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ON-CAMPUS VERSUS REMOTE: LIFE-WORK INTERFACE, WORKPLACE PRODUCTIVITY, WORK INFRASTRUCTURE, AND PERSONALITY IN A UNIVERSITY WORKFORCE

TRABALHO PRESENCIAL VERSUS REMOTO: A INTERFACE ENTRE VIDA E TRABALHO, A PRODUTIVIDADE NO LOCAL DE TRABALHO, A INFRAESTRUTURA DE TRABALHO E A PERSONALIDADE NA FORÇA DE TRABALHO UNIVERSITÁRIA

TRABAJO PRESENCIAL VERSUS REMOTO: INTERFAZ VIDA-TRABAJO, PRODUCTIVIDAD LABORAL, INFRASTRUCTURA LABORAL, Y PERSONALIDAD EN EMPLEADOS DE UNA INSTITUCIÓN UNIVERSITARIA

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Abstract: The *quality of work life* construct describes workers' experiences in various dimensions of their employment and how these dimensions directly impact work life quality. COVID-19 disrupted the work lives of employees in most industries, including higher education, and temporarily normalized remote work for faculty and staff. Objective**:** This study explored the life-work interface, workplace productivity, work infrastructure, and personality of faculty, staff, and administrators in on-campus and remote work environments at a Midwestern state university (*N*=59). Methods**:** Fifty-six quantitative and four qualitative items were included in the anonymous On-Campus versus Remote Quality of Work Life Survey developed by the researchers. Of the fifty-six quantitative items, nineteen were adapted with permission from the authors of the Individual Workplace Performance Questionnaire (IWPQ) (Koopmans, 2014) and the Work-Related Quality of Life Scale (WRQoL-2) (Easton & Van Laar, 2018). Four open-ended items were used to collect participants' workplace productivity-related narratives. The survey was field-

tested and updated according to the recommendations provided by a sample of the target population prior to electronic distribution to the full university. Results**:** Ambiverts and introverts reported higher work satisfaction with remote work. For extroverts, higher satisfaction occurred when working on campus. Degrees of satisfaction along the three theoretical domains, and in consideration of the work setting, varied significantly across faculty, staff, and administrators. While the sample size did not support multivariate analyses, statistically significant correlations ($p < .05$) served to preliminarily validate the study's proposed theory as applied to employees' personality and their work settings. Conclusion**:** Further research will uncover higher-level evidence that may positively impact work-life quality and systemic labor policies in the higher education workforce. These efforts could improve higher education employees' overall sense of well-being, productivity, and equitable access to optimal work environments.

Keywords: Remote work. Quality of work life. Work productivity. Life-work interface. Personality. Higher Education.

Resumo: O conceito de qualidade de vida no trabalho descreve as experiências dos trabalhadores em várias dimensões de seu emprego e como essas dimensões impactam diretamente a qualidade de vida no trabalho. A COVID-19 interrompeu a vida profissional dos funcionários na maioria dos setores, incluindo o ensino superior, e normalizou temporariamente o trabalho remoto para docentes e funcionários administrativos. Objetivo: Este estudo explorou a interface vida-trabalho, a produtividade no local de trabalho, a infraestrutura de trabalho e a personalidade de docentes, funcionários administrativos e gestores em ambientes de trabalho presenciais e remotos em uma universidade estadual do Meio-Oeste americano (N=59). Métodos: Cinquenta e seis itens quantitativos e quatro qualitativos foram incluídos no questionário anônimo de Qualidade de Vida no Trabalho Presencial versus Remoto, desenvolvido pelos pesquisadores. Dos cinquenta e seis itens quantitativos, dezenove foram adaptados com permissão dos autores do Questionário de Desempenho Individual no Local de Trabalho (IWPQ) (Koopmans, 2014) e da Escala de Qualidade de Vida Relacionada ao Trabalho (WRQoL-2) (Easton & Van Laar, 2018). Quatro itens abertos foram utilizados para coletar narrativas dos participantes relacionadas à produtividade no local de trabalho. O questionário foi testado em campo e atualizado de acordo com as recomendações fornecidas por uma amostra da população-alvo antes da distribuição eletrônica para toda a universidade. Resultados: Ambivertidos e introvertidos relataram maior satisfação no trabalho remoto. Para os extrovertidos, a maior satisfação ocorreu quando trabalhavam no campus. Os níveis de satisfação nos três domínios teóricos, e considerando o ambiente de trabalho, variaram significativamente entre docentes, funcionários e administradores. Embora o tamanho da amostra não tenha permitido análises multivariadas, correlações estatisticamente significativas ($p < 0,05$) serviram para validar preliminarmente a teoria proposta no estudo, aplicada à personalidade dos funcionários e seus ambientes de trabalho. Conclusão: Pesquisas futuras revelarão evidências de nível superior que podem impactar positivamente a qualidade de vida no trabalho e as políticas trabalhistas sistêmicas no ensino superior. Esses esforços podem melhorar o bem-estar geral, a produtividade e o acesso equitativo a ambientes de trabalho ideais dos funcionários do ensino superior.

Palavras-chave: Entre 3 e 5 palavras-chave, separadas por ponto, primeira letra maiúscula. Fonte Times New Roman 12.

Resumen: Antecedentes: El constructo de calidad de vida laborar describe las experiences de los trabajadores en diversas dimensiones de su empleo y cómo estas dimensiones impactan directamente en su calidad de vida laboral. La pandemia de COVID-19 alteró la vida laborar de los empleados en la mayoría de los sectores, incluído el sector de la educación superior, y normalizó temporalmente el trabajo remoto para los docentes, personal, y líderes administrativos. Objetivo: Este estudio exploró la interfaz vida-trabajo, la productividad en el lugar de trabajo, y la personalidad de docentes, personal, y líderes administrativos en entornos de trabajo presenciales y remotos en una universidad estatal de la región del centro oeste de los Estados Unidos de América ($N = 59$). Métodos: Se incluyeron 56 indicadores cuantitativos y 4 ítemes cualitativos en la Encuesta de Calidad de Vida Laboral Presencial versus Remota (totalmente anónima), desarrollada por los investigadores. De los 56 indicadores cuantitativos, 19 fueron adaptatos con autorización de los autores del Cuestionario de Desempeño Laboral Individual (IWPQ, por sus siglas en inglés) (Koopmans, 2014) y de la Escala de Calidad de Vida Laboral Relacionada con el Trabajo (WRQoL-2, por sus siglas em inglés) (Easton & Van Laar, 2018). Se utilizaron 4 preguntas abiertas para recopilar las narrativas relacionadas con la productividad laboral. Se llevó a cabo un estudio de campo del cuestionario que sirvió para modificarlo según las recomendaciones proporcionadas por una muestra de la población de interés antes de este ser distribuído de manera electrónica a todos los docentes, empleados, y líderes administrativos de la universidad. Resultados: Los ambivertidos e introvertidos reportaron mayor satisfacción laboral con el teletrabajo (i.e., trabajo remoto). En el caso de los extrovertidos, la mayor satisfacción se observó al trabajar en el campus universitario (i.e., presencialmente). Los grados de satisfacción en los trés domínios teóricos, y considerando el entorno laboral, variaron significativamente entre los docentes, el personal, y los líderes administrativos. Si bien el tamaño de la muestra no permitió realizar análisis multivariados, las correlaciones estadísticamente significativas ($p<.05$) sirvieron para validar preliminarmente la teoría propuesta en el estudio, aplicada a la personalidade de los indivíduos y sus entornos laborales. Conclusiones: Investigaciones futuras revelarán evidencia de mayor nivel que podría tener un impacto positivo en la conciliación de la vida laboral y las políticas laborales institucionales en el personal del sistema de educación superior. Estas iniciativas podrían mejorar la sensación general de bienestar, la productividad y el acceso equitativo a entornos laborales óptimos de los trabajadores de la educación superior.

Palabras Clave: Trabajo remoto. Calidad de la vida laboral. Productividad laboral. Interfax vida-trabajo. Personalidad. Educación superior.

Introduction

The COVID-19 pandemic significantly altered the work experiences of employees globally, including those in higher education. In the United States, it led to widespread adoption and temporary normalization of remote work for faculty, staff, and administrators. The authors aimed to investigate higher education employees' quality of work life, both on-campus and in remote work environments, by exploring the theoretical sub-components of life-work interface, workplace productivity, work infrastructure, and personality.

Researcher Transparency

Honoring the pragmatist tradition of reflexivity, the researchers recognized their distinct viewpoints, which fueled their interest in the studied concepts. These perspectives included backgrounds in healthcare, K-12 education, higher education, leadership, and international studies. The authors were inspired to conduct this research based on personal preferences and academic work circumstances that influenced their lives throughout their careers. The realities of those quality-of-life influences were catapulted into the foreground of consciousness pre- and post-COVID-19 pandemic. The importance of personality, working environment, job modality preferences, and productivity related to work-life balance could no longer be ignored, taken for granted, considered insignificant, or believed to be a unique experience. The pandemic resulted in an abrupt transition to remote work as an intervention to conduct business while maintaining social distance. Now that the peak of the crisis has passed, employers find themselves at a pivotal juncture where some are adopting remote work due to the flexibility it offers employees (e.g., Haque, 2023; Wayne & Hudak, 2021). Other employers are reverting to past expectations of on-site work. This study aimed to understand the work-life interface phenomena, specifically relating to higher education. Despite varying individual experiences, the researchers were mindful to follow research protocol and protect the process from bias.

Background and Problem

Since the COVID-19 pandemic began, societies have been inundated with lay and professional literature regarding remote versus on-site work. A range of literature exists, from pure

opinion to well-controlled research. The dissemination of information can be dangerous because industries and individuals may rely on literature unsubstantiated by credible research evidence to support their views and promote change. This could lead to uninformed work-related policy changes at local, national, and global levels (e.g., taxes, wage laws, on-site work requirements, transportation reimbursement, internet reimbursement, trade laws).

The researchers sought to uncover objective evidence regarding (a) life-work interface, including life-work balance and quality of life; (b) workplace productivity, including time management and workplace engagement; (c) work infrastructure, including workplace support and supervisor support; and (d) personality, including a tendency toward introversion, ambiversion, or extroversion. Researchers were specifically interested in these concepts in higher education settings to provide data for stakeholders to make informed and just employment decisions (e.g., vacancy notice language, hiring decision rubrics, transparent job requirement expectations, and employment accommodation policies). Work culture is influenced by where employees are most productive and are more comfortable (e.g., Laker, 2021; Wyne & Hudek, 2021). From the individual employee perspective, the study results will be useful in understanding personal preferences, capitalizing on employment options, and maximizing the quality of work life. From an employer's system perspective, the results can inform evidence-based policy decisions regarding remote and on-campus employment expectations.

Purpose

The purpose of this post-positivist cross-sectional survey was to explore life-work interface, workplace productivity, work infrastructure, and employee personality in on-campus and remote work environments at a Midwest state university. This study offers evidence of best practices in higher education employment.

Review of Literature

The differences between remote and on-site work have been discussed in the literature for years before, during, and after the COVID-19 pandemic (Alfaleh, 2021; Bloom, Liang, Robert, & Ying, 2015; de Macedo, 2020; Gajendran, Harrison, & Delaney, 2015; Lembrechts, Zanoni, &

Verbruggen, 2019; Wyne & Hudek, 2021). Thus, there is a breadth of information. This literature review was organized into theoretically articulated themes to better understand the *quality of work-life* construct. These themes, or theoretical variables, include: (a) life-work interface, (b) workplace productivity, and (c) work infrastructure within an on-campus or remote work setting. The impact of employee personalities was included in the literature review to gain insight into how individual characteristics may relate to work preferences.

Life-work Interface

Life-work interface is a term used to describe the intersection of work and personal life. Ideally, the pressures from one domain should not negatively impact the other. The literature review yielded contradictory findings, both negatively (Glass & Noonan, 2016; Jacukowicz & Merecz-Kot, 2020) and positively (Alfaleh, 2021; Eramo, 2020) regarding life-work interface outcomes for remote-working employees. For instance, Glass and Noonan (2016) found working from home to be harmful and intrusive, and "rather than enhancing true flexibility in when and where employees work, the capacity to work from home mostly extends the workday and encroaches into what was formerly home and family time" (p. 217). Jacukowicz and Merecz-Kot (2020) found lower work-life balance satisfaction with employees working remotely compared to in-office. Conversely, remote workers also experienced positive life-work outcomes such as improved autonomy (Alfaleh, 2021), family time (Eramo, 2020), productivity (Wyne & Hudek, 2021), and time management (Eramo, 2020).

Individual personalities, preferences, and roles may influence these differences in life-work perceptions. Alfaleh (2021) reported that onsite and remote workers had different perspectives on what constituted satisfaction. Remote workers stated that job autonomy was a satisfier, whereas "job nature, supervisor support, job productivity, and performance" aligned with satisfaction for onsite employees (Alfaleh, 2021, p. 1). Another rationale for differences may be the high variability in concepts researched in relation to remote work, such as (a) sleep and exercise (Barber, 2017); (b) work satisfaction (Alfaleh, 2021); (c) institutional sense of belonging (Belle, 2015); and, (d) working environment conditions (Darrow & Behrend, 2017; Felstead & Hensek, 2017). Each of these concepts focuses on unique aspects of employment, leading to highly nuanced responses from participants.

Workplace Productivity

Workplace productivity refers to the amount of work an individual can complete in a specific timeframe. While this may seem like a clear-cut concept, "for manual work (e.g., assembly lines), but [it is] extremely complex when it comes to knowledge work. Knowledge work gets done through networks of individuals working together with frequently changing goals and varying degrees of context" (Fuller, 2016, para. 11). Empowering leadership practices (Kim & Beehr, 2020), trusting employees (Godart, Gorg, & Hanley, 2017), and reinforcing institutional values (Gelle-Jimenez & Aguiling, 2020) all influence the productivity of remote-working employees. Aligning with self-determination theory, Kim and Beehr (2020) found that when leadership empowers employees, satisfaction, engagement, quality of work-home life, productivity, and creativity increase, which are key outcomes for most organizations. According to research by Godart, Gorg, and Hanley (2017), many German organizations use "'trust-based working hours'…its distinguishing feature is that employers do not control the working time of their employees but rather control their output (p. 895).… Firms that adopt such contracts tend to be 12-15% more likely to improve products and 6-7% more likely to undertake process innovation" (p. 894). When reinforced and demonstrated by supervisors, organizational values support remote worker performance and productivity (Gelle-Jimenez & Aguiling, 2020). Furthermore, productivity and engagement have been studied to consider whether employees fit the environment where they work. Expanding this line of research is imperative and aligns with the *person-environment fit* theoretical construct (Darrow & Behrend, 2017).

Work Infrastructure

The work infrastructure includes both tangible and intangible characteristics/elements required to work successfully, and also varies by type. Knowledge jobs may require more collaboration and planning tools (e.g., Microsoft Teams, Zoom) as well as more intangible

infrastructural elements. For example, workplace infrastructure influences remote and on-site policies, including leadership attitudes, employee empowerment, and productivity evaluation (Bloom et al., 2015; Ermano, 2020; Kim & Beehr, 2020; Lanaj, Gabriel, & Chawla, 2020; Lembrechts et al., 2019). Bloom et al. (2015) and Ermano (2020) explored how workplace productivity increased with remote work. Specifically, remote work resulted in a performance increase of 13% and cut attrition in half (Bloom et al., 2015). Work engagement was strong with workers empowered by their supervisors (Kim & Beehr, 2020). Empowering dimensions included "autonomy (e.g., "My supervisor allows me to do my job my way"), meaningfulness of work (e.g., "My supervisor helps me understand the importance of my work to the overall effectiveness of the company"), participation in decision-making (e.g., "My supervisor solicits my opinion on decisions that may affect me"), and confidence in high performance (e.g., "My supervisor believes that I can handle demanding tasks")" (Kim & Beehr, 2020, p. 207).

If not appropriately nurtured by leadership and supported by the institution with clear boundaries/expectations, the remote workplace may adversely impact employee promotion opportunities (Bloom et al., 2015) and exploit individual/family time (Lanaj et al., 2020). Leaders' opinions on and approaches to remote work have the power to impact remote work success significantly (Lanaj et al., 2020; Lembrechts et al., 2019). It is essential to reinforce team support for working remotely. Organizations with management and IT resource support increased productivity for remote workers during the pandemic (Atiku, 2020). In summary, remote work success relies on the type of organization and supervisor skills in supporting, empowering, and promoting employee choices.

Personality

Personality is a concept used by the lay population and within psychology to describe "the enduring configuration of characteristics and behavior that comprise an individual's unique adjustment to life, including major traits, interests, drives, values, self-concept, abilities, and emotional patterns" (APA, 2024d, para. 1). In the early 1900s, Carl Jung (1921) coined the terms *introversion* and *extraversion* to describe the opposite poles of the personality continuum, heavily influenced by the role of sociability and positive effect. Both terms endured the test of time and

evolved theoretically to include a middle point in the continuum: *ambiversion* (Conklin, 1923). The current definitions of introversion, extroversion, and ambiversion from the APA Dictionary of Psychology are:

- **Introversion**: "Orientation toward the internal private world of one's self and one's inner thoughts and feelings, rather than toward the outer world of people and things. Introversion is a broad personality trait and, like extraversion, exists on a continuum of attitudes and behaviors. Introverts are relatively more withdrawn, retiring, reserved, quiet, and deliberate; they may tend to mute or guard expression of positive affect, adopt more skeptical views or positions, and prefer to work independently" (APA, 2024c, para. 1).
- **Extroversion (also spelled extraversion)**: "Characterized by an orientation of one's interests and energies toward the outer world of people and things rather than the inner world of subjective experience. Extraversion is a broad personality trait and, like introversion, exists on a continuum of attitudes and behaviors. Extraverts are relatively outgoing, gregarious, sociable, and openly expressive" (APA, 2024b, para. 1).
- **Ambiversion**: "An ambivert is someone who exhibits qualities of both introversion and extroversion, and can utilize either personality type depending on their mood, context, and goals" (Van Edwards, 2024, para. 5). [Note: This definition is similar to that provided by APA, 2024a.]

The phenomenon of personality influencing the workforce is important to research. Schumpeter (2016) noted in *The Economist,* "most companies worry about discriminating against their employees on the basis of race, gender, or sexual preference. But they give little thought to their shabby treatment of introverts… introverts make up between a third and a half of the population" (Shhhh! Schumpeter, 2016, p. 59).

Much of the existing literature on the influence of personality on life-work interface experiences and work infrastructure appraisal is primarily focused on studies within the general public, is not supported by high-level methodologically-derived evidence, or is isolated to remote work logistics. For instance, several articles recommended how to best work from home (Lopez-Leon & Ruiz-Díaz, 2020; Meager, 2020); however, little attention was paid to personality, despite

its enduring influence. There was limited scholarly literature covering the post-pandemic period (which inherently changed the remote-work landscape), taking place in the United States, or including academic populations (i.e., faculty, staff, administration). Some studies addressed adjacent concepts to remote work and personality, such as social connectedness (Oakman et al., 2020), social ties (Rockmann & Pratt, 2015), and social quality of life (Jacukowicz & Merecz-Kot, 2020).

Throughout the literature, there were subtle underlying assumptions that extroversion and socialization are pivotal criteria for all jobs, as well as the gold standard for measuring work performance. Normalizing and applying these expectations to all work scenarios may create biased research questions and skewed data interpretations. High social interaction and extroversion tendencies (faux or real) as signs of competence may be based more on historical norms rather than valid performance measurements. According to research by Darrow and Behrend (2017), "person-environment fit is a crucial aspect of how employees experience their work environments" (p. 130). This person-environment fit can be paralleled to the well-accepted importance of student-environment fit in higher education. Educators must create learning-positive environments using evidence-based learning theories (e.g., constructivism). In this way, university educators seek to maximize student potential by building learning environments with multiple learning pathways, acknowledging learning preferences, and giving adult learners the courtesy of autonomy in choosing their best fit. Universities should apply similar efforts to maximize employee potential by creating built work environments with multiple pathways for accomplishing duties, acknowledging preferences in working style, and giving adult workers autonomy in choosing their best work milieu (Wyne & Hudek, 2021). Academia is primed for standard incorporation of person-environment alignment efforts in the work setting. Assessing personality and customizing work that aligns with it may lead to improved recruitment, increased satisfaction, reduced turnover, and maximized efficiency.

One additional theme that became evident during the review of the literature process was the relationship between remote work and personality. A concerning use of stigmatizing language surfaced. Although potentially not intentional, a pattern was noted, such as (a) using potentially

negative descriptive words such as “homebodies” (Eramo, 2020, p. 24); (b) designing research questions to investigate whether remote workers are “good citizens” (Gajendran et al., 2015, p. 353) or “damaging” (Gajendran et al., 2015, p. 386); (c) describing remote work as “contagious” (Rockmann & Pratt, 2015, p. 150); or (d) blaming remote work for the “lonely office” (Rockman & Pratt, 2015, p. 150). Institutions and researchers must be more mindful of the words used to identify remote work and frame it neutrally.

Gap Analysis

In summary, there was a gap in the scholarly literature regarding the impact of on-campus versus remote work in higher education, specifically in the areas of (a) life-work interface, including life-work balance and quality of life; (b) workplace productivity, including time management and workplace engagement; (c) work infrastructure, including workplace support and supervisor support; and (d) personality, including a tendency toward introversion, ambiversion, or extroversion. The depth of knowledge in each of these individual areas, as well as the intersections between these elements, warranted investigation.

Theoretical Underpinnings

This research explored higher-education employees' quality of work life and work setting modality preferences in the post-pandemic era. The study was influenced by diversity, equity, inclusion, and justice principles embraced by higher education and served as a framework for studying individual needs and preferred access within the work environment. Specifically, the study aimed to explore evidence underpinning the historically dominant, societally encouraged *in-person work setting* as the gold standard for defining higher education's most effective and productive work setting.

The authors of this research also drew parallels between the concepts of interest and the easily recognized, although debated, learning styles often referred to in education. The “Visual, Aural, Read/write, and Kinesthetic” (VARK) learning style approach is particularly relevant and addresses different types of learning (Fleming & Baume, 2006, p. 5). The purpose of the VARK questionnaire is to inform students that they have preferences impacting how they learn best. The

first step to successful learning is for individuals to understand their learning preferences, such as whether they learn best by viewing media/visual aids (**v**isual), listening to explanations of concepts (**a**ural), reviewing textbooks and journals (**r**eading), writing a reflection on a topic, or learning by doing (**k**inesthetic) (Fleming & Baume, 2006). The instructor must be mindful of these learning styles and present material in multiple ways to stimulate learning in student populations with various learning preferences.

Given the many well-accepted learning theories/approaches in education, the researchers wanted to apply similar concepts to the workforce. For instance, what is an employee's "working style?" How can an employer be aware of these working preferences and use that information to create customized work environments that stimulate productivity? Does this lead to improved employee satisfaction and retention? This research is timely and needed to better understand these phenomena, especially with the added nuance of remote versus on-site employment. The national conversations and prominent industries pushing certain approaches to work expectations elevate the need for this research.

This study also explores a theory of quality of work life in higher education based on the theoretical structures utilized in the construction of the Individual Workplace Performance Questionnaire (IWPQ) (Koopmans, 2014) and the Work-Related Quality of Life Scale (WRQoL-2) (Easton & Van Laar, 2018; Van Laar, Edwards, and Easton, 2007). The WRQoL was developed by Van Laar et al. (2007) to improve the existing theoretical models and tools used to measure the *quality of work life* construct. Given the abundance of models, the authors followed an eclectic approach by formulating a pool of 200 indicators "gathered to reflect a broad-based definition of QoWL" (p. 327). The final selected indicators "reflected [their] new broad conceptualization of QoWL by containing items about not only work, but also the home-work interface as well as theoretically relevant non-work issues" (p. 328). In the end, six factors were included in their newly created tool: "job and career satisfaction, general well-being, home-work interface, stress at work, control at work, and working conditions" (p. 325).

The IWPQ story is quite similar. As part of her doctoral dissertation, Linda Koopmans (2014) conducted a systematic search to identify theoretical structures to measure the construct of

work performance. This extensive search allowed Koopmans to confirm that while many frameworks existed, "job-specific frameworks used more narrow dimensions to describe elements of work performance" (p. 34). More specifically, "based on conceptual grouping of individual work performance dimensions found in the literature, three broad dimensions could be distinguished: task performance, contextual performance, and counterproductive work behavior" (p. 34). Founded on adapted indicators from the QoWL and the IWPQ, and new indicators generated by the authors, three constructs were utilized for the present study: life-work interface, workplace productivity, and work infrastructure, as central to explore a *quality of work life in higher education* theory.

Research Questions

Two research questions guided this study:

(1) In a Midwest university setting, how do employees self-report: (a) on-campus versus remote life-work interface, (b) on-campus versus remote workplace productivity, (c) on-campus versus remote work infrastructure, and (d) personality?
(2) Does a relationship between these variables exist?

Methodology

Research Design

This practitioner research utilized a cross-sectional post-positivist survey design that included mixed methods. Quantitative and qualitative data were collected at a single time in a non-contrived environment from a single Midwestern state institution of higher education. The researchers aimed to recruit higher education employees (i.e., faculty, administrators, staff) to draw conclusions from representative groups with different positions in the institution regarding three different work dimensions: a) life-work interface, b) workplace productivity, and c) work infrastructure during the post-pandemic era, in consideration of the context of their work setting (i.e., in-person, remote) and their self-appraised personality (i.e., introvert, ambivert, extrovert).

Instrumentation

On-Campus versus Remote Quality of Life-Work Survey

During several review and discussion meetings, the researchers developed the self-administered electronic and anonymous On-Campus versus Remote Quality of Life-Work Survey. The survey contained a total of 60 items organized into six sections: (1) personal and professional demographic information (23 questions); (2) life-work interface (LWI, 8 questions); (3) workplace productivity (WP, 11 questions); (4) work infrastructure (WI, 11 questions); (5) personality (3 questions); and (6) final thoughts regarding benefits and challenges/barriers to working on campus and remotely (4 questions). Sections 2-4 were contextualized two-dimensionally: (a) when working on campus and (b) when working remotely. The questions were adapted, with authorization, from the Individual Workplace Performance Questionnaire (IWPQ) (Koopmans, 2014) and the Work-Related Quality of Life Scale (WRQoL-2) (Easton & Van Laar, 2018) (see Appendix A). Sections 2-4 also included questions the authors created. See Table 1 for the distribution of existing and new questions. All questions within these three sections were measured on a 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) Likert scale. A sixth option was available to indicate when the question was *Not Applicable*.

Table 1

Proportion of Existing versus New Questions in Sections 2-4 of the Instrument

Scale N of Total Items = 30	Adapted From Existing	New
Life-Work Interface (8 items = 100%)	6 (66.5%)	2 (33.5%)
Workplace Productivity (11 items = 100%)	10 (91%)	1 (9%)
Work Infrastructure (11 items = 100%)	8 (62%)	3 (38%)

These three sections measured a distinct, uni-dimensional construct (i.e., life-work interface, workplace productivity, work infrastructure). Given the utilization of adapted items

and newly generated ones, the index of reliability for sections 2-4 were calculated using Cronbach's alpha, which are shown in Table 2. All reliability indexes were confirmed to be satisfactory.

Section 6 of the survey contained open-ended questions and collected participants' narratives related to the benefits, challenges, and barriers of working on campus as well as remotely.

Table 2
Cronbach's Alpha Internal Consistency (Reliability) by Section

Scale ($N = 59$)	Campus	Remote
Life-Work Interface (8 items)	.83 (.31)	.79 (.38)
Workplace Productivity (11 items)	.89[1] (.21)[2]	.93 (.14)[3]
Work Infrastructure (11 items)	.90 (.19)	.86 (.26)

[1] "Alpha values of .7 to .8 are regarded as satisfactory" (Bland & Altman, 1997, para. 6).

[2] Index of measurement error, "the fraction of a test score that is attributable to error…on the observed score of a student cohort" (Tavokol & Dennick, 2011, para. 3). Each section measured a unidimensional construct.

[3] Acceptable values of alpha vary, ranging from .70 to .95 (Tavokol & Dennick, 2011) or no lower than .80 (Carmines & Zeller, 1979).

Pilot

The survey package was pilot-tested (e.g., content, readability, flow, timing) and updated according to the recommendations provided by five (5) expert reviewers prior to email distribution to the larger university employee population. It was estimated that the electronic survey package, developed in Qualtrics, was estimated to take participants 15-20 minutes to complete. This pilot

testing phase also afforded researchers the confirmation that the survey was fully accessible through various electronic means (e.g., laptop, tablet, cell phone).

Ethical Considerations and Logistics

The university's Institutional Review Board evaluated and approved this study. The anonymous survey package included a Letter of Informed Consent as the first item presented to participants. Participants were apprised of the voluntary nature of the study, purpose, benefits, risks, confidentiality, and ability to withdraw at any point without repercussion. Those who did not provide consent were directly navigated to a thank you message at the end of the survey. Data were collected in March of 2023 during a 4-week period, which included sending a couple of reminders to potential participants via the campus news system. Data were protected in collection, analysis, and dissemination. Each participant was identified by a code (i.e., Participant 1, Participant 2). The results were downloaded from Qualtrics and stored in a password-protected environment accessible to the researchers via their password-protected laptops, which were solely used by the individual researchers. The information collected was aggregated without identifiers.

Setting

The higher education setting for this study offers undergraduate, master's, and doctoral programs. It is part of a larger statewide system of colleges and universities. Programs and courses are offered in various environments, including on-campus, hybrid, and completely online. The university is in an urban area of the Midwest and serves approximately 5,500 students.

Sampling and Data Collection

As noted, a single Midwestern state institution of higher education (IHE) served as the setting for this study. A census approach sampled the entire university employee population, including administrators, faculty, staff, and student workers. Employees at the study site could be full-time, part-time, on-campus, remote, or a combination. Researchers expected to recruit a minimum sample size determined by Krejcie and Morgan (1970), which recommended a size of

214 given the institutional employee population size (i.e., 492) reported by the Office of Institutional Effectiveness (Anderson, personal communication, March 13, 2024). The sample recruited was composed of 59 individuals, which represented 24% of the recommended sample size. Participants were recruited through non-probabilistic convenience sampling procedure which, although reduced the ability to estimate sampling error (Dawson & Trapp, 2001) or generalize the findings to all institutions of higher education, it allowed researchers to generalize findings to the faculty, administrators, and staff working at this specific Midwestern state IHE (Andrade, 2021).

Data Analysis

Various statistical data analysis techniques were used with the Statistical Package for the Social Sciences (SPSS, version 29). The first phase of data analysis focused on data screening, which resulted in 10 cases being rejected due to finding more than 50% of incomplete answers. From the 59 usable cases (N), the imputation of missing data with reliable methods (e.g., mean substitution for ratio scale variables, mode substitution for ordinal scale variables) was completed (partial attrition was observed in less than 3% of imputable data among usable cases). The second phase of data analysis focused on summarizing the data with measures of central tendency, spread, skewness, and kurtosis, and using selected personal and professional demographic variables as mediating factors to WP, LWI, and WI as reported by faculty, administrators, and staff. In the last phase of data analysis and given data characteristics and statistical assumptions, Spearman's rho (with administrators and staff) and Pearson (with faculty) correlations were used to identify associations between life-work interface, workplace productivity, and work infrastructure moderated by work setting modality (i.e., on campus, remotely) and personality.

Results

Participants

The sample (N=59) was composed of faculty (n=33, 55.9%), administrators (n=6, 10.2%), staff (n=18, 30.5%), student workers (n=2, 3.4%), and almost two-thirds were women (66.6%+). As seen in Table 3, most participants were married (72% +), lived with at least one adult (85% +),

and 22 participants reported caring for a child younger than 18 (38.59%). On average, faculty resided the farthest from campus, with a few extreme outliers (M=32 miles, SD=55.32). Personality data showed that participants reported functioning mostly as ambiverts at work (M_A=57.83, SD_A=15.5; M_F=58.22, SD_F=22.07; M_S=53.33, SD_S=21.25), but as extraverts with their family and friends (M_A=75.5, SD_A=10.23; M_F=66.69, SD_F=26.54; M_S=72.33, SD_S=18.36). With a few exceptions, most participants reported being White and middle-aged. Table 3 presents personal demographic statistics.

Table 3

Faculty, Administrators, and Staff / Personal Demographic Information

Demographic Variable	Faculty *n*=33		Administrators *n*=6		Staff *n*=	
N=59	Frequency	%	Frequency	%	Frequency	%
Gender						
Man	10	30.3%	2	33.3%	4	22.2%
Woman	22	66.6%	4	66.7%	14	77.8%
Marital Status						
Divorced	1	3%	--	--	2	11.1%
Married	29	87.9%	6	100%	13	72.2%
Single	2	6.1%	--	--	3	16.7%
Adults at Home						
Yes	28	84.8%	6	100%	16	88.9%
No	5	15.2%	--	--	2	11.1%
	M/Mdn	*SD*	*M/Mdn*	*SD*	*M/Mdn*	*SD*

Age	50.48/51	9.54	55.17/54	6.43	45/48	10.75
Personality in Work Setting[1]	58.22/54	22.07	57.83/56	15.50	53.33/50	21.25
Personality in Social Setting	66.69/78	26.54	75.5/75	10.23	72.33/76	18.36
Miles from Campus	32.27/9	55.23	13.8/12	11.38	10/5	12.59

[1] Personality interpretation scores: Introvert: 0-33, Ambivert: 34-66, Extravert: 67-100.

Professional demographic statistics are in Table 4. Faculty were mostly tenured (54.5%), full (30.3%), or associate professors (24.2%) who reported working 40 hours (54.5%) or more (33.3%) per week and were primarily teaching undergraduate courses (63.6%). Administrators indicated having the longest experience working in higher education (M_A=25.83, SD_A=14.95) and reported that about 59% of their work could be completed remotely, given access to adequate technology and infrastructure. Faculty and staff reported being capable of fulfilling remotely up to 80% and 68% of their work responsibilities, respectively, if provided with adequate technology support and work infrastructure. While 75.7% of faculty indicated feeling either *very comfortable* or *comfortable* with online technology, these two answer choices garnered 83.3% of responses among administrators. Among staff, on the other hand, feeling *very uncomfortable* was the most common answer choice (55.6%). Notably, 50% of administrators and 33.3% of staff reported having supervisors not supporting their remote work, which was true for only 3% of faculty.

Table 4
Professional Demographic Information by Job Position

Demographic Variable	Faculty		Administrators		Staff	
N=59	*n*=33		*n*=6		*n*=18	
	Frequency	%	Frequency	%	Frequency	%

Teaching						
Undergraduate	21	63.6%				
Graduate	4	12.1%	NA		NA	
Both	8	24.2%				
Academic Position						
Adjunct	1	3%				
Fixed Term	8	24.2%	NA		NA	
Probationary	6	18.2%				
Tenured	18	54.5%				
Rank			NA		NA	
Assistant	6	18.2%				
Associate	8	24.2%				
Full Professor	10	30.3%				
Work Hours						
Full Time	18	54.5%	2	33.3%	14	77.8%
Full Time+	11	33.3%	3	50%	2	11.1%
Part Time	1	3%		--	--	--
3/4	2	1%		--	2	11.1%
Comfort with Online Tech						
Very Comf.	17	51.5	3	50%	--	
Comfortable	8	24.2%	2	33.3%	8	44.4%
Neutral	2	6.1%	--	--	--	--
Uncomfortable	1	3%	--	--	--	--

Very Uncomf	5	15.2%	1	16.7%	10	55.6%
Supervisor Support for Remote Work						
Strongly Agree	6	18.2%	--	--	2	11.1%
Agree	16	48.5%	1	16.7%	3	16.7%
Neutral	9	27.3%	2	33.3%	6	33.3%
Disagree	1	3%	3	50%	1	5.6%
Strongly Dis.	1	3%	--	--	6	33.3%
	M/Mdn	*SD*	*M/Mdn*	*SD*	*M/Mdn*	*SD*
Years in Higher Ed	16.06/15	9.02	25.83/26	14.85	11.5/9	7.09
% of Work that could be done Remotely	80.42/95	22.42	59/55.5	23.87	67.89/72.50	28.83

The research questions guiding this study were: (1) In a Midwest university setting, how do employees self-report: (a) on-campus versus remote life-work interface, (b) on-campus versus remote workplace productivity, (c) on-campus versus remote work infrastructure, and (d) personality? and (2) Is there a relationship between these variables? To address the first research question, participants' appraisal of life-work interface (LWI), workplace productivity (WP), and work infrastructure (WI) during the post-pandemic era and in consideration of the context of their work setting (i.e., campus, remote) are presented in Table 5.

Table 5

Participants' Appraisal of Life-Work Interface, Workplace Productivity, and Work Infrastructure by Job Position

	Faculty *n*=33		Administrators *n*=6*		Staff *n*=18	
	Campus	Remote	Campus	Remote	Campus	Remote
Life-Work Interface	26.39[a]/28[b] 6.26[c]	29.3/30 5.25	27.17/29 5.7	28.5/30 6.41	28.17/30 7	31.83/32 4.46
Workplace Productivity	45.48/45 6.66	46.85/48 6.69	53/53.5 2.28	47/54 17.65	49.28/51 4.55	50.4/51 4
Work Infrastructure	44.36/44 6.8	45/44 5	51.8/54 4.75	50/52 6	44.94/45 6.56	47/46 3.81
Preference	Campus: 36.3% Neutral: 24.2% Remote: 36.3% [d]*M* = 3.22, *SD* = 1.48		Campus: 33.4% Neutral: 33.3% Remote: 16.7% *M* = 2.60, *SD* = 1.14		Campus: 22.3% Neutral: 11.1% Remote: 50% *M* = 3.33, *SD* = 1.45	
Personality	Intro: 4/12.1% Ambi: 17/51.5% Extro: 11/33.3%		Intro: -- Ambi: 4/66.7% Extro: 2/33.3%		Intro: 3/16.7% Ambi: 11/61.1% Extro: 4/22.2%	

[a] Mean, [b] Median, [c] Standard Deviation

*Preliminary results given the small *n*

Life-Work Interface has a maximum possible score of 40 (8 items); Workplace Productivity and Work Infrastructure have a maximum possible score of 55 (11 items)

[d] Calculated based on a 1 to 5 Likert Scale

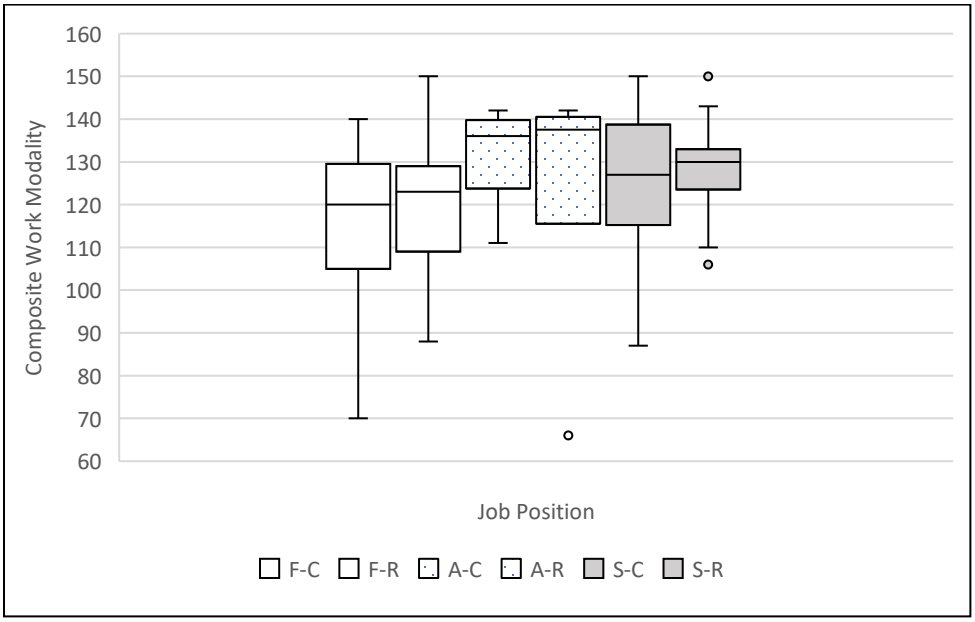
Values for the work dimensions (i.e., LWI, WP, WI) differed across faculty, administrators, and staff. Specifically, (a) remote *life-work interface* was highest among staff, (b) campus *workplace productivity* was highest among administrators, (c) campus *work infrastructure* was

highest among administrators, (d) faculty equally favored campus and remote work on *workplace productivity*, (e) faculty equally favored campus and remote work on *work infrastructure*, (f) faculty preferred remote work in regard to *life-work interface*, and (g) staff favored remote work across all three work domains.

A Kruskal-Wallis H non-parametric test was conducted to explore whether appraisal of composite campus and remote work scores differed due to participants' work position: (a) faculty (n = 33), (b) administration (n = 6), and (c) staff (n = 18). The composite campus and remote work scores were created by the sum of each individual score from each of the three work domains measured on a 1 to 5 Likert scale: (a) life-work interface (8 items), (b) workplace productivity (11 items), and (c) work infrastructure (11 items). This produced a maximum possible score of 150 and a minimum possible score of 30. Given the small number of administrators and staff, it is emphasized that these are preliminary results. These results showed there were statistically significant differences across groups regarding their composite appraisal of campus, H (2, n = 57) = 10.180, $p < .05$, and remote work, H (2, n = 57) = 9.068, $p < .05$. Specifically, remote work was appraised more favorably by administrators (*Mdn* = 137.50, M = 125.83, SD = 29.5) and staff (*Mdn* = 131, M = 129.55, SD = 10.52) than by faculty (*Mdn* = 123, M = 121.18, SD = 14.52).

Figure 1

Comparison of Participants' Composite Appraisal of Campus and Remote Work Modality by Job Position



Note: A = Administrator, F = Faculty, S = Staff, C = Campus, R = Remote

As can be seen in Figure 1 (in the preceding page), the degree of spread of faculty campus and remote data highlights the variability of responses within this segment of the sample, which was composed primarily of faculty teaching undergraduate students (n = 21, CAMPUS: Mdn = 119, M = 115.33, SD = 17.14; REMOTE: Mdn = 125, M = 120.67, SD = 13.88), only a few were teaching graduate students (n = 4, CAMPUS: Mdn = 117, M = 110, SD = 30.06; REMOTE: Mdn = 126.50, M = 131.25, SD = 12.99), and some were teaching both (n = 8, CAMPUS: Mdn = 123.5, M = 121.75, SD = 12.77; REMOTE: Mdn = 122, M = 117.5, SD = 16.34). Given individual data, faculty teaching graduate students online obtained a mean score above the 50th percentile on the remote composite work modality (i.e., a score of 128).

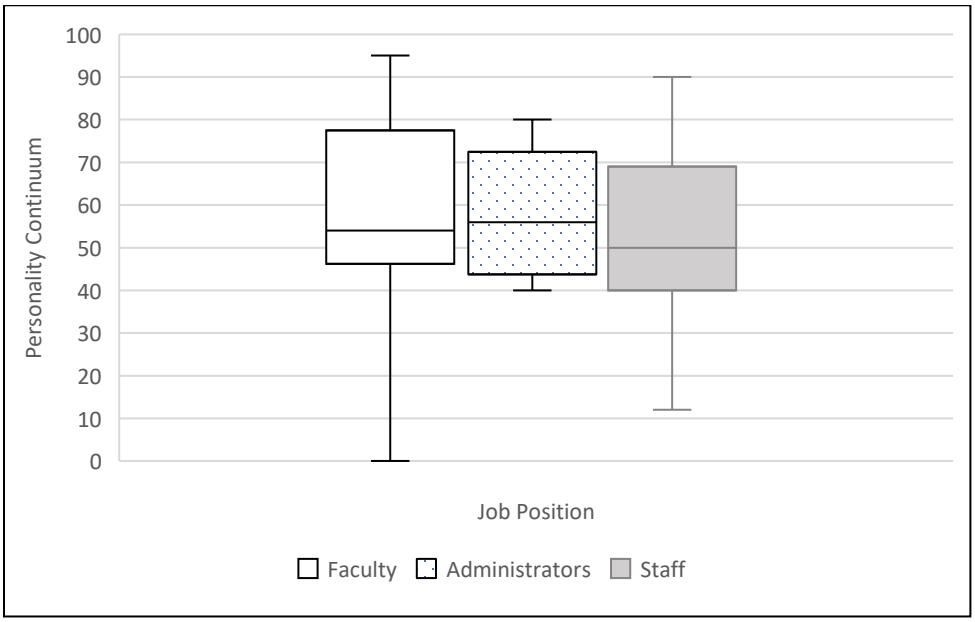
While the questionnaire used in this study collected data on personality through a self-appraisal process based on a single ratio question that was repeated verbatim to assess three different contexts (i.e., work, family, and friends), Figure 2 (next page) presents personality data within the *work context* only.

The findings showed that faculty, administrators, and staff predominantly described themselves as working ambiverts, individuals who acknowledge having introverted and

extroverted traits. No administrator identified as an introvert. Because of the overall small sample size, the data could not be disaggregated by job position using personality as a moderating variable. However, when analyzing the data with all participants combined, data showed that those who identified as introverts (n = 7) in the work setting reported higher and less dispersed scores of campus satisfaction when working remotely (M = 128.15, Mdn = 129, SD: 5.67) as opposed to working on campus (M = 113.14, Mdn = 113, SD: 19.60). A similar finding occurred among ambiverts (n = 33) who reported a 10-point higher mean work satisfaction when working remotely as compared to working on campus. On the other hand, extraverts (n = 18) reported their work satisfaction when working remotely (M = 123.67.18, Mdn = 125, SD = 14.56) was fairly similar to their satisfaction when working on campus (M = 127.11, Mdn = 128, SD = 12.44).

Figure 2

Comparison of Job Positions by Personality Type within the Work Context



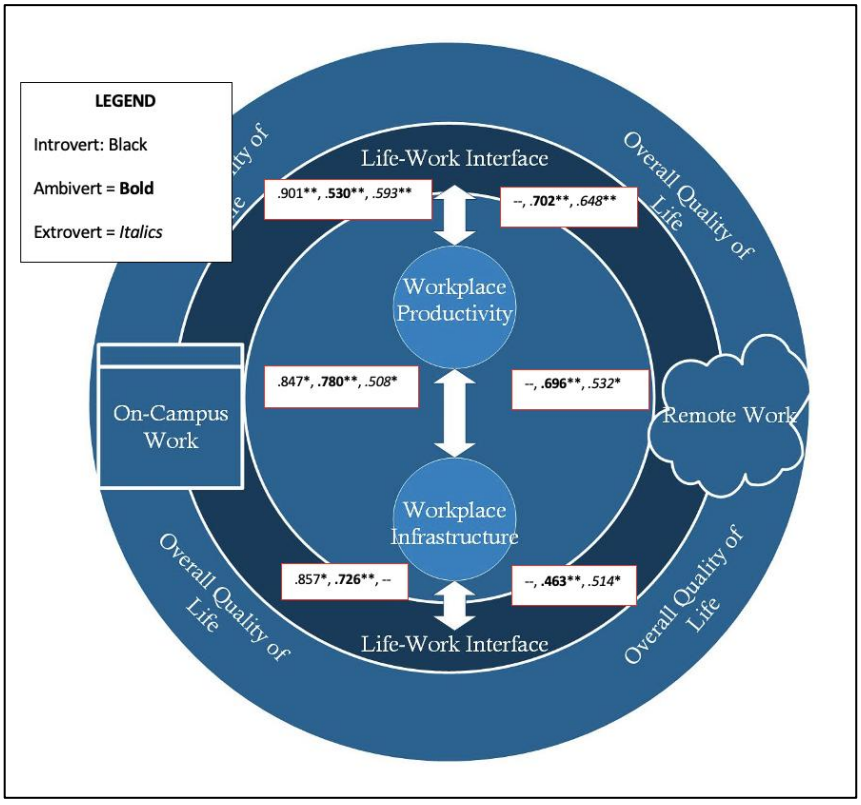
Note: Introversion = 0 – 35, Ambiversion = 36 – 66, Extroversion = 67 – 100 (intervals were established by the study's authors)

To answer the second research question, correlations were conducted to examine the relationships between the work dimensions (i.e., LWI, WP, WI). This analysis also tested the proposed theory of quality of work life in higher education, considering both campus and remote

work settings as well as the employees' personalities. The proposed theory describes a linear reciprocal association between three work dimension dyads: (a) life-work interface and workplace productivity, (b) workplace productivity and work infrastructure, and (c) work infrastructure and life-work interface. Figure 3 shows the statistically significant correlations ($p < .05$) used to validate the study's proposed theory as applied to (a) ambivert campus work data, (b) ambivert remote work data, (c) introvert campus work data, and (d) extravert remote work data.

Figure 3

Coefficients of Correlations across Work Domains by Work and Self-Appraised Personality



These were the only areas where work dimensions (i.e., LWI, WP, WI) were statistically significantly connected in dyads and found to be reciprocally influencing each other. This validation is preliminary for introverts due to their small sample size ($n = 7$).

Discussion

The findings from this study align with existing literature on personality and work satisfaction in remote and on-campus settings. Introverts reported significantly higher work satisfaction when working remotely (*Mdn* Δ = 16), which is consistent with APA's assertion that introverted individuals flourish in more autonomous settings with limited or controlled external social interactions (APA, 2024c). This finding, although based on a small sample size of seven introverts, underscores the importance of considering personality traits when designing remote work policies and warrants further study.

Similarly, ambiverts, who possess both introverted and extroverted characteristics, also reported higher satisfaction with remote work (*Mdn* Δ = 10). This duality allows ambiverts to adapt to various work environments, but the increased flexibility and autonomy associated with remote work seem to enhance their overall satisfaction. This reinforces the notion that remote work could be offered to a broader range of personality types, particularly those who can balance solitude with social engagement.

Extraverts reported comparable satisfaction levels in both remote and on-campus settings (*Mdn* Δ = 3). This finding is particularly intriguing, as it challenges the assumption that extroverts would prefer the social dynamics of an office environment. This finding also suggests that extroverts can find fulfillment in remote work, possibly through virtual interactions and the flexibility to integrate social activities into their daily routines.

The study also revealed that a substantial portion of work could be done remotely across different job positions as reported by 60% of administrators, 80% of faculty, and 68% of staff. This highlights the versatility of remote work and its potential to be more widely used in higher education institutions. However, the qualitative data suggests that staff members may require additional support and training to feel comfortable with online technology. This points to a critical area for future research and organizational development.

Support for remote work emerged as another crucial factor. Among administrators, 50% reported a lack of supportive supervisors for remote work, compared to 33.3% of staff and only 3% of faculty. This discrepancy suggests that faculty members enjoy greater autonomy and support for remote work, possibly due to the nature of their duties and their engagement with young adult students who may benefit from in-person instruction.

These findings contribute valuable insights to the ongoing discourse on higher education remote work and its implications for employee satisfaction and productivity. Future studies should delve deeper into the qualitative aspects of remote work, exploring the specific technologies and infrastructure that facilitate a comfortable and efficient remote work environment.

Limitations

This exploratory study aimed at gaining a better general understanding of the phenomena of interest. The main limitations included the survey being distributed to only one university in the Midwest and garnering a small sample of participants. While this was enough to pilot the work and make necessary adjustments, in the future, disseminating this survey to a wider geographical area and a larger potential sample pool will be beneficial. A sizable and more diverse sample will increase the generalizability of this work and will power more complex statistical analysis. For example, a larger N will allow splitting the data for further first-level analysis to identify intra- and inter-group variations (e.g., preference for on-campus vs. remote settings, personality types, university roles, geographical locations, and academic departments). A deeper dive into the qualitative, open-ended narrative responses needs to be researched in order to understand the nuances of on-campus and remote work in higher education.

Recommendations

This research enhanced comprehension of the life-work interface, workplace productivity, work infrastructure, and personality traits within the higher education sector. The results reveal opportunities for enhancing satisfaction and productivity among employees and employers. This section will provide recommendations for both organizations and individuals and offer suggestions for further development of the tool used in this study.

Organization Recommendations

On a systems level, organizations can nurture environments that rely on high-level evidence to inform employment policies regarding on-site, online, and hybrid job positions. In the pre-hiring planning phase, there are many avenues for organizations to better prepare for and

capitalize on what today's workforce has to offer. Firstly, organizations may consider completing an authentic assessment of each job position. For instance, a task analysis would help determine the degree of autonomy in completing each element of a job task and to what extent the task can be completed with integrity and fidelity, regardless of the employee's location, should be considered. Likewise, employers should determine the tasks that require the employee to be physically present on campus. Desired job outcomes may not be tied to the traditional approach to achieving those outcomes. Rather, how a job is logistically executed may be customizable to the worker's strengths and preferences. For instance, the organization may want to re-imagine a process to achieve the same (or better outcomes) by utilizing electronic advances, artificial intelligence, and platforms available for work completion.

Higher education institutions should also have a just, evidence-based, and strategic approach for determining worker mix requirements (i.e., on-campus, online, hybrid) to meet organizational goals. In the era of worker shortages, organizations can offer more flexibility, engage people where they are geographically, embrace alternative workspaces, nurture an environment of trust, and match worker strengths to job positions to maximize productivity and satisfaction gains for the individual and the institution (Godart, Gorg, & Hanley, 2017; Wyne & Hudek, 2021). The historical employer approach of enforcing a one-size-fits-all work environment (face-to-face only) may create a polarizing, stagnant, group-think environment that does not (a) embrace the advantages of diversity in working and thinking, (b) encourage job accessibility to those who may not be able or desire to be on-site, (c) demonstrate a willingness to understand and respect the nuances of why individuals function best in a certain environment, or (d) take into consideration variables such as commute time, daycare availability, parking accessibility, seasonal driving conditions, proximity to families' K-12 system, fiscal aspects associated with travel (gas, insurance, vehicle, tolls, repairs), etc. Individual situations and preferences are unique, not uniform. This study also found clear preferences in working conditions and the self-appraised personality. All these variables should be taken into consideration.

Job descriptions should be reviewed and updated to reflect unconventional job completion and performance measurement avenues. Being transparent regarding the level of work hour flexibility, acceptable workspace locations, and expectations for fulfilling duties is imperative so

both potential employees and employers are able to make informed choices during the hiring process (Wyne & Hudek, 2021). Incorporating a pre-employment assessment, using a tool such as that developed for this study, may be useful in placing new employees in positions most compatible with their work preferences, needs, and productivity.

To frame this perspective succinctly, "the aim of enlightened management is not to tilt an extrovert-oriented company rapidly towards the introverts. It is to create a new kind of firm in which introverts, extroverts, and all the in-betweeners are equally likely to flourish. Call it the ambivert organisation" (Shhhh! Schumpeter, 2016, p. 59). In summary, the authors of this study challenge higher education organizations to reflect on their paradigm of thinking regarding hiring practices, customizing work expectations for employees to maximize productivity and retention by assessing individual employees' work preferences and helping to create spaces that nurture satisfaction and productivity.

Workforce Recommendations

Those applying for positions are encouraged to know their most productive work style, be transparent in their boundaries, and be able to articulate their employment goals. If desired, individuals should seek organizations that proactively offer flexibility in work setting requirements and have clear job descriptions. The concept of informed consent for medical procedures can be used as a template for informed consent in employment. Clear expectations in the form of an employment contract, which cannot be changed without mutual consent, may be best practice. It is a win-win situation when employers can better capitalize on workers' strengths, improve retention, reduce crisis recruitments, stabilize the workforce, and thus improve productivity streams.

Tool and Theory Improvement Recommendations

This study included development and content expert review of a survey that was informed by the literature, existing tools, theories, and author experiences. Based on utility and statistical behavior of the survey utilized in this study, future technical iterations may include (a) rearranging categories to fit congruence in results, (b) clarifying wording, and (c) recoding Likert scale reverse items for consistent directionality to avoid participant confusion. Authors may also consider adding a question regarding remote versus campus work being influenced by the type of

populations served (graduate or undergraduate students) and incorporating an overall quality-of-life section into the survey.

The future administration of this survey will seek participants from public and private universities across a broader geographical area. The authors desire to engage a larger sample size in each major category (i.e., staff, faculty, administrators) and sub-category (e.g., online preference, remote preference, introvert, ambivert, extrovert, undergraduate faculty, graduate faculty, departments, generation, salaried/hourly). This would allow (a) statistical power maximization, (b) individual category representation robust enough for a complex statistical comparison, (c) exploratory and confirmatory factor analysis of the tool to mathematically narrow redundant items and identify any unnecessary concept duplication, and (d) theoretical framework validation.

Conclusion

This study served as a tool and theory development pilot to explore the concepts of life-work interface, workplace productivity, work infrastructure, and personality with comparisons between remote and on-site work environments in higher education. Ongoing research in this area will uncover further higher-level evidence to inform researchers and undergird recommendations for improving work-life quality and labor policies in the higher education workforce. These efforts could improve higher education employees' overall sense of well-being, productivity, and equitable access to optimal work environments. In summary, this study underscores the necessity of personalized and just approaches to remote work policies, considering employees' diverse needs and preferences based on their job positions and personality traits. The evidence suggests that remote work can enhance job satisfaction for many, provided adequate support and resources are in place.

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Appendix A

Items taken from the Individual Workplace Performance Questionnaire (IWPQ) and the Work-Related Quality of Life (WRQoL-2)

	Workplace Productivity	**Life-work Interface**	**Work Infrastructure**
IWPQ			
Original Item	**Adapted Item**		
Task Performance (TP) (*n* = 6 adapted items)			
·I managed to plan my work so that I finished it on time.	·I plan my work so that it is done on time. ·I managed to plan my work so that I finished it on time.		
·I kept in mind the work result I needed to achieve.	·I kept in mind the work result I needed to achieve.		
·I was able to set priorities.	·I am able to set priorities at work.		
·I was able to carry out my work efficiently.	·I am able to carry out my work efficiently.		
·I managed my time well.	·I manage my time well.		

	Workplace Productivity	Life-work Interface	Work Infrastructure
Contextual Performance (CP) (*n* = 4 adapted items)			
·On my own initiative, I started new tasks when my old tasks were completed.	·On my own initiative, I start new tasks when my current tasks are completed.		
·I took on challenging tasks when they were available.	NI		
·I worked on keeping my job-related knowledge up-to-date.	·I work on keeping my job-related knowledge up-to-date.		
·I worked on keeping my work skills up-to-date.	·I work to keep my work skills up-to-date.		
·I produced creative solutions for new problems.	N/I		
·I took on extra responsibilities.	N/I		
·I continually sought new challenges in my work.	N/I		
·I actively participated in meetings and/or consultations.	·I actively participate in meetings and/or consultations.		
Counterproductive Work Behavior (CWB) (*n* = 0 adapted items)			
·I complained about minor work-related issues at work.	N/I		

	Workplace Productivity	Life-work Interface	Work Infrastructure
·I made problems at work bigger than they were.	N/I		
·I focused on the negative aspects of situation at work instead of the positive aspects.	N/I		
·I talked to colleagues about the negative aspects of my work.	N/I		
·I talked to people outside the organization about the negative aspects of my work.	N/I		
New Items (*n* = 6 new items)			
		·I am able to capitalize on the times of the day when I am most productive.	
	·I have uninterrupted time to do my work.		
		·I have reasonable control of	

	Workplace Productivity	Life-work Interface	Work Infrastructure
		my work schedule.	
			·I have reasonable control of my work environment.
			·Overall, I am efficient in this environment.
			·Overall, I am productive in this environment.

	Workplace Productivity	Life-work Interface	Work Infrastructure

WRQoL-2

(*n* = 9 adapted items)

Original Tool Item	**Adapted Item**
·I have a clear set of goals and aims to enable me to do my job.	N/I

	Workplace Productivity	Life-work Interface	Work Infrastructure
·I feel able to voice opinions and influence changes in my area of work.	N/I		
·I have the opportunity to use my abilities at work.	N/I		
·I feel well at the moment.	N/I		
·My employer provides adequate facilities and flexibility for me to fit work in around my family life.		·I am able to work to my full potential and also fulfill my personal life to my full potential.	
·My current working hours/patterns suit my personal circumstances.		·My working hours/ patterns suit my personal circumstances and needs.	
·I often feel under pressure at work.	N/I		
·When I have done a good job it is acknowledged by my line manager.	N/I		
·Recently, I have been feeling unhappy and depressed.	N/I		
·I am satisfied with my life.	N/I		
·I am encouraged to develop new skills.	N/I		
·I am involved in decisions that affect me in my own area of work.	N/I		

	Workplace Productivity	Life-work Interface	Work Infrastructure
·My employer provides me with what I need to do my job effectively.			·My employer provides me with what I need to do my job effectively (e.g., laptop).
·My line manager actively promotes flexible hours/patterns.			·My direct supervisor actively promotes flexible hours/patterns.
·In most ways my life is close to ideal.	N/I		
·I work in a safe environment.	N/I		
·Generally, things work out well for me.	N/I		
·I am satisfied with the career opportunities available for me here.	N/I		
·I often feel excessive levels of stress at work	N/I		
·I am satisfied with the training I receive in order to perform my present job.	N/I		
·Recently, I have been feeling reasonably happy all things considered.	N/I		

	Workplace Productivity	Life-work Interface	Work Infrastructure
·The working conditions are satisfactory.	N/I		
·I am involved in decisions that directly affect members of the public.	N/I		
·I have unachievable deadlines.	N/I		
·I am able to achieve a healthy balance between my work and home life.		·I can achieve a healthy balance between my work and personal life.	
·The organization communicates well with employees.	N/I		
·I am proud to tell others that I am part of this organization.	N/I		
·I would recommend this organization as a good one to work for.	N/I		
·I am pressured to work long hours.		·I feel pressured to work hours/days outside of my contract in order to complete the tasks expected of me.	
·I have sufficient opportunities to question managers about change at work.			·I have sufficient opportunities to consult with supervisors

	Workplace Productivity	Life-work Interface	Work Infrastructure
			about work-related matters.
·I am happy with the physical environment where I usually work.			·The environment is conducive to work (e.g., noise-level, temperature, windows, sitting/desk arrangements).
·I am satisfied with the overall quality of my working life.		·Overall, I am satisfied with the balance of my work and personal life.	
	New Items (n = 5 new items)		
		·I feel pressured to take on more personal/household responsibilities when compared to other adults working a similar number of hours as myself.	
			·My supervisor ensures

	Workplace Productivity	Life-work Interface	Work Infrastructure
			meetings occur via video conferencing that is inclusive of all. ·My organization promotes use of technology that facilitates team collaboration (e.g., document sharing platforms, Zoom, online calendars). ·My organization promotes use of technology that facilitates online instruction (e.g., document sharing platforms,

	Workplace Productivity	Life-work Interface	Work Infrastructure
			Zoom, online calendars).
			·My employer has policies and procedures to support work arrangements in this environment (e.g., IT support, virtualization of all processes).

Note: N/I = Not Included.

Adapted items = 19; New items = 11; Total quality of work-related items = 30.

Negative stated items were reversed for scoring purposes.

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