While often addressing the alternative work arrangement as a whole, research is often clear on the exact sample of alternative worker being studies (Landsbergis et al., 2014; Tran & Sokas, 2017, Cameron et al, 2022). With appropriate sample sizes, adequate descriptions of the alternative sample, and the use of relevant variables, issues of ecological validity can be overcome. The main issue when referencing past research might be normative framing, as the projections of those engaging with alternative work often increase and its growth has continued to trend upwards (BLS, 2018). It is important to remember that not all research on the alternative work arrangement is comparable, and not all alternative work remains static. Per this research's comparison of alternative work per profile, deviations within the alternative work arrangement can even be vast. Despite this, these concerns can be overcome by proactively measuring this variance in contract details, features, and motivation. Findings and recommendations from prior research are still useful despite potential normative framing as long as these considerations have been made. This research shows that precedent can still be applied with tempered expectations,

meaning organizational change can still be guided by literature. A lack of research is not a valid reason for any hesitance to address policy, practices, or the design of the alternative work arrangement.

With this said, the issue of normative thought might actually be present elsewhere in research. A larger practical issue could be that alternative workers might be encroaching on research that is looking to be applied specifically to traditional workers. Brawley (2017) explicitly mentions the issues of ecological validity and normative framing when researching the alternative work arrangement, especially considering its more recent and rapid iterations as technology and the labor market change. This is echoed by Keith et al. (2019), as they make a clear case that a large portion of data collected from third parties, such as survey panel providers, might be contaminating organizational research that does not operate with a specific organization, be it a union, private company, etc. If someone is being compensated for their time on a short-term contract with enough frequency, they could consider themselves as an alternative worker. While the major concern proposed by Brawly (2017) and Keith et al. (2019) is that research might apply knowledge gained from traditional samples to alternative workers, alternative workers might be contaminating the pool of "normal and generalizable" individuals from 3rd party data collection sources. Again, collecting additional information about the features of a person's work, contract, and their perceptions of their work arrangement might be necessary demographic information to collect the more popular alternative work becomes.

Some of the findings from this research can inform the employers as to which perceptions are particularly important to alternative workers in aggregate. A particularly interesting finding from this research that can be applied practically is the potential tradeoff of autonomy and job security found in the interaction for hypothesis 4a. For alternative workers, as autonomy

increases, perceptions of job security also increase. The opposite is true for traditional workers, such that their perceptions of job security decrease as their autonomy increases. While this was the only significant interaction, the main effects regarding motivation and feedback were also significant, meaning that these features were linked to improved external employability and subjective well-being equally for both work arrangements. This partially supports past findings that indicate that resources and support would have a greater effect on alternative workers (Bartol et al., 2009; Flickinger et al., 2016 & Mauno & Ruokolainen, 2017). In the specific case of autonomy, retroactive job design might be a viable option for improving alternative work arrangements. Organizations looking to sign people to alternative contracts can do their best to design them such that they offer as much autonomy as possible, given the work that needs to be done. While the exploratory findings should be interpreted with caution, it may also be worthy to try to build contracts with as little complexity as possible, potentially building a small ecosystem around the alternative work they plan to provide that can offer some resources, feedback on the work being completed, and options for contract reassignment. Transparency regarding the contract complexity might also be viewed as some form of autonomy and improve their perceptions of external employability, as the unique stress behind contract reassignment has been reported as a noticeable detriment to alternative worker quality of life (Åkerblad, 2017; Tran & Sokas, 2017).

Practically, this research offers a framework that can be used to maintain the pace of research to keep up with market trends and demands, as there may be a gap in understanding across certain fields pertinent to alternative workers. Work that psychologists consider under the "alternative work arrangement" typically falls under what is known in finance and human resources as the "barbell effect". This effect describes most alternative work on two axes;

freelance opportunity and the expertise necessary to meet the job's complexity. Freelance opportunity is the availability of the work in a given field. Expertise and job complexity, similar to skill variety, would be the degree of knowledge, skill, and abilities necessary to complete the job adequately. The "barbell effect" is essentially a kurtotic bimodal distribution in which jobs with the highest freelance opportunity often pool on the low and high end of job complexity (Kuhn, 2021, Figure 12). These modes can be referred to as "on-demand work", such as gig work through an app (e.g., Uber, Task Rabbit, Upwork) or "top talent", which would be part-time freelancers with very specific skills typically in STEM, software design, and computer engineering. To an industrial-organizational psychologist, it may be myopic and atheoretical to categorize such a diverse and at-risk population into two groups; however, it is important to recognize that this is a market trend that organization may lean into in order to provide themselves with a deliberate hiring strategy. Policy often lags behind market demands, and research tries to measure both simultaneously in order to stay informed by empirical research. By utilizing the multiaxial framework from this research, more information on alternative workers can be gathered, tied to outcomes, and displayed unambiguously. Adding structure in how alternative work is conceptualized can lend more information to help categorize beyond a simple binary, and check the assumptions made about this work arrangement in other relevant fields. This framework can demystify the alternative work arrangement, especially for other fields and areas that inform employers, and allow for initiative in develop commensurate contracts, resources, and protections.

4.3 Limitations

The primary limitation of this research is the use of a survey panel provider as a means of accessing both alternative and traditional worker samples. On the whole, collected data from

survey platforms is analogous to convenience sampling, with similar caveats regarding external validity (Horton et al., 2011). These can be categorized as “representativeness”, or how much the collected sample resembles the target population, and “realness”, or how much the sample would reflect real world circumstances. Regarding the use of an online sampling, they tend to be comparably representative to other sampling techniques, albeit more likely to include those that identify as women and those that are not employed full-time, which may be a strength in this case (Ipeirotis, 2010; Keith & Harms, 2016). The collection of data from both alternative workers and traditional workers has some minor, but important issues regarding representativeness and realness.

Regarding alternative workers, there is still no guarantee that the participants designated as alternative workers are truly from the targeted population, despite clearly communicating who would qualify as an alternative worker to both the panel provider and the actual participants while taking the survey. Opportunities to describe and share thoughts on their work and alternative work as a whole were provided to all survey participants in the form of open-ended items; however, this is also a self-report measure that varied in its efficacy of gathering meaningful information from the sample. Self-ratings should be sufficient as assessing “real life perceptions” is the goal of measurement (Heidemeier & Moser, 2009; Horton et al., 2011; Sampson & Johannessen, 2020), it would have been helpful to have this corroborated with a self-report description of their day-to-day, having them referred by their agency or app of choice, or some other means of gathering greater qualitative detail on their work arrangement. Similarly, this research may have only tapped into one section of the market that offers opportunities to alternative workers. The results suggest this probably not the case; however, other means of

collecting data from alternative workers should be pursued, as the reliance on panel providers might introduce bias that may not be fully representative.

Regarding traditional workers, their "traditional" status can come into question if they frequently take work from a survey panel provider to accomplish human intelligence tasks (HITs). This can be an issue of "realness", in which workers that are aware of and engage with Qualtrics might be different from those that do not, even if they both technically qualify as traditional workers. This is of particular importance for this research as someone can internalize this work, especially if it becomes enjoyable or meaningful for them (Van den Broeck et al., 2010; Deci et al., 2017). If someone is working through Qualtrics regularly for a payout, they could slowly fall under the alternative work arrangement overtime. While self-perceptions matter more than an arbitrary gate into labeling oneself an alternative worker, it would be particularly helpful for this research to guarantee a sample that may be as disambiguated from this group as possible. This concern may seem obtuse considering both the wide variety of variables used to measure perceptions of work, and the findings that these lines are blurry by nature, but it is still worthy to note.

Ideally, alternative and traditional would be sampled from similar industries, primary job roles, and work tasks. This would leave the dichotomy of "alternative or traditional work arrangement" as the main manipulation. This would allow for features of their work such as the difference in the work contract, flexibility, employer relationships, contract preference, and worker seriousness, to vary more so than other characteristics of the job. Across multiple positions, job roles, and industries, greater confidence in key drivers of perceptual change could have been detected. While lacking feasibility, contacting organizations that employ alternative

workers in certain fields and pairing this sample with traditional workers in commensurate fields would be the idle sampling method.

While sufficient for all analyses used, a greater sample size would have offered more freedom when it came to exploratory analyses. For example, it would have been interesting to see if similar profiles of work emerged for traditional workers as well; however, their sample was below the recommended minimum size for an LPA (N = 250, Tein et al., 2013). While the LPA for the alternative worker profiles included features unique to them, there would have been an interesting point of comparison to see if a truncated or equivalent set of variables would produce a model with a similar solution for traditional workers. This would be particularly helpful considering how "traditional" work, as it has been described in the literature, was partially questioned by some of the participants, as they anecdotally mention issues that have support in the literature, such as increased virtuality and more permeable work-life barriers.

> "… everything's changed in the last couple of years and more and more people are working remotely a lot of things are being changed over to AI or computers so the traditional job isn't necessarily available anymore so people having to think outside the box to come up with other opportunities for themselves and I think that's fine" – Alternative worker, Profile 1 (LISB)

> "I think my idea of traditional jobs is on the way out, thanks to the pandemic shining a light on that." – Alternative worker, Profile 2 (LIHB).

> "There is no such thing as a traditional job in 2022" – Alternative worker, Profile 2 (LIHB)

The issue of normativity might extend to traditional work as well, being that work has changed to meet the capabilities of technology and the demands of a fragmented workforce. The constructs that are important to measure for alternative workers may be just as prevalent in traditional worker samples as well.

While still under the recommendations for length and complexity, different items and scales within the battery could have been used to either shorten the overall survey, or to collect data on additional constructs. Research has shown that error, through fatigue or careless

responding, can occur at a significant degree at as low as 10 minutes of participant attention (Peytcheva & Peytcheva, 2017). The average completion time of this survey was below this threshold (7.5 minutes), but 100 items may still pose a challenge for some. While attention checks and recommendations for data cleaning were used, it is still important to maximize the potential for collection high-quality data through survey development and administration (Nichols et al., 2020). More diligence towards reducing the scale could have provided an opportunity to collect more data by increasing the sample size, or by potentially collecting additional data. An example of a scale that could have been replaced would be the subjective well-being scale (Choi et al., 2014). This was selected as it works well on diverse populations, especially considering age. This may have been helpful for this sample, as the average ages were nearing 45 for both alternative and traditional workers, but the gain from using this scale over a shorter measurement might have made room or reduced participant fatigue.

More items could have been included for the shared and unique features, despite this not being the goal of the research. This could have doubled as the beginning or robust survey development process. The results gathered from this research provide proof of concept but could have achieved more with some additional trimming in the overall survey. The length may have also been a contributor to the missingness found in the industry variable. All other demographic variables had high response rates, so either the overall survey length or the complexity of options within the industry item itself could have also been addressed.

With these combined concerns addressed, more confidence can be applied to the discovery of profiles. Despite reflecting precedent and aligning with hypotheses, additional demographic data or variables of interest could have led to more robust findings. In this instance, two profiles (profile 2, LIHB; profile 3, HIMB) are relatively small compared to others. Straight-

lining, suspicious variance, and suspicious open-ended responses grounds for removal; however, the goal of an LPA is to reduce data. If another artifact was present that may account for commonality is present, the procedure may utilize this for data reduction. The larger profiles (profile 1, LISB; profile 4, MILB) were more expressive in the open-ended items, which may just be a function of more of them being present. Halo effect (profile 3 [HIMB] with higher general ratings across the board), careless responding, being generally optimistic, or mastery of the English language could all have been potential contributor to response patterns, being that the profiles are relatively small. While the survey platform provider ensured that all panelists were fluent in English, it would have been beneficial to confirm the level of mastery within the demographic section.

4.4 Future Directions

This research offers both a framework of reexamining precedent on various alternative work by using broadly applicable IO theories as well as proof of concept that multiple continuous measurements of work contracts can be used meaningfully to identify alternative work. Two clear avenues for future directions can come from this approach. The first would be to continue reevaluating precedent using other meaningful and broadly applicable IO theories, and the second would be to focus on detecting more continuous features of work that can be used to establish further points of comparison.

Regarding the reevaluation of precedent, three particular areas of research come to mind for expansion along this vein. The first would be to evaluate the alternative work arrangement from the perspective of job-crafting, since it has history rooted in JCM. An initial goal of JCM was to establish features of work that are perceived as desirable to employees, and then implement changes to align with the desired characteristics of work (Bindl et al., 2019). The term

"gig-crafting" has already been coined (Keith et al., 2019) for people that craft a meaningful feedback loop of work that would allow them to engage in a variety of alternative work for gainful employment. An example of this would be someone that plans to drive passengers in the morning before arriving for their short-term contract work at a specific location, to then drive delivery at night before returning home, where they can freelance longer term projects in their off-time and weekends. This can allow workers to schedule their workload according to their personal needs. This person's primary occupation (artist, web designer, author etc.) could require weeks to finish a single deliverable that would yield payment and could craft gig work to accommodate this financial lull. The parallels between this and traditional job-crafting research would be interesting to explore, especially considering JCM and its associated constructs were useful in understanding alternative work in this sample.

Another option would be fit, be it person-vocation, person-environment, or person-job fit (Kristoff, 1996). This would offer another avenue for exploring individual differences in the willingness to pursue alternative work that could also be measured on a continuum. Fit to the vocation can aid with motivation, particularly with intrinsic and identified motivation (Holland et al., 1993). Fit to the environment would encompass the needs of the workers, such that a flexibility schedule with high levels of autonomy would be necessary for them to work comfortably (Kristoff, 1996). Fit to the job would help align characteristics of an individual to features and competencies necessary for a certain job (McPhail & Jeanneret, 2012). Oftentimes, those that engage in alternative work are marked by belonging to socioeconomic of financial disadvantaged groups (Gash, 2008; Vander Elst et al, 2014). It may be more helpful to understand some continuous variables adjacent to these groups that can help in determining alternative work would be a worthy pursuit. Measuring the fit between an individual and their

contract based on features of work and their perceptions of their job might be helpful for those looking to maintain a flexible and autonomous job contract long-term. This would be particularly helpful considering the financial ramifications that can occur from trying to pursue alternative work as a sole means of income (Gash, 2008; Åkerblad, 2017; Reichenberg & Berglund, 2019). Understanding strategies for engaging with alternative work that match the environmental fit, vocational fit, and financial fit of the individual can help avoid the recorded pitfalls of entering alternative work.

Social exchange theory would be another option that has gained some traction. Cameron et al. (2022) investigated how gig workers reacted to the sudden moralization of their work during the height of the COVID-19 pandemic. Specifically, grocery shoppers/delivers were interviewed about their feeling on being highly moralized as undergoing "heroic" pursuits in their day-to-day work. They found that interactions with customers and people outside of the workplace discussing their work helped shape perceptions. Those who adopted the label of "hero" easily felt that it was deserved, resulting in minimized extra-rile helping behaviors and low organizational commitment. Those that "wrestled" with the label of "hero" sought to earn it, and thus embracing more extra-tole helping behaviors and did not show a decrease in their commitment to their organization or work. Moralization, as an attempt to display gratitude and importance of the work provided by alternative workers during COVID restrictions, had backfired in some instances, and made others work harder unintentionally. The social component of alternative work should be explored more, as some features and characteristics of the work can queue researchers as to when social support and exchange can be beneficial or result in a negative outcome.

Research can also focus on detecting more continuous features and characteristics of work to replicate alternative worker groupings. This may be able to provide more variance within the "alternative work involvement" general dimension, which can help understand uniqueness within the alternative work arrangement. While this research aimed to blend two competing approaches, both Feldman (2006) and Spreizter et al. (2017) have their distinctions that can be checked, being that there is credibility to either strategy. Feldman proposes a unique subdimensions of time like continuity, which is a measurement of how infrequent the stretches of work are. This is hard to capture when gig workers can complete multiple jobs or HITs per day, while freelancers can work on a project for extended period of time; however, a more accurate measurement of this would be a viable contender for another feature. Synchronicity would capture the degree to which alternative workers time on task aligns with coworkers, both traditional and alternative. It may be valuable to split his measurement to have a separate measurement for each, considering the potential for in-group biases (Von Hippel, 2006). Seasonality would measure the cyclical nature of an alternative worker's work year, which has the potential to be relevant for those that gig-craft in order to fill the lull in their less busy times of year. Virtuality and use of common workspaces were also mentioned as variations in the "space" dimension, which are not unique to alternative workers but may be associated with outcomes differently according to arrangement.

Spreizter et al.'s (2017) approach focuses mostly on leveraging flexibility as the key variable, which specifically captures the ability to choose. This would be the freedom to manipulate a subdimension of time, like continuity. With this in mind, someone bound to consistent 3-month contracts would have high continuity, but little flexibility in their ability to alter this period of time. They mention focusing on time and space flexibility, as well as how

employers interact with the alternative workers; however, the decision latitude behind any malleable characteristic can be a potential option for further investigation. More robust dimensions of flexibility could be a focus of future research in order to clearly define and operationalize the construct in a way that can be broadly applicable, but still capture the nuance that can exist in the variety of alternative worker contracts.

Similarly, a more robust worker seriousness scale would be an obvious candidate for more attention. As it was proposed by Brawley (2017), worker seriousness attempts to capture the importance placed on the alternative work, mostly by reliance on the financial gain that comes from that work; however, there are instances where workers can be serious about their contracts for other reasons. In the instance of pop-up restaurants mentioned by Demetry (2017), the honing of skills was a primary driver for those that put in the effort to working at traveling restaurants. Intrinsic motivations can be as important as extrinsic reward, and not including potential "seriousness" that may come from the job itself or from the autonomy provided may be remiss. This may be captured by constructs like intrinsic aspirations, task significance, and task identity; however, it would be valuable to try and measure financial gain, time dedication, and psychological fulfillment that may be unique to alternative workers.

By vetting additional features that may contribute to a more robust grouping of alternative workers, the method in which alternative workers are employed can be more accurately analyzed. More robust profiles established along a greater set of key variables can help explain, qualify, or detect strategies used to create alternative work. Certain strategies and market trends may have commonality with particular vulnerabilities experienced by a specific grouping of alternative workers. Profiles can be compared using a lexicographical approach, such that self-labels of workers or labeling from the contracts themselves can cue researcher to

certain features of work or work-related outcomes. Perhaps when forced to pick a sole label (gig worker, freelancer, short-term contractor, temporary worker, etc.), this label may align with a particular profile that has associated outcomes. This can guide efforts for generating and updating government protections, or providing third-party resources to alternative workers similar to a union. The bimodal distribution described by "the barbell effect" can also be evaluated to assess how much of this effect is detected by the features of work, or by the workers themselves. Qualify the degree to which some workers would be considered "on-demand" and others "top talent" can guide practitioners on how to design alternative work that can be mutually beneficial, improving the quality of life for alternative workers while improving the desirability of alternative work contracts.

This is a re-examination of alternative work through the lens of two prominent and relevant IO theories generated evidence, a proof of concept, that the differences within the alternative work arrangement can be detected in order to collate research in this area. Establishing meaningful differences both between and within work arrangement is an acknowledgment of the rapid change that exists in all work, and that creative reconsideration of past relationships in new contexts can yield results that have both theoretical and practical implications. As an answer to multiple calls to research (Feldman, 2006; Spreitzer et al., 2017; Retkowsky et al., 2022), these results establish a clear first step in a theoretically sound and practically viable approach to understanding the alternative work arrangement. Researchers can still apply precedent in a meaningful way while also gaining a deeper understanding of this developing work arrangement, as it grows alongside technology and the volatility of the job market.

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Appendix A- Tables

Table 1. JCT, Support, and Functional Descriptions of Work Arrangement on Delivery Driver

Work Arrangement	Job Characteristics Variables			
Delivery Driver	Skill Variety	Task Identity &Task Significance	Autonomy	Feedback Potential
Traditional	Similar due to job description	-	Based on organization	High
Temporary		-	Based on contract	Medium
Freelancer /Gig		Potentially higher	Based on individual	Varied
	Support		Functional Descriptors	
	Job Security & Well-being	Time	Space	Employer
Traditional	Based on organization	Stabilized due arrangement	Similar space, coworkers, and supervisors	One direct employer
Temporary	Based on contract	Varied due to contingent contract	Varies per contract	Multiple contracts per year
Freelancer / Gig	Based on chosen application	Freedom to choose when to work	Varies daily	Multiple patrons per choice

Table 2. Descriptive statistics for continuous demographic variables split by work arrangement

	Age	Perceived SES 1	Perceived SES 2
Alternative	42.8 (15.7)	2.77 (1.05)	2.75 (1.09)
Traditional	44.1 (14.4)	2.83 (.88)	2.80 (.93)

Note: Perceived SES 1's referent is "people you know personally, like your friends, family, neighbors, and work associates" while perceived SES 2's referent is "other Americans". Standard deviations are presented in parentheses

Table 3. Frequencies for categorical demographic variables

Alternative	N	Percent	Traditional	N	Percent
Gender					
Male	174	41.83	Male	70	33.18
Female	223	53.61	Female	140	66.35
Non-binary	13	3.13	Non-binary	1	0.47
Other	3	0.72	Other	0	0.00
Prefer not to say	3	0.72	Prefer not to say	0	0.00
Race					
White / Caucasian	297	71.39	White / Caucasian	171	81.04
Black / African American	60	14.42	Black / African American	16	7.58
Latino / Hispanic	34	8.17	Latino / Hispanic	11	5.21
Asian /Pacific Islander	13	3.13	Asian /Pacific Islander	11	5.21
Other	12	2.88	Other	2	0.95

Table 4. Frequencies for categorical demographic variables continued

Alternative	N	Percent	Traditional	N	Percent
Education					
Some HS	2	0.48	Some HS	0	0.00
HS or GED	11	2.64	HS or GED	1	0.47
Some college or associates	83	19.95	Some college or associates	40	18.96
Bachelor’s	144	34.62	Bachelor’s	81	38.39
Master’s	114	27.40	Master’s	60	28.44
Doctoral	62	14.90	Doctoral	29	13.74
Income Range					
-$25k	87	21.32	-$25k	34	16.11
$25-50k	109	26.72	$25-50k	42	19.91
$50-75k	88	21.57	$50-75k	46	21.80
$75-100k	62	15.20	$75-100k	38	18.01
$100-125k	42	10.29	$100-125k	30	14.22
$125k+	20	4.90	$125k+	21	9.95

Table 5. Response rate for qualitative items

	Traditional workers		Alternative workers		Alternative workers by profile			
	(n = 209)	Percent	(n = 416)	Percent	Profile 1 (n = 201)	Profile 2 (n = 68)	Profile 3 (n = 44)	Profile 4 (n = 103)
Quality of work life	184	88.04	383	92.07	183	65	43	92
Short contracts are a problem	178	85.17	375	90.14	177	64	43	91
Traditional work as the norm	155	74.16	356	85.58	172	57	41	86

Note. Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Mixed Benefit, 4 is Mixed Involvement/Low Benefit.

Table 6. Qualitative responses describing quality of work life

	Traditional workers		Alternative workers		Alternative workers by profile			
	(n = 184)	Percent	(n = 383)	Percent	Profile 1 (n = 201)	Profile 2 (n = 68)	Profile 3 (n = 44)	Profile 4 (n = 103)
Indifferent/Ambivalent	35	19.02	81	21.15	45	6	7	23
Positive remarks	108	58.70	230	60.05	112	55	32	31
Negative remarks	41	22.28	72	18.80	26	4	4	38

Note. Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Mixed Benefit, 4 is Mixed Involvement/Low Benefit.

Table 7. Qualitative response to the opinion that short-term contracts are a problem

	Traditional workers		Alternative workers		Alternative workers by profile			
	(n = 178)	Percent	(n = 375)	Percent	Profile 1 (n = 201)	Profile 2 (n = 68)	Profile 3 (n = 44)	Profile 4 (n = 103)
Indifferent/Ambivalent	45	25.28	68	18.13	31	7	9	21
Agree	53	29.78	99	26.40	48	9	15	27
Disagree	80	44.94	208	55.47	98	48	19	43

Note. Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Mixed Benefit, 4 is Mixed Involvement/Low Benefit.

Table 8. Qualitative response to the opinion that traditional jobs should be the norm

	Traditional workers		Alternative workers		Alternative workers by profile			
	(n = 155)	Percent	(n = 356)	Percent	Profile 1 (n = 201)	Profile 2 (n = 68)	Profile 3 (n = 44)	Profile 4 (n = 103)
Indifferent/Ambivalent	59	38.06	109	30.62	50	22	12	25
Agree	33	21.29	88	24.72	32	13	23	20
Disagree	63	40.65	159	44.66	90	22	6	41

Note. Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Mixed Benefit, 4 is Mixed Involvement/Low Benefit.

Table 9. Item reliability statistics and exploratory factor loadings for the shared features

	Mean	SD	Cronbach's α (if dropped)	Factor Loading	Eigenvalue	% Variance Explained
Factor 1						
ERC (1)	2.09	1.29	0.59	0.79		
ERC (2)	2.26	1.36	0.62	0.76		
ERC (3)	2.09	1.37	0.61	0.72		
Full Factor	2.15	1.12	0.78		2.43	22.00
Factor 2						
Flexibility (Space 1)	3.18	1.50	0.59	1.11		
Flexibility (Space 2)	3.2	1.53	0.62	0.45		
Flexibility (Time 3)	3.44	1.32	0.63	0.39		
Full Factor	3.27	1.17	0.73		0.92	19.30
Full Scale			0.65			

Note: Employer relationship complexity is abbreviated as "ERC". Original item names/numbers are presented in parentheses.

Table 10. Confirmatory factor loadings for shared features

	Estimate	SE	Z
Factor 1			
ERC (1)	0.96	0.07	14.60
ERC (2)	1.09	0.07	15.10
ERC (3)	0.82	0.07	11.70
Factor 2			
Flexibility (Space 1)	1.14	0.09	13.40
Flexibility (Space 2)	0.98	0.08	11.90
Flexibility (Time 3)	0.91	0.08	12.20
Full Scale			

Note: Employer relationship complexity is abbreviated as "ERC". Original item names/numbers are presented in parentheses. All estimates are significant at < .001.

Table 11. Item reliability statistics and exploratory factor loadings for the unique features

	Mean	SD	Cronbach's α (if dropped)	Factor Loading	Eigenvalue	% Variance Explained
Unique Feature: Contract/Time Details						
Contract/Time (3)	4.06	2.11	0.71	0.68		
Contract/Time (2)	2.84	1.86	0.63	0.66		
Contract/Time (1)	3.26	1.95	0.68	0.66		
Full Factor	3.39	1.58	0.72		1.10	15.70
Shared Feature: ERC						
ERC (1)	2.33	1.36	0.67	0.80		
ERC (2)	2.58	1.38	0.68	0.75		
ERC (3)	2.37	1.44	0.67	0.73		
Full Factor	2.43	1.14	0.76		2.34	21.80
Shared Feature: Flexibility						
Flexibility (Space 1)	2.92	1.49	0.65	0.96		
Flexibility (Space 2)	2.80	1.51	0.66	0.50		
Flexibility (Time 3)	3.13	1.28	0.67	0.42		
Full Factor	2.95	1.15	0.73		0.40	16.10
Unique Characteristic: Worker Seriousness						
WS (1)	4.00	1.13	0.47	0.50		
WS (2)	3.91	1.20	0.53	1.00		
Full Factor	3.96	1.01	0.67	0.67	1.62	41.80

Note: Employer relationship complexity is abbreviated as "ERC", and Worker seriousness as "WS". Original item names/numbers are presented in parentheses.

Table 12. Confirmatory factor loadings for unique features

		Estimate	SE	Z
Employer Relationship Complexity				
	ERC (1)	1.03	0.09	11.73
	ERC (2)	1.04	0.09	11.47
	ERC (3)	0.80	0.09	8.56
Flexibility				
	Flexibility (Space 1)	1.31	0.10	13.04
	Flexibility (Space 2)	0.87	0.09	9.30
	Flexibility (Time 3)	0.81	0.08	9.55
Contract/Time Details				
	Contract/Time (1)	1.14	0.14	8.06
	Contract/Time (2)	1.50	0.14	10.75
	Contract/Time (3)	1.35	0.14	9.72
Worker Seriousness				
	WS (1)	0.84	0.15	5.59
	WS (2)	0.91	0.16	5.65

Note: Employer relationship complexity is abbreviated as "ERC", and Worker seriousness as "WS". Original item names/numbers are presented in parentheses. All estimates are significant at < .001.

Table 13. Correlation matrix for full sample

	M	SD	ERC	Flexibility	CP	PJS	EE	SWB	SV	TI	TS	Autonomy	Feedback	GNS	Intrinsic	Identified	Introjected	Extrinsic	AS	AF	RS	RF	CS	CF	AW	AC	APG
ERC	2.15	1.12	—																								
Flexibility	3.27	1.17	0.10 *	—																							
CP	3.69	0.84	-0.15 ***	-0.10 *	—																						
PJS	3.91	0.98	0.41 ***	0.02	-0.32 ***	—																					
EE	3.77	0.82	0.11 **	0.23 ***	0.14 ***	-0.18 ***	—																				
SWB	3.88	0.82	0.03	0.12 **	0.34 ***	-0.26 ***	0.45 ***	—																			
SV	3.81	0.94	0.13 ***	0.11 **	0.16 ***	-0.12 **	0.44 ***	0.41 ***	—																		
TI	4.10	0.82	0.03	0.02	0.24 ***	-0.17 ***	0.34 ***	0.34 ***	0.41 ***	—																	
TS	3.90	0.90	0.06	0.14 ***	0.22 ***	-0.15 ***	0.36 ***	0.33 ***	0.40 ***	0.34 ***	—																
Autonomy	3.85	0.93	0.07	-0.17 ***	0.27 ***	-0.18 ***	0.30 ***	0.35 ***	0.47 ***	0.43 ***	0.32 ***	—															
Feedback	4.04	0.76	0.05	0.03	0.23 ***	-0.21 ***	0.39 ***	0.43 ***	0.46 ***	0.53 ***	0.44 ***	0.54 ***	—														
GNS	4.23	0.66	-0.02	0.02	0.20 ***	-0.22 ***	0.35 ***	0.44 ***	0.48 ***	0.45 ***	0.39 ***	0.41 ***	0.47 ***	—													
Intrinsic	3.73	1.00	0.15 ***	0.04	0.25 ***	-0.08 *	0.30 ***	0.44 ***	0.48 ***	0.34 ***	0.38 ***	0.44 ***	0.47 ***	0.48 ***	—												
Identified	3.86	0.94	0.15 ***	0.05	0.24 ***	-0.15 ***	0.36 ***	0.42 ***	0.53 ***	0.33 ***	0.43 ***	0.45 ***	0.44 ***	0.50 ***	0.79 ***	—											
Introjected	3.49	1.02	0.21 ***	0.23 ***	-0.11 **	0.17 ***	0.11 **	0.08	0.12 **	0.07	0.22 ***	0.07	0.16 ***	0.10 *	0.23 ***	0.23 ***	—										
Extrinsic	2.84	1.11	0.34 ***	0.25 ***	-0.25 ***	0.38 ***	0.07	-0.11 **	0.05	-0.07	0.07	0.00	-0.01	-0.16 ***	0.01	0.05	0.58 ***	—									
AS	3.90	0.93	0.08 *	-0.12 **	0.29 ***	-0.17 ***	0.30 ***	0.38 ***	0.35 ***	0.40 ***	0.29 ***	0.64 ***	0.47 ***	0.38 ***	0.43 ***	0.44 ***	0.09 *	-0.06	—								
AF	2.86	1.13	0.33 ***	0.30 ***	-0.26 ***	0.44 ***	-0.02	-0.16 ***	-0.04	-0.12 **	0.07	-0.22 ***	-0.11 **	-0.15 ***	-0.05	-0.07	0.33 ***	0.54 ***	-0.27 ***	—							
RS	3.70	0.92	0.07	0.17 ***	0.28 ***	-0.20 ***	0.37 ***	0.54 ***	0.40 ***	0.36 ***	0.39 ***	0.37 ***	0.39 ***	0.38 ***	0.49 ***	0.51 ***	0.20 ***	0.07	0.38 ***	-0.04	—						
RF	2.93	1.11	0.29 ***	0.13 ***	-0.23 ***	0.41 ***	-0.10 **	-0.33 ***	-0.10 *	-0.15 ***	0.00	-0.12 **	-0.11 **	-0.15 ***	-0.08	-0.07	0.25 ***	0.44 ***	-0.11 **	0.50 ***	-0.29 ***	—					
CS	4.23	0.72	-0.04	0.09 *	0.21 ***	-0.26 ***	0.47 ***	0.48 ***	0.43 ***	0.41 ***	0.36 ***	0.34 ***	0.39 ***	0.53 ***	0.39 ***	0.41 ***	0.09 *	-0.11 **	0.35 ***	-0.09 *	0.43 ***	-0.21 ***	—				
CF	2.67	1.16	0.34 ***	0.19 ***	-0.21 ***	0.49 ***	-0.06	-0.21 ***	-0.04	-0.13 **	0.03	-0.09 *	-0.09 *	-0.19 ***	0.00	-0.05	0.32 ***	0.49 ***	-0.09 *	0.52 ***	-0.05	0.56 ***	-0.26 ***	—			
AW	3.60	0.93	0.24 ***	0.15 ***	-0.11 **	0.05	0.26 ***	0.06	0.26 ***	0.16 ***	0.17 ***	0.19 ***	0.19 ***	0.17 ***	0.15 ***	0.16 ***	0.25 ***	0.34 ***	0.12 **	0.28 ***	0.18 ***	0.23 ***	0.17 ***	0.21 ***	—		
AC	4.21	0.73	0.04	0.04	0.07	-0.10 **	0.31 ***	0.28 ***	0.34 ***	0.31 ***	0.37 ***	0.27 ***	0.32 ***	0.55 ***	0.32 ***	0.36 ***	0.17 ***	0.03	0.27 ***	0.01	0.32 ***	0.02	0.36 ***	0.03	0.23 ***	—	
APG	4.40	0.60	0.01	0.04	0.08 *	-0.14 ***	0.31 ***	0.33 ***	0.38 ***	0.32 ***	0.36 ***	0.29 ***	0.40 ***	0.64 ***	0.30 ***	0.33 ***	0.19 ***	0.00	0.27 ***	0.01	0.26 ***	0.03	0.42 ***	-0.03	0.26 ***	0.66 ***	—

Note: * p < .05, ** p < .01, *** p < .001. Abbreviations are as follows: ERC = Employer Relationship Complexity, CP = Contract Preference, PJS = Perceived Job Security, EE = External Employability, SWB = Subjective Well-being, SV = Skill Variety, TI = Task Identity, TS = Task Significance, GNS = Growth Needs Strength, AS = Autonomy Satisfaction, AF = Autonomy Frustration, RS = Relatedness Satisfaction, RF = Relatedness Frustration, CS = Competence Satisfaction, CF = Competence Frustration, AW = Aspirations for Wealth, AC = Aspirations for Community, APG = Aspirations for Personal Growth .

Table 14. Correlation matrix for alternative workers only, including the unique features

	M	SD	ERC	Flexibility	CP	PJS	EE	SWB	SV	TI	TS	Autonomy	Feedback	GNS	Intrinsic	Identified	Introjected	Extrinsic	AS	AF	RS	RF	CS	CF	AW	AC	APG	Contract/Time	WS
ERC	2.43	1.14	—																										
Flexibility	2.95	1.15	0.36 ***	—																									
CP	3.68	0.84	-0.14 **	-0.12 *	—																								
PJS	3.75	1.02	0.35 ***	0.21 ***	-0.34 ***	—																							
EE	3.73	0.84	0.20 ***	0.26 ***	0.17 ***	-0.21 ***	—																						
SWB	3.87	0.85	0.07	0.16 ***	0.35 ***	-0.28 ***	0.50 ***	—																					
SV	3.83	0.92	0.16 **	0.19 ***	0.18 ***	-0.13 **	0.48 ***	0.45 ***	—																				
TI	4.12	0.81	0.01	0.04	0.26 ***	-0.19 ***	0.36 ***	0.32 ***	0.42 ***	—																			
TS	3.89	0.89	0.06	0.18 ***	0.24 ***	-0.17 ***	0.37 ***	0.34 ***	0.37 ***	0.34 ***	—																		
Autonomy	3.96	0.93	0.00	-0.09	0.32 ***	-0.29 ***	0.33 ***	0.38 ***	0.48 ***	0.47 ***	0.34 ***	—																	
Feedback	4.08	0.76	0.00	0.08	0.24 ***	-0.26 ***	0.41 ***	0.46 ***	0.45 ***	0.54 ***	0.44 ***	0.53 ***	—																
GNS	4.24	0.67	-0.02	0.02	0.23 ***	-0.24 ***	0.38 ***	0.46 ***	0.50 ***	0.47 ***	0.42 ***	0.45 ***	0.53 ***	—															
Intrinsic	3.84	0.98	0.08	0.17 ***	0.23 ***	-0.16 **	0.35 ***	0.49 ***	0.48 ***	0.32 ***	0.34 ***	0.43 ***	0.47 ***	0.52 ***	—														
Identified	3.94	0.90	0.13 **	0.16 **	0.24 ***	-0.23 ***	0.42 ***	0.46 ***	0.55 ***	0.33 ***	0.42 ***	0.46 ***	0.42 ***	0.52 ***	0.78 ***	—													
Introjected	3.47	1.04	0.23 ***	0.27 ***	-0.15 **	0.19 ***	0.12 *	0.08	0.12 *	0.09	0.19 ***	0.07	0.15 **	0.07	0.19 ***	0.19 ***	—												
Extrinsic	2.85	1.16	0.35 ***	0.36 ***	-0.30 ***	0.40 ***	0.07	-0.11 *	0.04	-0.09	0.04	-0.05	-0.06	-0.20 ***	-0.06	0.02	0.60 ***	—											
AS	3.98	0.89	0.04	-0.06	0.34 ***	-0.25 ***	0.36 ***	0.42 ***	0.35 ***	0.42 ***	0.34 ***	0.66 ***	0.45 ***	0.44 ***	0.41 ***	0.44 ***	0.09	-0.07	—										
AF	2.85	1.17	0.37 ***	0.39 ***	-0.29 ***	0.51 ***	-0.05	-0.18 ***	-0.06	-0.13 **	0.03	-0.26 ***	-0.12 *	-0.17 ***	-0.06	-0.11 *	0.33 ***	0.56 ***	-0.32 ***	—									
RS	3.69	0.93	0.11 *	0.25 ***	0.30 ***	-0.21 ***	0.46 ***	0.57 ***	0.43 ***	0.35 ***	0.39 ***	0.40 ***	0.40 ***	0.39 ***	0.50 ***	0.53 ***	0.19 ***	0.04	0.40 ***	-0.07	—								
RF	2.97	1.11	0.29 ***	0.23 ***	-0.29 ***	0.45 ***	-0.14 **	-0.35 ***	-0.14 **	-0.15 **	-0.03	-0.18 ***	-0.14 **	-0.19 ***	-0.13 **	-0.14 **	0.22 ***	0.50 ***	-0.18 ***	0.53 ***	-0.31 ***	—						
CS	4.19	0.73	-0.01	0.03	0.28 ***	-0.29 ***	0.47 ***	0.49 ***	0.46 ***	0.48 ***	0.37 ***	0.39 ***	0.43 ***	0.57 ***	0.45 ***	0.47 ***	0.05	-0.16 ***	0.41 ***	-0.15 **	0.49 ***	-0.28 ***	—						
CF	2.72	1.17	0.34 ***	0.31 ***	-0.26 ***	0.54 ***	-0.10 *	-0.21 ***	-0.08	-0.13 **	0.00	-0.14 **	-0.13 *	-0.23 ***	-0.07	-0.10 *	0.32 ***	0.52 ***	-0.12 *	0.55 ***	-0.07	0.55 ***	-0.30 ***	—					
AW	3.66	0.93	0.24 ***	0.27 ***	-0.10 *	0.01	0.33 ***	0.06	0.31 ***	0.20 ***	0.17 ***	0.19 ***	0.20 ***	0.19 ***	0.17 ***	0.23 ***	0.28 ***	0.37 ***	0.15 **	0.27 ***	0.21 ***	0.26 ***	0.17 ***	0.18 ***	—				
AC	4.19	0.74	0.06	0.06	0.10 *	-0.16 **	0.35 ***	0.34 ***	0.37 ***	0.38 ***	0.39 ***	0.33 ***	0.39 ***	0.60 ***	0.36 ***	0.43 ***	0.18 ***	0.02	0.36 ***	-0.05	0.38 ***	-0.04	0.40 ***	-0.01	0.27 ***	—			
APG	4.40	0.61	0.00	0.05	0.12 *	-0.17 ***	0.30 ***	0.36 ***	0.40 ***	0.38 ***	0.38 ***	0.34 ***	0.45 ***	0.68 ***	0.36 ***	0.38 ***	0.20 ***	-0.04	0.34 ***	-0.03	0.28 ***	-0.03	0.44 ***	-0.07	0.30 ***	0.66 ***	—		
Contract/Time	3.39	1.58	0.02	0.21 ***	0.02	0.10	0.10 *	0.11 *	0.09	-0.01	0.04	-0.01	0.01	0.00	0.12 *	0.06	0.08	0.10 *	0.01	0.13 **	0.14 **	0.03	0.00	0.08	0.11 *	-0.06	-0.13 **	—	
WS	3.96	1.01	0.21 ***	0.00	0.14 **	-0.02	0.12 *	0.19 ***	0.16 **	0.19 ***	0.16 **	0.16 **	0.17 ***	0.31 ***	0.19 ***	0.15 **	0.13 **	0.01	0.20 ***	0.03	0.15 **	0.07	0.25 ***	-0.03	0.11 *	0.31 ***	0.30 ***	-0.04	—

Note: * p < .05, ** p < .01, *** p < .001. Abbreviations are as follows: ERC = Employer Relationship Complexity, CP = Contract Preference, PJS = Perceived Job Security, EE = External Employability, SWB = Subjective Well-being, SV = Skill Variety, TI = Task Identity, TS = Task Significance, GNS = Growth Needs Strength, AS = Autonomy Satisfaction, AF = Autonomy Frustration, RS = Relatedness Satisfaction, RF = Relatedness Frustration, CS = Competence Satisfaction, CF = Competence Frustration, AW = Aspirations for Wealth, AC = Aspirations for Community, APG = Aspirations for Personal Growth. WS = Worker Seriousness

Table 15. Correlation matrix for traditional workers only

	M	SD	ERC	Flexibility	CP	PJS	EE	SWB	SV	TI	TS	Autonomy	Feedback	GNS	Intrinsic	Identified	Introjected	Extrinsic	AS	AF	RS	RF	CS	CF	AW	AC	APG
ERC	1.59	0.81	—																								
Flexibility	3.91	0.91	-0.01	—																							
CP	3.71	0.82	-0.19 **	-0.11	—																						
PJS	4.23	0.83	0.38 ***	-0.15 *	-0.29 ***	—																					
EE	3.85	0.79	-0.01	0.12	0.07	-0.06	—																				
SWB	3.89	0.76	-0.07	0.02	0.31 ***	-0.22 **	0.33 ***	—																			
SV	3.78	0.98	0.08	-0.01	0.13	-0.11	0.38 ***	0.32 ***	—																		
TI	4.07	0.83	0.05	0.02	0.21 **	-0.15 *	0.31 ***	0.38 ***	0.40 ***	—																	
TS	3.93	0.91	0.09	0.07	0.19 **	-0.10	0.34 ***	0.32 ***	0.45 ***	0.36 ***	—																
Autonomy	3.64	0.90	0.06	-0.20 **	0.20 **	-0.06	0.30 ***	0.29 ***	0.45 ***	0.36 ***	0.32 ***	—															
Feedback	3.95	0.77	0.09	0.02	0.21 **	-0.18 *	0.38 ***	0.38 ***	0.49 ***	0.51 ***	0.45 ***	0.55 ***	—														
GNS	4.20	0.65	-0.07	0.07	0.12	-0.20 **	0.30 ***	0.39 ***	0.43 ***	0.39 ***	0.32 ***	0.32 ***	0.37 ***	—													
Intrinsic	3.51	0.99	0.18 **	-0.04	0.30 ***	-0.04	0.25 ***	0.37 ***	0.50 ***	0.37 ***	0.47 ***	0.42 ***	0.46 ***	0.41 ***	—												
Identified	3.69	1.00	0.10	0.01	0.25 ***	-0.09	0.30 ***	0.38 ***	0.49 ***	0.33 ***	0.46 ***	0.39 ***	0.45 ***	0.48 ***	0.81 ***	—											
Introjected	3.53	0.98	0.27 ***	0.17 *	-0.02	0.16 *	0.09	0.08	0.13	0.03	0.29 ***	0.11	0.18 **	0.17 *	0.34 ***	0.34 ***	—										
Extrinsic	2.82	1.01	0.37 ***	0.05	-0.13	0.35 ***	0.08	-0.09	0.05	-0.03	0.15 *	0.11	0.10	-0.06	0.17 *	0.10	0.53 ***	—									
AS	3.72	0.98	0.04	-0.13	0.22 **	-0.12	0.21 **	0.32 ***	0.36 ***	0.36 ***	0.21 **	0.60 ***	0.50 ***	0.28 ***	0.42 ***	0.41 ***	0.10	-0.05	—								
AF	2.88	1.04	0.32 ***	0.15 *	-0.18 **	0.31 ***	0.04	-0.12	0.00	-0.12	0.16 *	-0.14 *	-0.08	-0.09	-0.01	0.02	0.31 ***	0.47 ***	-0.17 *	—							
RS	3.71	0.91	0.02	0.00	0.23 ***	-0.16 *	0.18 **	0.47 ***	0.35 ***	0.38 ***	0.41 ***	0.34 ***	0.39 ***	0.36 ***	0.51 ***	0.48 ***	0.22 **	0.12	0.34 ***	0.04	—						
RF	2.83	1.09	0.29 ***	0.03	-0.09	0.30 ***	-0.01	-0.27 ***	-0.02	-0.15 *	0.06	-0.03	-0.08	-0.09	0.01	0.02	0.30 ***	0.31 ***	-0.02	0.43 ***	-0.23 ***	—					
CS	4.32	0.69	0.00	0.13	0.04	-0.15 *	0.46 ***	0.47 ***	0.38 ***	0.30 ***	0.34 ***	0.30 ***	0.34 ***	0.46 ***	0.34 ***	0.36 ***	0.17 *	0.03	0.28 ***	0.06	0.31 ***	-0.03	—				
CF	2.57	1.14	0.35 ***	0.05	-0.11	0.35 ***	0.02	-0.22 **	0.04	-0.13	0.07	-0.03	-0.03	-0.11	0.11	0.02	0.34 ***	0.40 ***	-0.05	0.48 ***	0.01	0.57 ***	-0.16 *	—			
AW	3.49	0.93	0.21 **	0.06	-0.14	0.09	0.14 *	0.06	0.16 *	0.07	0.18 *	0.15 *	0.15 *	0.11	0.06	0.01	0.21 **	0.27 ***	0.03	0.30 ***	0.12	0.18 **	0.20 **	0.24 ***	—		
AC	4.23	0.69	0.03	-0.06	-0.01	0.04	0.22 **	0.14 *	0.28 ***	0.15 *	0.31 ***	0.16 *	0.18 **	0.43 ***	0.25 ***	0.25 ***	0.14 *	0.04	0.11	0.13	0.19 **	0.16 *	0.28 ***	0.13	0.17 *	—	
APG	4.39	0.59	-0.01	0.05	0.02	-0.09	0.35 ***	0.27 ***	0.33 ***	0.21 **	0.32 ***	0.18 *	0.29 ***	0.54 ***	0.21 **	0.25 ***	0.16 *	0.08	0.17 *	0.09	0.23 ***	0.15 *	0.38 ***	0.06	0.18 **	0.68 ***	—

Note: * p < .05, ** p < .01, *** p < .001. Abbreviations are as follows: ERC = Employer Relationship Complexity, CP = Contract Preference, PJS = Perceived Job Security, EE = External Employability, SWB = Subjective Well-being, SV = Skill Variety, TI = Task Identity, TS = Task Significance, GNS = Growth Needs Strength, AS = Autonomy Satisfaction, AF = Autonomy Frustration, RS = Relatedness Satisfaction, RF = Relatedness Frustration, CS = Competence Satisfaction, CF = Competence Frustration, AW = Aspirations for Wealth, AC = Aspirations for Community, APG = Aspirations for Personal Growth.

Table 16. Main effects of control variables prior to hypothesis testing

		Alternative		Traditional	
	χ^2	M	SD	M	SD
Perceived SES 1	0.47	2.77	1.05	2.82	0.87
Perceived SES 2	0.64	2.76	1.08	2.81	0.92
Age	1.29	24.80	15.60	26.10	14.40
SES Range	7.79**				
Gender	2.92				
Race	6.33*				
Education	0.10				

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 17. Results for Quade's Test for H1

					Alternative		Traditional	
	F	DF	t	*p*	M	SD	M	SD
PJS	33.68	624	-5.80	< .001	3.75	1.02	4.83	0.83
EE	3.79	624	-1.95	0.05	3.73	0.84	3.85	0.79
SWB	0.02	624	-0.13	0.90	3.87	0.85	3.89	0.76
Autonomy	21.83	624	4.67	< .001	3.96	0.93	3.64	0.90
Feedback	4.51	624	2.12	0.03	4.08	0.76	3.95	0.77

Note: Perceived Job Security is abbreviated as "PJS", external employability as "EE", and subjective well-being as "SWB".

Table 18. Results for Quade's Test for H2

					Alternative		Traditional	
	F	DF	t	*p*	M	SD	M	SD
Introjected	0.00	624	-0.06	0.96	3.47	1.04	3.53	0.98
Extrinsic	0.14	624	0.37	0.71	2.85	1.16	2.82	1.01
AF	0.00	624	-0.03	0.98	2.85	1.17	2.88	1.04
RF	3.59	624	1.90	0.06	2.97	1.11	2.83	1.09
CF	3.23	624	1.80	0.07	2.72	1.17	2.57	1.14

Note: Frustration with the need of autonomy is abbreviated as "AF", frustration with relatedness as "RF", and frustration with competence as "CF".

Table 19. Results for Quade's Test for H3

					Alternative		Traditional	
	F	DF	t	*p*	M	SD	M	SD
GNS	1.06	624	1.03	0.30	4.24	0.67	4.20	0.65
AC	0.04	624	-0.20	0.84	4.19	0.74	4.23	0.69
APG	0.31	624	0.56	0.58	4.40	0.61	4.39	0.59

Note: Growth Needs Strength is abbreviated as "GNS", aspirations for community as "AC", and aspirations for personal growth as "APG".

Table 20. Model comparison for H4 (predicting PJS), with Gamma, Inverse being the best fit

Model (Distribution, Link fn)	χ^2	Residual df	χ^2 / df	Adjusted R^2	AIC	BIC	Deviance
Gamma, Inverse	35.27	607	0.06	0.13	1783.72	1876.98	41.27
Gamma, Log	35.33	607	0.06	0.13	1783.79	1877.06	41.28
Gaussian, Identity	502.60	607	0.83	0.16	1682.50	1775.76	502.45
Gaussian, Log	501.38	607	0.83	0.16	1681.37	1763.00	501.55

Table 21. Estimates for Gamma, Inverse model for H4 predicting PJS

			95% Confidence Interval			95% Exp(B) Confidence Interval			
Variable	Estimate	SE	Lower	Upper	exp(B)	Lower	Upper	z	p
(Intercept)	0.24	0.01	0.23	0.26	1.28	1.25	1.30	27.02	< .001
Arrangement	-0.04	0.01	-0.05	-0.02	0.97	0.96	0.98	-6.57	< .001
Autonomy	-0.01	0.00	-0.01	0.00	0.99	0.99	1.00	-1.66	0.10
Feedback	-0.01	0.00	-0.02	0.00	0.99	0.98	1.00	-2.99	0.00
Intrinsic	0.01	0.00	0.00	0.02	1.01	1.00	1.02	1.65	0.10
Identified	-0.01	0.00	-0.02	0.00	0.99	0.98	1.00	-2.58	0.01
Age	-4.08e−4	0.00	-7.40e−4	-7.49e−5	1.00	1.00	1.00	-2.40	0.02
Race1	0.01	0.01	-0.01	0.02	1.01	0.99	1.02	0.85	0.40
Race2	0.01	0.01	-0.01	0.03	1.01	0.99	1.03	0.63	0.53
Race3	0.01	0.01	-0.02	0.03	1.01	0.98	1.03	0.40	0.69
Race4	-0.04	0.02	-0.07	-0.01	0.96	0.93	0.99	-2.83	0.01
Education1	0.03	0.05	-0.07	0.11	1.03	0.93	1.12	0.60	0.55
Education2	0.04	0.04	-0.05	0.11	1.04	0.95	1.12	0.94	0.35
Education3	0.03	0.04	-0.06	0.10	1.03	0.94	1.11	0.72	0.47
Education4	0.04	0.04	-0.05	0.11	1.04	0.95	1.12	0.89	0.38
Education5	0.04	0.04	-0.05	0.12	1.04	0.95	1.12	1.03	0.31
Arrangement ✻ Autonomy	0.02	0.01	0.00	0.03	1.02	1.00	1.03	2.32	0.02
Arrangement ✻ Intrinsic	0.00	0.01	-0.02	0.01	1.00	0.98	1.01	-0.49	0.63
Arrangement ✻ Identified	0.01	0.01	-0.01	0.03	1.01	0.99	1.03	1.20	0.23
Arrangement ✻ Feedback	0.00	0.01	-0.02	0.02	1.00	0.98	1.02	0.10	0.92

Note: For race, 1 is "White / Caucasian", 2 is "Black / African American", 3 is "Latino / Hispanic", 4 is "Asian / Pacific Islander", and 5 is "Other". For education, 1 is "some high school", 2 is "high school diploma or equivalent", 3 is "some college or associate degree", 4 is "bachelor's degree, 5 is "master's degree", and 6 is "professional or doctorate degree".

Table 22. Model comparison for 4b (predicting EE), with Gamma, Inverse being the best fit

Model (Distribution, Link)	χ^2	Residual df	χ^2 / df	Adjusted R^2	AIC	BIC	Deviance
Gamma, Inverse	23.49	607	0.04	0.21	1501.09	1594.35	27.81
Gamma, Log	23.61	607	0.04	0.21	1502.41	1595.67	27.87
Gaussian, Identity	316.85	607	0.52	0.24	1393.62	1486.88	316.96
Gaussian, Log	313.82	607	0.52	0.25	1387.38	1480.64	313.82

Table 23. Estimates for Gamma, Inverse model for H4 predicting EE

			95% Confidence Interval			95% Exp(B) Confidence Interval			
Variable	Estimate	SE	Lower	Upper	exp(B)	Lower	Upper	z	*p*
(Intercept)	0.27	0.01	0.25	0.29	1.31	1.29	1.33	29.56	< .001
Arrangement	-0.02	0.00	-0.03	-0.01	0.98	0.97	0.99	-4.10	< .001
Autonomy	-0.01	0.00	-0.01	0.00	0.99	0.99	1.00	-1.86	0.064
Feedback	-0.02	0.00	-0.03	-0.01	0.98	0.97	0.99	-5.84	< .001
Intrinsic	0.01	0.00	0.00	0.01	1.01	1.00	1.01	1.45	0.148
Identified	-0.02	0.00	-0.03	-0.01	0.98	0.98	0.99	-4.41	< .001
Age	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.76	0.006
Race1	-0.01	0.01	-0.02	0.00	0.99	0.98	1.00	-1.77	0.077
Race2	-0.01	0.01	-0.03	0.00	0.99	0.97	1.00	-1.56	0.12
Race3	0.00	0.01	-0.02	0.02	1.00	0.98	1.02	0.12	0.902
Race4	-0.02	0.01	-0.05	0.01	0.98	0.96	1.01	-1.27	0.204
Education1	-0.04	0.05	-0.14	0.04	0.96	0.87	1.05	-0.89	0.374
Education2	-0.04	0.05	-0.13	0.05	0.97	0.88	1.05	-0.78	0.433

Education3	-0.04	0.05	-0.14	0.04	0.96	0.87	1.04	-0.94	0.346
Education4	-0.05	0.05	-0.14	0.03	0.95	0.87	1.04	-1.03	0.304
Education5	-0.05	0.05	-0.15	0.03	0.95	0.86	1.03	-1.19	0.237
Arrangement *Autonomy	0.00	0.01	-0.01	0.01	1.00	0.99	1.01	-0.37	0.715
Arrangement *Intrinsic	0.00	0.01	-0.01	0.02	1.00	0.99	1.02	0.44	0.663
Arrangement *Identified	0.01	0.01	-0.01	0.02	1.01	0.99	1.03	1.16	0.248
Arrangement *Feedback	0.00	0.01	-0.01	0.02	1.00	0.99	1.02	0.16	0.877

Note. For race, 1 is "White / Caucasian", 2 is "Black / African American", 3 is "Latino / Hispanic", 4 is "Asian / Pacific Islander", and 5 is "Other". For education, 1 is "some high school", 2 is "high school diploma or equivalent", 3 is "some college or associate degree", 4 is "bachelor's degree, 5 is "master's degree", and 6 is "professional or doctorate degree".

Table 24. Model comparison for H4c (predicting SWB), with Gamma, Log being the best fit

Model (Distribution, Link)	χ^2	Residual df	χ^2 / df	Adjusted R^2	AIC	BIC	Deviance
Gamma, Inverse	20.82	607	0.03	0.27	1462.78	1556.04	24.72
Gamma, Log	20.70	607	0.03	0.28	1457.98	1551.24	24.54
Gaussian, Identity	281.04	607	0.46	0.32	1317.80	1411.06	280.85
Gaussian, Log	279.83	607	0.46	0.32	1315.30	1408.56	279.74

Table 25. Estimates for Gamma, Log model for H4 predicting SWB

			95% Confidence Interval		95% Exp(B) Confidence Interval				
Variable	Estimate	SE	Lower	Upper	exp(B)	Lower	Upper	z	*p*
(Intercept)	1.28	0.03	1.23	1.34	3.60	3.41	3.81	45.28	<.001
Arrangement	0.04	0.02	0.01	0.07	1.04	1.01	1.07	2.42	0.02
Autonomy	0.01	0.01	-0.01	0.03	1.01	0.99	1.03	1.10	0.27
Feedback	0.07	0.01	0.05	0.09	1.07	1.05	1.10	5.43	<.001
Intrinsic	0.03	0.01	0.01	0.06	1.03	1.01	1.06	2.32	0.02
Identified	0.04	0.01	0.01	0.06	1.04	1.01	1.07	2.65	<0.01
Age	0.00	0.00	0.00	0.00	1.00	1.00	1.00	3.14	<0.01
Race1	-0.01	0.02	-0.06	0.04	0.99	0.95	1.04	-0.39	0.70
Race2	0.05	0.03	-0.01	0.11	1.05	0.99	1.11	1.66	0.10
Race3	-0.02	0.04	-0.10	0.06	0.98	0.91	1.06	-0.48	0.63
Race4	0.10	0.05	0.01	0.21	1.11	1.01	1.23	2.04	0.04
Education1	0.31	0.14	0.03	0.58	1.37	1.03	1.79	2.21	0.03
Education2	0.42	0.13	0.15	0.67	1.52	1.16	1.96	3.17	<0.01
Education3	0.43	0.13	0.16	0.68	1.54	1.17	1.97	3.24	<.001
Education4	0.45	0.13	0.18	0.70	1.57	1.20	2.02	3.41	<.001
Education5	0.47	0.13	0.20	0.73	1.61	1.22	2.07	3.54	<.001
Arrangement *Autonomy	-0.01	0.02	-0.05	0.03	0.99	0.95	1.03	-0.45	0.65
Arrangement *Intrinsic	-0.03	0.03	-0.08	0.02	0.97	0.92	1.02	-1.10	0.27

Arrangement *Identified	-0.01	0.03	-0.06	0.05	0.99	0.94	1.05	-0.31	0.76
Arrangement *Feedback	-0.01	0.03	-0.06	0.04	0.99	0.94	1.04	-0.43	0.67

Note. For race, 1 is "White / Caucasian", 2 is "Black / African American", 3 is "Latino / Hispanic", 4 is "Asian / Pacific Islander", and 5 is "Other". For education, 1 is "some high school", 2 is "high school diploma or equivalent", 3 is "some college or associate degree", 4 is "bachelor's degree, 5 is "master's degree", and 6 is "professional or doctorate degree".

Table 26. Post hoc comparisons for the effect of education on SWB

		Difference	SE	z	$p_{bonferroni}$
1	2	0.73	0.10	-2.21	0.41
1	3	0.66	0.09	-3.17	0.02
1	4	0.65	0.09	-3.24	0.02
1	5	0.64	0.08	-3.41	0.01
1	6	0.62	0.08	-3.54	0.01
2	3	0.90	0.05	-1.90	0.87
2	4	0.89	0.05	-2.09	0.55
2	5	0.87	0.05	-2.48	0.20
2	6	0.85	0.05	-2.77	0.09
3	4	0.99	0.02	-0.43	1.00
3	5	0.97	0.02	-1.42	1.00
3	6	0.95	0.03	-1.96	0.75
4	5	0.98	0.02	-1.20	1.00
4	6	0.96	0.02	-1.84	0.99
5	6	0.98	0.02	-0.86	1.00

Note. Group 1 is "some high school, Group 2 is "high school diploma or equivalent" ,Group 3 is "some college or associate's degree", Group 4 is "bachelor's degree, Group 5 is "master's degree", and Group 6 is "professional or doctorate degree".

Table 27. Differences in variance across test variables for H5a

	Levene's Test			Variance ratio			
	F	$DF_{Between}$	p	F	$DF_{Alternative}$	$DF_{Traditional}$	p
PJS	17.04	625	< .001	1.523	415	210	< .001
EE	1.759	625	0.19	1.105	415	210	0.42
SWB	3.614	625	0.06	1.244	415	210	0.07
Autonomy	0.658	625	0.42	1.073	415	210	0.57
Feedback	0.234	625	0.63	0.965	415	210	0.76
Introjected	0.58	625	0.45	1.13	415	210	0.32
Extrinsic	9.64	625	<0.01	1.33	415	210	0.02
AF	6.50	625	0.01	1.26	415	210	0.06
RF	0.39	625	0.53	1.04	415	210	0.75
CF	0.57	625	0.45	1.05	415	210	0.67
GNS	0.86	625	0.35	1.06	415	210	0.65
AC	0.57	625	0.45	1.16	415	210	0.23
APG	0.06	625	0.81	1.04	415	210	0.73

Note: * p < .05, ** p < .01, *** p < .001. Abbreviations are as follows: PJS = Perceived Job Security, EE = External Employability, SWB = Subjective Well-being AF = Autonomy Frustration, RF = Relatedness Frustration, CF = Competence Frustration, GNS = Growth Needs Strength, AC = Aspirations for Community, APG = Aspirations for Personal Growth.

Table 28. VIF for variables used in the LPA for H5b

Variable	VIF
Flexibility	1.47
ERC	1.40
Contract/Time	1.07
WS	1.15
CP	1.36
SV	1.75
TI	1.65
TS	1.46
Autonomy	2.00
Feedback	1.86
Autonomous	1.94
Controlled	1.65
Satisfaction	2.81
Frustration	2.05

Note: * p < .05, ** p < .01, *** p < .001. Abbreviations are as follows: ERC = Employer Relationship Complexity, WS = Worker Seriousness, CP = Contract Preference, SV = Skill Variety, TI = Task Identity, TS = Task Significance.

Table 29. Two-phased model fit assessment for LPA (BIC), with VVI 4 profiles having the best fit

Number of profiles	EEI	EEE	VVI	VVV
1	-16046.11	-14743.06	-16046.11	-14743.06
2	-15201.88	-14734.44	-15023.83	-14691.61
3	-14895.22	-14747.11	-14734.09	-14934.19
4	**-14708.04**	**-14710.98**	**-14453.37**	**-15624.94**
5	-14699.99	-14750.35	-14501.19	-16072.19

	AIC	BIC	Entropy	
1	16570	16683	1	
2	15431	15660	0.874	
3	15024	15371	0.917	
4	**14626**	**15090**	**0.924**	**X**
5	14557	15138	0.895	

Note: Abbreviations stand for LPA configurations in which EEI represents when variances only vary within class and covariances are fixed to 0, EEE when variances and covariances only vary within class, VVI when variances vary within and between class and covariances are fixed to 0, and VVV when variances and covariances vary within and between class.

Table 30. Variable means for each profile of alternative worker

Variable	Profile 1 (LISB)	Profile 2 (LIHB)	Profile 3 (HIMB)	Profile 4 (MILB)
Flexibility	**2.75**	**2.69**	**4.30**	**2.94**
ERC	**2.22**	**2.00**	**4.17**	**2.36**
C/T Details	3.42	3.18	4.00	3.20
WS	3.97	4.25	4.44	3.54
CP	3.81	4.33	3.48	3.08
SV	**3.91**	**4.54**	**4.46**	**2.96**
TI	4.15	4.88	4.45	3.42
TS	4.00	4.29	4.49	3.19
Autonomy	**4.04**	**4.92**	**4.43**	**2.98**
Feedback	4.11	4.81	4.48	3.40
Autonomous	**3.96**	**4.70**	**4.50**	**2.98**
Controlled	**3.06**	**2.62**	**4.37**	**3.20**
Satisfaction	4.02	4.69	4.50	3.12
Frustration	**2.72**	**1.72**	**4.25**	**3.23**
N	201	68	44	103

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit. Variables marked with * are deficits, as higher numbers indicated greater stress or strain. Abbreviations are as follows: ERC = Employer Relationship Complexity, C/T = Contract/Time, WS = Worker Seriousness, CP = Contract Preference, SV = Skill Variety, TI = Task Identity, TS = Task Significance.

Table 31. Reevaluation of H1 with profiles as the grouping variable

		Perceived Job Security		External Employability		Subjective Well-being	
Profile	N	M	SD	M	SD	M	SD
Profile 1 (LISB)	201	3.96	0.85	3.72	0.76	3.88	0.66
Profile 2 (LIHB)	68	4.61	0.66	4.26	0.77	4.60	0.47
Profile 3 (HIMB)	44	2.76	0.88	4.35	0.42	4.42	0.53
Profile 4 (MILB)	103	3.18	0.92	3.14	0.73	3.12	0.87
Traditional	210	4.24	0.81	3.85	0.79	3.89	0.76

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Table 32. Comparisons per profile for the reevaluation of H1

		Perceived Job Security		External Employability		Subjective Well-being	
Comparison		W	*p*	W	*p*	W	*p*
Profile 1 (LISB)	Profile 2 (LIHB)	8.98	< .001	7.09	< .001	11.58	< .001
Profile 1 (LISB)	Profile 3 (HIMB)	-9.88	< .001	8.00	< .001	7.32	< .001
Profile 1 (LISB)	Profile 4 (MILB)	-9.48	< .001	-9.14	< .001	-10.59	< .001
Profile 1 (LISB)	Traditional	5.13	< .01	2.38	0.45	0.70	0.99
Profile 2 (LIHB)	Profile 3 (HIMB)	-11.00	< .001	-0.63	0.99	-2.96	0.22
Profile 2 (LIHB)	Profile 4 (MILB)	-12.47	< .001	-10.84	< .001	-13.40	< .001
Profile 2 (LIHB)	Traditional	-5.49	< .001	-5.52	< .001	-10.25	< .001
Profile 3 (HIMB)	Profile 4 (MILB)	4.69	<.01	-11.45	< .001	-10.76	< .001
Profile 3 (HIMB)	Traditional	11.24	< .001	-6.15	< .001	-6.45	< .001
Profile 4 (MILB)	Traditional	12.40	< .001	10.40	< .001	10.34	< .001

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Table 33. Reevaluation of H2 with profiles as the grouping variable

		Growth Needs Strength		Aspirations for Wealth		Aspirations for Community		Aspirations for Personal Growth	
Group	N	M	SD	M	SD	M	SD	M	SD
Profile 1 (LISB)	201	4.33	0.54	3.57	0.92	4.25	0.66	4.45	0.51
Profile 2 (LIHB)	68	4.86	0.25	3.75	0.96	4.60	0.59	4.76	0.36
Profile 3 (HIMB)	44	4.41	0.39	4.41	0.55	4.53	0.44	4.57	0.40
Profile 4 (MILB)	103	3.60	0.66	3.45	0.89	3.68	0.81	4.00	0.75
Traditional	210	4.20	0.65	3.48	0.93	4.22	0.69	4.38	0.59

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low

Table 34. Comparisons per profile for the reevaluation of H2

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Comparison		Growth Needs Strength		Aspirations for Wealth		Aspirations for Community		Aspirations for Personal Growth	
		W	*p*	W	*p*	W	*p*	W	*p*
Profile 1 (LISB)	Profile 2 (LIHB)	11.06	< .001	1.88	0.67	6.36	< .001	6.78	< .001
Profile 1 (LISB)	Profile 3 (HIMB)	0.52	1.00	8.65	< .001	3.39	0.12	1.69	0.75
Profile 1 (LISB)	Profile 4 (MILB)	-12.17	< .001	-2.34	0.46	-8.59	< .001	-7.09	< .001
Profile 1 (LISB)	Traditional	-2.48	0.40	-1.76	0.72	-0.22	1.00	-1.11	0.94
Profile 2 (LIHB)	Profile 3 (HIMB)	-9.59	< .001	5.20	0.00	-2.84	0.26	-4.08	0.03
Profile 2 (LIHB)	Profile 4 (MILB)	-14.49	< .001	-3.04	0.20	-10.46	< .001	-9.81	< .001
Profile 2 (LIHB)	Traditional	-11.41	< .001	-2.85	0.26	-6.24	< .001	-6.93	< .001
Profile 3 (HIMB)	Profile 4 (MILB)	-9.38	< .001	-8.72	< .001	-8.69	< .001	-6.10	< .001
Profile 3 (HIMB)	Traditional	-2.22	0.52	-9.21	< .001	-3.45	0.11	-2.29	0.49
Profile 4 (MILB)	Traditional	10.01	< .001	0.81	0.98	8.24	< .001	6.12	< .001

Table 35. SES Range split by profile

Profile		SES Range						Total
		1	2	3	4	5	6	
Profile 1 (LISB)	Count	39	66	42	27	15	12	201
	% within row	19.4 %	32.8 %	20.9 %	13.4 %	7.5 %	6.0 %	
Profile 2 (LIHB)	Count	9	13	16	14	9	7	68
	% within row	13.2 %	19.1 %	23.5 %	20.6 %	13.2 %	10.3 %	
Profile 3 (HIMB)	Count	7	6	8	8	10	5	44
	% within row	15.9 %	13.6 %	18.2 %	18.2 %	22.7 %	11.4 %	
Profile 4 (MILB)	Count	32	24	22	13	8	4	103
	% within row	31.1 %	23.3 %	21.4 %	12.6 %	7.8 %	3.9 %	
Traditional	Count	33	42	46	38	30	21	210
	% within row	15.7 %	20.0 %	21.9 %	18.1 %	14.3 %	10.0 %	
Total	Count	120	151	134	100	72	49	626
	% within row	19.2 %	24.1 %	21.4 %	16.0 %	11.5 %	7.8 %	

Note: SES range are 1 = -$25k, 2 = $25-50k, 3 = $50-75k, 4 = $75-100k, 5 = $100-125k, 6 = $125k+, Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Table 36. Education split by profile

Profile		Education						Total
		1	2	3	4	5	6	
Profile 1 (LISB)	Count	1	5	34	79	56	26	201
	% within row	0.5 %	2.5 %	16.9 %	39.3 %	27.9 %	12.9 %	
Profile 2 (LIHB)	Count	0	1	10	26	14	17	68
	% within row	0.0 %	1.5 %	14.7 %	38.2 %	20.6 %	25.0 %	
Profile 3 (HIMB)	Count	0	0	11	7	13	13	44
	% within row	0.0 %	0.0 %	25.0 %	15.9 %	29.5 %	29.5 %	
Profile 4 (MILB)	Count	1	5	28	32	31	6	103
	% within row	1.0 %	4.9 %	27.2 %	31.1 %	30.1 %	5.8 %	
Traditional	Count	0	1	40	81	59	29	210
	% within row	0.0 %	0.5 %	19.0 %	38.6 %	28.1 %	13.8 %	
Total	Count	2	12	123	225	173	91	626
	% within row	0.3 %	1.9 %	19.6 %	35.9 %	27.6 %	14.5 %	

Note: For education, 1 is "some high school", 2 is "high school diploma or equivalent", 3 is "some college or associate degree", 4 is "bachelor's degree, 5 is "master's degree", and 6 is "professional or doctorate degree". Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit

Table 37. Race split by profile

Profile		Race					Total
		1	2	3	4	5	
Profile 1 (LISB)	Count	148	22	18	8	5	201
	% within row	73.6 %	10.9 %	9.0 %	4.0 %	2.5 %	
Profile 2 (LIHB)	Count	48	12	4	2	2	68
	% within row	70.6 %	17.6 %	5.9 %	2.9 %	2.9 %	
Profile 3 (HIMB)	Count	29	10	2	2	1	44
	% within row	65.9 %	22.7 %	4.5 %	4.5 %	2.3 %	
Profile 4 (MILB)	Count	72	16	10	1	4	103
	% within row	69.9 %	15.5 %	9.7 %	1.0 %	3.9 %	
Traditional	Count	171	15	11	11	2	210
	% within row	81.4 %	7.1 %	5.2 %	5.2 %	1.0 %	
Total	Count	468	75	45	24	14	626
	% within row	74.8 %	12.0 %	7.2 %	3.8 %	2.2 %	

Note: For race, 1 is "White / Caucasian", 2 is "Black / African American", 3 is "Latino / Hispanic", 4 is "Asian / Pacific Islander", and 5 is "Other". Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Table 38. Pairwise comparisons for the difference in PSES across profile

Comparison		W	*p*
Profile 1 (LISB)	Profile 2 (LIHB)	5.17	0.002
Profile 1 (LISB)	Profile 3 (HIMB)	6.89	< .001
Profile 1 (LISB)	Profile 4 (MILB)	-3.34	0.126
Profile 1 (LISB)	Traditional	2.83	0.266
Profile 2 (LIHB)	Profile 3 (HIMB)	2.48	0.402
Profile 2 (LIHB)	Profile 4 (MILB)	-6.66	< .001
Profile 2 (LIHB)	Traditional	-3.52	0.094
Profile 3 (HIMB)	Profile 4 (MILB)	-8.02	< .001
Profile 3 (HIMB)	Traditional	-5.98	< .001
Profile 4 (MILB)	Traditional	5.65	< .001

Note: SES range are 1 = -$25k, 2 = $25-50k, 3 = $50-75k, 4 = $75-100k, 5 = $100-125k, 6 = $125k+, Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

Appendix B- Figures

Features of the work	Job Characteristics Model	Self-Determination Theory	Motivational Components	Characteristics of the workers
(i.e., Feldman, 2006; Spreitzer et al., 2017)	(i.e., Hackman and Oldham, 1975)	(i.e., Deci & Ryan, 1985)	(i.e., Brawley, 2017)	(i.e., Gun, 1993; Gash, 2008; Åkerblad, 2017)
Addresses legal classification, opportunities for organizational support, feelings of membership and flexibility	Addresses descriptors and perceptions of the work itself	Addresses the intangible need and sources of motivation	Addresses motivational components of the individual from the lens of JCM and SDT	Addresses population disparity across groups (SES, education, experience, etc.)

Note: Placement on the spectrum is relative, not absolute.

Figure 1. A multiaxial approach to describing alternative work

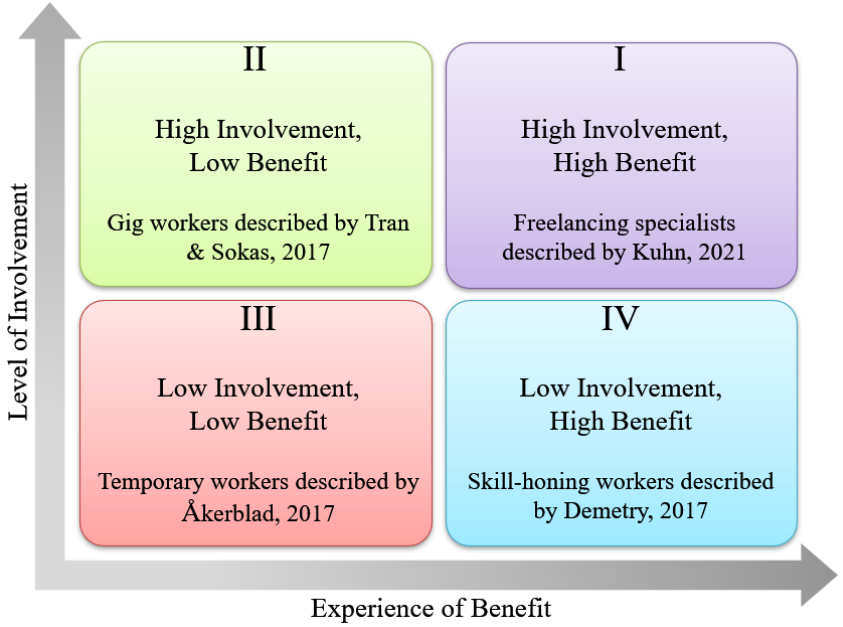

Figure 2. Hypothesized profiles of alternative work (H5b)

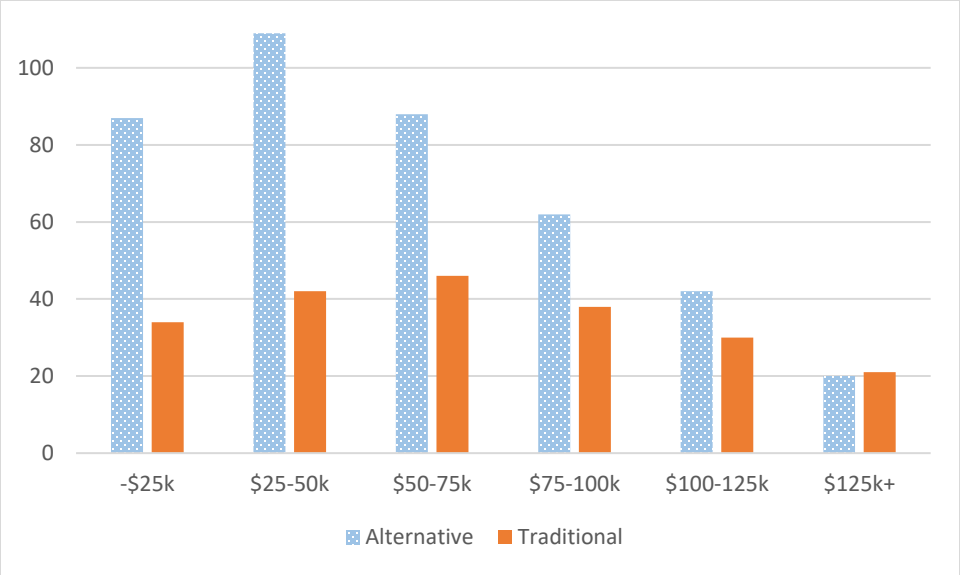

Figure 3. The distribution of socioeconomic status across alternative and traditional workers

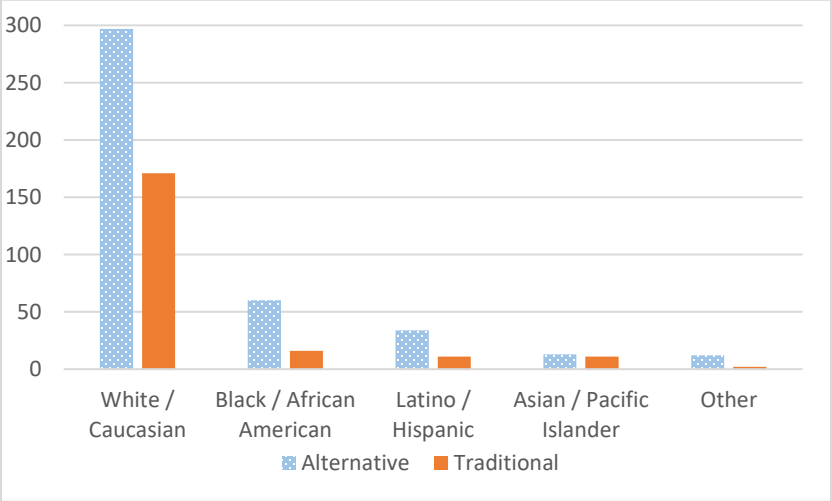

Figure 4. The distribution of race across alternative and traditional workers

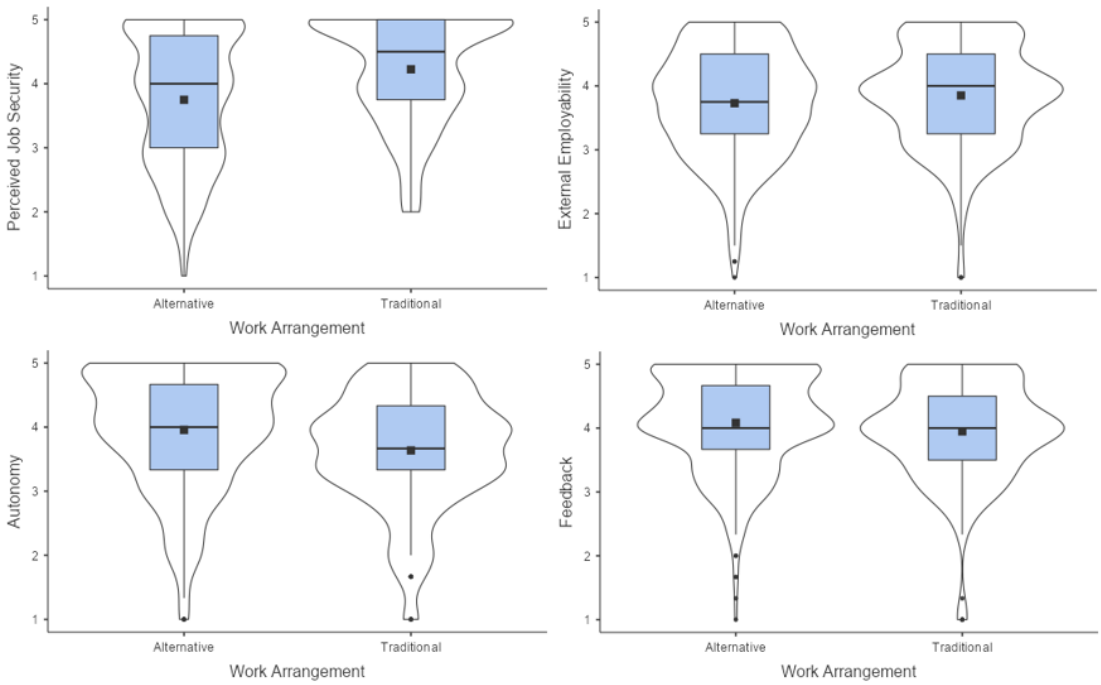

Figure 5. Main effects for psychological resources, autonomy, and feedback across arrangement (H1)

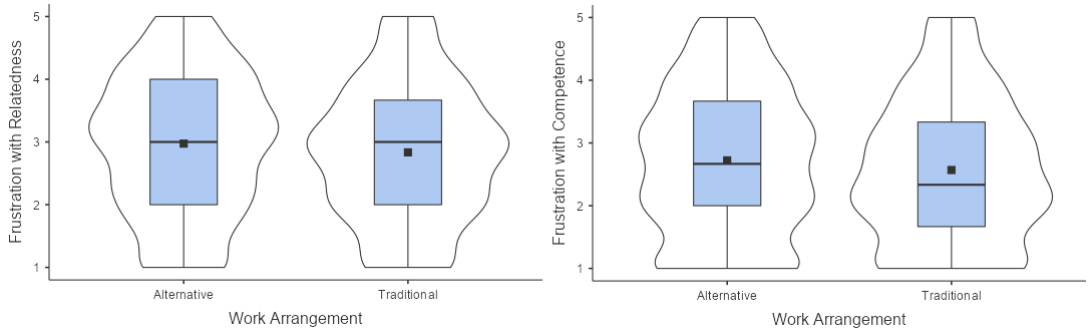

Figure 6. Main effects for frustration with relatedness and competence across arrangement (H2)

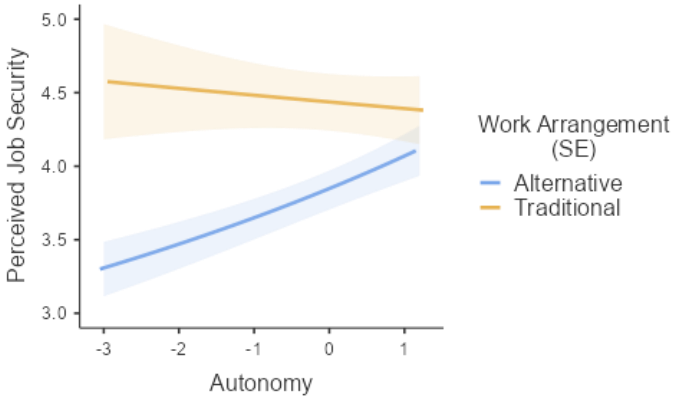

Figure 7. The interaction between autonomy and arrangement predicting PJS (H4a)

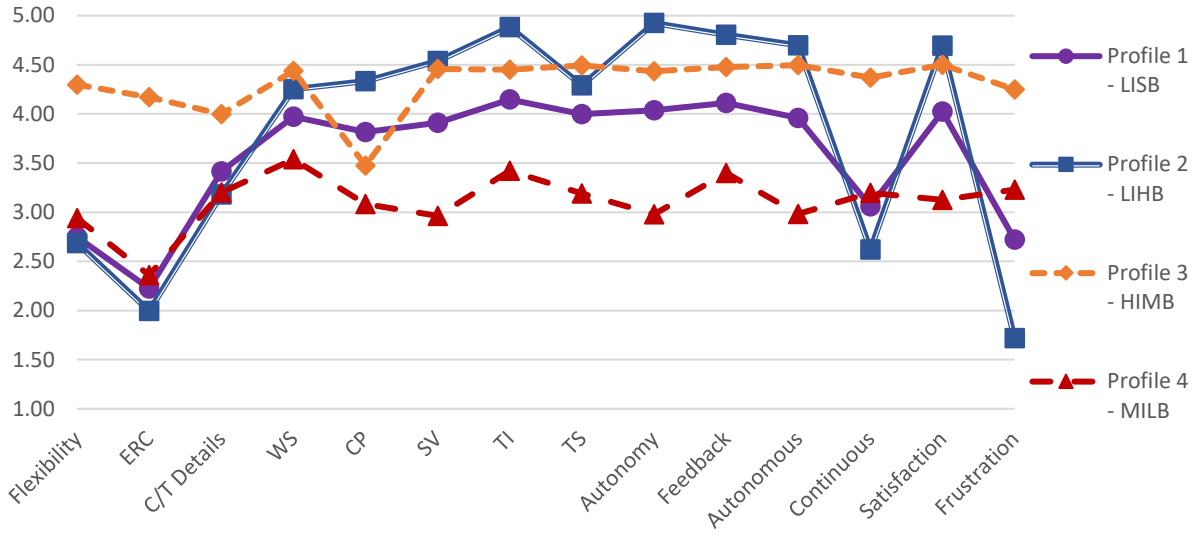

Figure 8. Profiles of alternative work across the 14 indicators

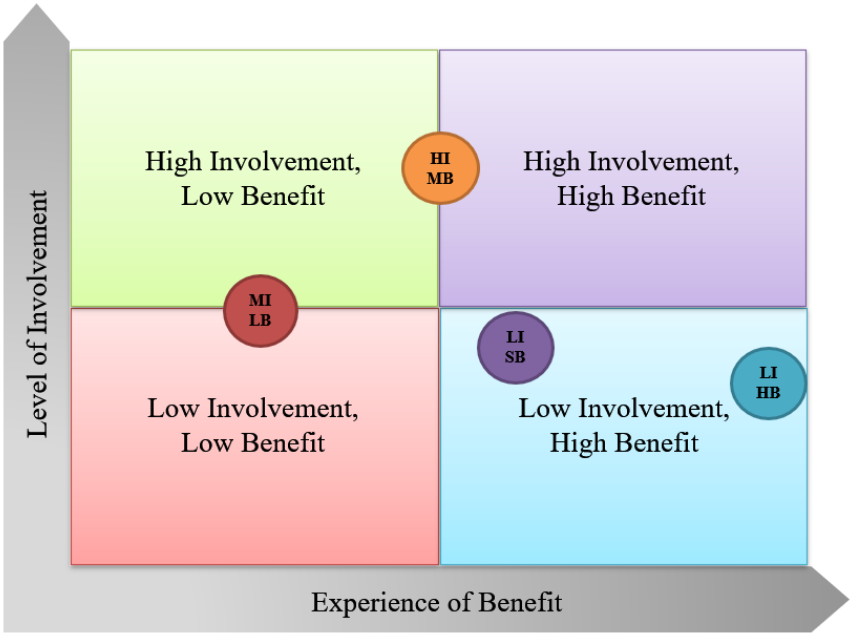

Figure 9. Visual representation of derived profiles compared to hypothesized

Note: Profile 1 is the Low Involvement/Some Benefit alternative worker group, Profile 2 is Low Involvement/High Benefit, 3 is High Involvement/Varied Benefit, 4 is Mixed Involvement/Low Benefit.

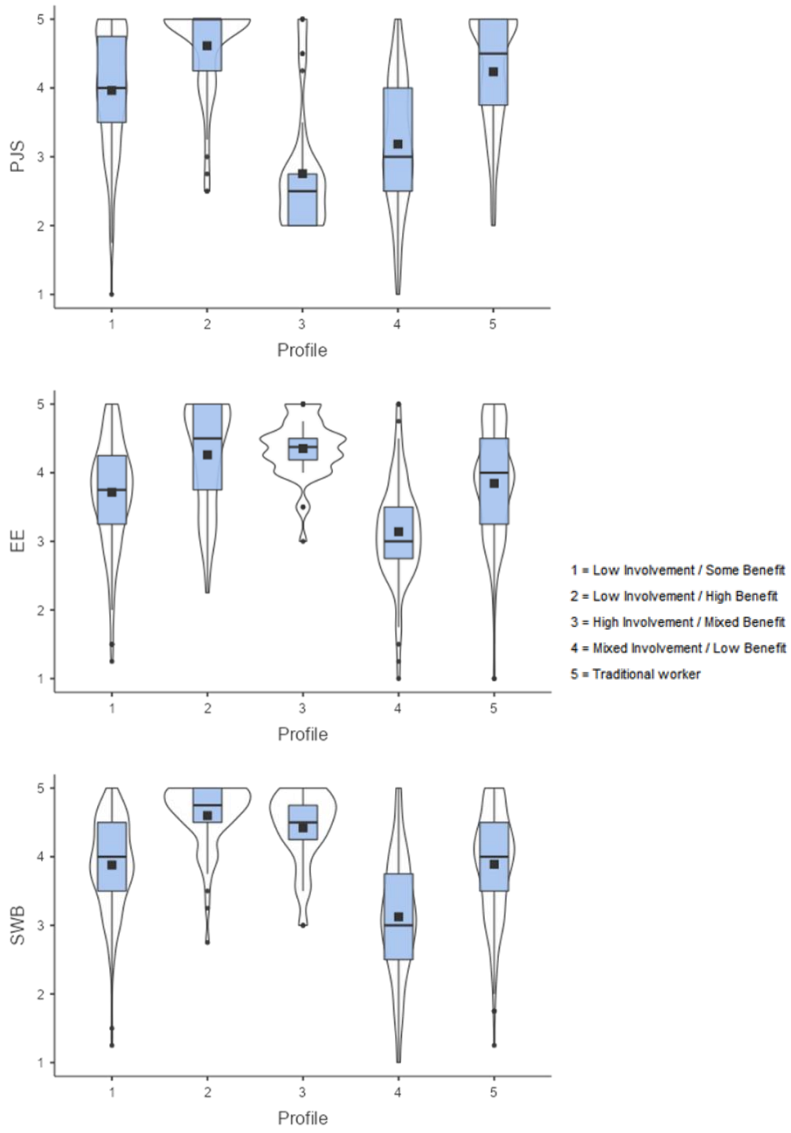

Figure 10. Perceived Job Security, External Employability, and Subjective Well-being split by profile

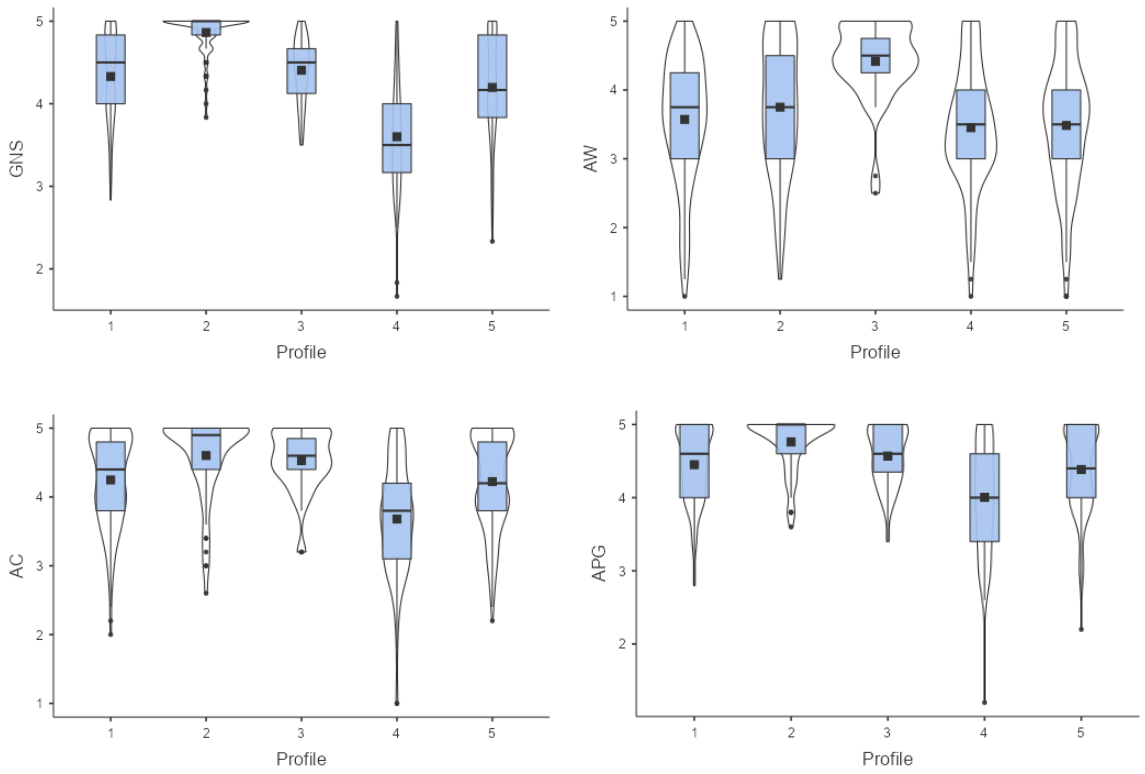

Figure 11. Growth Needs Strength, and aspirations for wealth, community, and personal growth split by profile

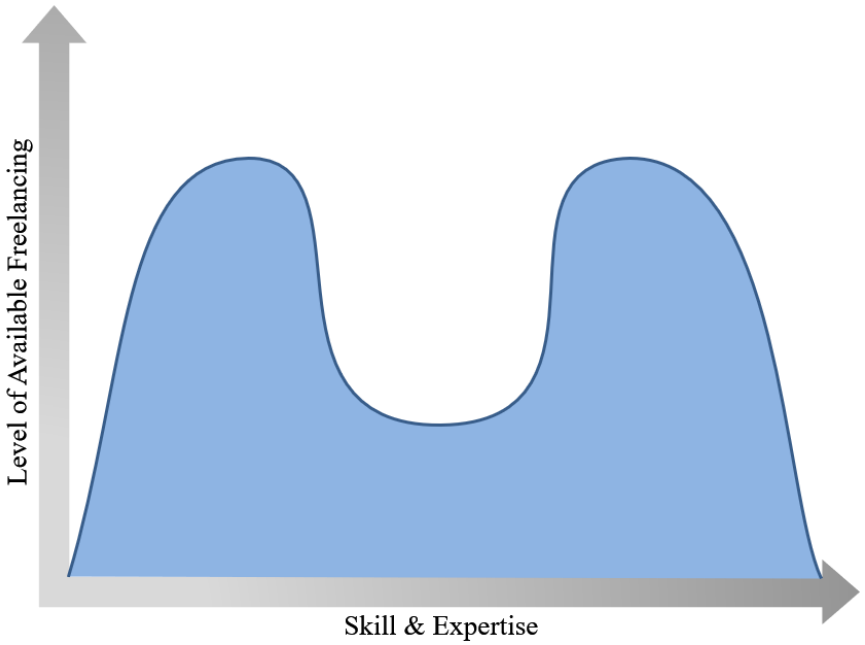

Figure 12. The "barbell" effect

Appendix C- Scales

Adapted scales for shared and unique features of work

	Shared
Time Flexibility	
1	How much choice do you have in when you work?
2	How much of your work is year-round?
3	How much of your work is has a set schedule?
Space Flexibility	
1	How much of your work is done in a common workplace with others?
2	How many of your coworkers are full-time permanent staff?
3	How much of your work is done virtually, being completed through online communication or remotely using the internet?
Employer Type / Relationship	
1	How often does your employer change throughout the year?
2	How often do you work for multiple employers?
3	How much of your work is contracted out through a third party, like an agency or application?
	Unique to alternative workers
Worker Seriousness	
1	Gig, temporary, or contract work is a serious portion of my income.
2	I rely on the work I do through these means
3	I spend a lot of time on this kind of work
Alternative Contract/Time Details	
1	How long does your typical work period (a contract, a work order, a HIT, etc.) last?
2	How much time is there between your typical work period (a contract, a work order, a HIT, etc.)?
3	How often do you have new work (a contract, a work order, a HIT, etc.)?

Contract Preference Scale (Clinton et al., 2005)	
1	I prefer my present work arrangement
2	I will change my arrangement if available (R)
3	My present arrangement suits me for the time being
4	I like my present work arrangement over others

Note: "R" indicates reverse-coded items

The Job Insecurity Scale (Vander Elst et al., 2014)

1	Chances are, I will soon lose my job.
2	I am sure I can keep my job. (R)
3	I feel insecure about the future of my job.
4	I think I might lose my job in the near future.

Note: "R" indicates reverse-coded items

Perceived External Employability Scale (Rothwell & Arnold, 2007)

1	The skills I have gained in my present job are transferable to other occupations.
2	I could easily retrain to make myself more employable elsewhere.
3	I have a good knowledge of opportunities for me outside of my job even if they are quite different to what I do now.
4	If I needed to, I could easily get another job like mine in a similar organisation.
5	I could easily get a similar job to mine in almost any organisation.
6	Anyone with my level of skills and knowledge, and similar job and organizational experience, will be highly sought after by employers.
7	I could get any job, anywhere, so long as my skills and experience were reasonably relevant.
8	People with my kind of job-related experience are very highly valued in their organisation and outside whatever sort of organisation they have previously worked in.

Well-being Scale (Choi et al., 2014)

1	My life has meaning and purpose.
2	I feel confident and good about myself.
3	I gave up trying to improve my life a long time ago. (R)
4	I like my living situation very much.
5	Other people determine most of what I can and cannot do. (R)
6	When I really want to do something, I usually find a way to do it.
7	I have an easy time adjusting to change.

Note: "R" indicates reverse-coded items

The revised Job Diagnostics Survey (Idaszak & Drasgow, 1987)

Skill Variety		
	1	I have a chance to do a number of different tasks, using a wide variety of different skills and talents.
	2	I get to use a number of complex skills on this job.
	3	The job requires me to use a number of complex or high-level skills
Task Identity		
	4	I do a complete task from start to finish. The results of my efforts are clearly visible and identifiable.
	5	My job provides me with the chance to finish completely any work I start.
	6	The job is arranged so that I can do an entire piece of work from beginning to end
Task Significance		
	7	What I do affects the well-being of other people in very important ways.
	8	Many people are affected by the job I do.
	9	The job itself is very significant and important in the broader scheme of things
Autonomy		
	10	I have almost complete responsibility for deciding how and when the work is to be done.
	11	My job gives me considerable freedom in doing the work.
	12	The job gives me a chance to use my personal initiative and judgment in carrying out the work
Feedback		
	13	The work itself provides me with information about how well I am doing.
	14	Just doing the work provides me with opportunities to figure out how well I am doing.
	15	After I finish a job, I know whether I performed well.

Growth Needs Strength portion of the Job Diagnostics Survey (Idaszak & Drasgow, 1987)

1	I like having stimulating and challenging work having this extremely much.
2	I like having chances to exercise independent thought and action.
3	I like having opportunities to learn new things from my work.
4	I like having opportunities to be creative and imaginative in my work.
5	I like having opportunities for personal growth and development.
6	I like having a sense of worthwhile accomplishment in my work

Adapted Academic Self-Regulation Scale (Ryan & Connell, 1989)

I work because…	
Intrinsic	
1	Because I am highly interested in doing this.
2	Because I enjoy doing it.
3	Because it's fun.
4	Because it's an exciting thing to do.
Identified	
5	Because I want to learn new things
6	Because it is personally important to me.
7	Because this represents a meaningful choice to me.
8	Because this is an important life goal to me.
Introjected	
9	Because I want others to think I'm smart.
10	Because I would feel guilty if I didn't study.
11	Because I would feel ashamed if I didn't study.
12	Because I want others to think I'm a good student.
External	
13	Because I'm supposed to do so.
14	Because that's something others (parents, friends, etc.) force me to do.
15	Because others (parents, friends, etc.) oblige me to do so.
16	Because that's what others (e.g., parents, friends) expect me to do.

The Needs Satisfaction, Needs Frustration Scale (Longo et al., 2016)

Autonomy Satisfaction	
1	I feel I'm given a lot of freedom in deciding how I do things
2	I feel completely free to make my own decisions
3	I feel free to decide what to do
Autonomy Frustration	
4	I feel I am prevented from choosing the way I carry out tasks
5	I feel forced to follow directions regarding what to do
6	I feel under pressure to follow standard procedures
Relatedness Satisfaction	
7	I feel the people I interact with really care about me
8	I feel I'm perfectly integrated into a group
9	I feel very close and connected with other people
Relatedness Frustration	
10	Sometimes, I feel a bit rejected by others
11	I feel a bit alone when I'm with other people
12	On occasions, I feel people are a bit cold toward me
Competence Satisfaction	
13	I feel I am very good at the things I do
14	I feel highly effective at what I do
15	I feel I can accomplish even the most difficult tasks
Competence Frustration	
16	I doubt whether I am able to carry out my tasks properly
17	Occasionally, I feel incapable of succeeding in my tasks
18	I sometimes feel unable to master hard challenges

The Aspirations Index (Kasser & Ryan, 1993)

Extrinsic Wealth	
1	I want to be a very wealthy person
2	I want to have many expensive possessions
3	I want to be financially successful
4	I want to be rich
Intrinsic-Community	
5	I want to work for a better society
6	I want to assist people who need it, asking nothing in return
7	I want to work to make the world a better place
8	I want to help others improve their lives
9	I want to help people in need
Intrinsic-Personal Growth	
10	I want to grow and learn new things
11	I want to be able to look back on my life as meaningful and complete
12	I want to choose what I do, instead of being pushed along by life
13	I want to know and accept who I really am
14	I want to gain increasing insight into why I do the things I do

Perceived Socioeconomic Status (Karraker, 2014)

Which of these categories best describes your total combined family income for you and your parents household for the past 12 months?

This should include income (before taxes) from all sources, wages, rent from properties, social security, disability and/or veteran's benefits, unemployment benefits, workman's compensation, help from relatives (including child payments and alimony), and so on.
(This is rated on categories starting at $0-25k, 35k-50k, 50k-75k, 75k-100k, 100k-150k, 150k+)

Compared with most of the people you know personally, like your friends, family, neighbors, and work associates, would you say that your household income is:
(Far Below Average; Below Average, Average, Above Average, Far Above Average)
5-point Likert scale

Compared with American families in general, would you say that your household income is:
(Far Below Average; Below Average, Average, Above Average, Far Above Average)
5-point Likert Scale