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# LONG-TERM DISPARITIES IN HYBRID WORKPLACES MEDIATED BY TECHNOLOGY: IMPACTS ON EMPLOYEE VISIBILITY, ADVANCEMENT, AND PERFORMANCE

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## ABSTRACT

Hybrid work models integrate both remote and in-office work, yet they create potential challenges related to equity and long-term career progression. Differences in employee visibility, unequal interaction with supervisors, and subjective approaches to performance evaluation may place remote workers at a disadvantage. This research investigates the role of workplace visibility in shaping perceptions of promotion opportunities and performance assessments within hybrid work environments. Employing a quantitative cross-sectional survey approach, data were gathered from 300 employees working in hybrid arrangements across various industries. Validated scales measured workplace visibility, perceived promotion opportunities, and performance outcomes. Descriptive statistics, correlation analysis, and regression-based mediation analysis were conducted using SPSS. The results show that workplace visibility significantly predicts both promotion perceptions and performance evaluations. However, promotion fully mediates the relationship between visibility and performance, indicating that visibility enhances performance outcomes primarily by increasing perceived promotability. These findings suggest that hybrid work arrangements may unintentionally reinforce career inequality and highlight the need for fairer systems of visibility, performance evaluation, and promotion in hybrid workplaces.

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**KEYWORDS:** Behavioral visibility; career inequality; hybrid workplace; proximity bias; workplace visibility.

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## 1. INTRODUCTION

As employees shift between onsite and remote locations, the move towards hybrid work is changing how organizations are structured, who has the power and career mobility over the longer term. Hybrid models offer some flexibility and autonomy; however, emerging evidence indicates that they introduce new forms of career inequality, driven by differential visibility, uneven access to networks, and biased performance assessments. More and more organizations are adopting hybrid arrangements in a post-COVID-19 environment and are increasingly worried about how such arrangements will affect promotions and performance in the long run [1][2]. Researchers think hybrid workplaces can create and worsen inequalities. Employees' in-office presence or being seen more often by managers is considered better by employers. This is often known as the "proximity bias" [3]. Visibility is a key component of workplace recognition. It determines which employees receive top assignments, mentorship, and ultimately promotion. Researchers have presented evidence that shows managers allocate good evaluations and development chances to employees. They show such a trend because it is a well-known trend in Organisational behaviour research [4]. In hybrid environments, remote workers may have less spontaneous contact and informal exposure, which may reduce their perceived commitment and contribution [5]. The inequalities can accumulate, resulting in systemic inequality over the long term, particularly for those who choose remote work due to caregiving responsibilities, ill health, or geography [6].

It is also difficult to assess performance outcomes equitably in hybrids. While monitoring tasks digitally and assessing performance can provide some objectivity, subjective ratings are still widely used and can be influenced by managers' implicit biases [7]. When employees work in the same physical space as their supervisor, they can communicate more effectively, receive quicker feedback, and enjoy more face time. All these factors are associated with higher performance ratings [8]. Furthermore, remote workers might overdo it, working more hours only to get less recognition due to relational invisibility. This disconnect between effort and reward raises questions of fairness and longer-term engagement. Also, hybrid workplaces create structural divides in access to information and organizational networks. Studies have shown that informal knowledge sharing occurs through 'office chit-chat' at the workplace, but this sharing is not uniform across remote and onsite

employees. This unevenness is causing discrepancies in how competent and promotable they are perceived [9]. If social capital and development opportunities are often limited, then structural asymmetries can become crystallized into enduring career gaps that widen over time. The hybrid workplace is simultaneously a site of opportunity and risk, as visibility and performance assessment facilitate both promotion and disadvantage. It is essential to understand how hybrid structures might exacerbate or reduce career inequality to inform fairer workplace practices. This study looks at how the dynamics of visibility and the mechanisms of performance assessment will shape long-term career outcomes in a hybrid workplace. This is the aim of emerging research on equity in the future of work.

The worldwide move to hybrid work has significantly altered the way employees engage with organizations, colleagues, and supervisors. Since the COVID-19 pandemic, the hybrid model, where employees alternate between in-office and remote work, is now structural rather than temporary. More organizations are promoting hybrid work as a way of enhancing flexibility, autonomy, employee satisfaction, and work-life balance. Nevertheless, growing scholarship warns that hybrid systems may inadvertently create or exacerbate career inequalities by unequal access to visibility, managerial attention, and performance recognition [1], [3]. As more organisational processes become distributed across digital and physical spaces, so too do the ways employees are recognized and promoted. These mechanisms, therefore, become more complex, subjective, and unequal.

One challenge of hybrid work is uneven visibility at work. Visibility is defined as the extent to which employees' behaviours, contributions, and efforts are visible to the managers and decision-makers. In traditional office environments, people became visible to one another merely by being present every day, chatting spontaneously, talking in hallways, and working together. The manager's perception of employees' engagement, commitment, capability, and readiness for leadership is influenced by this visibility. However, working from home makes it difficult for remote employees to be visible in person. Studies have shown that limited managerial observation can cause supervisors to underestimate the contributions of remote workers even when their performance output is similar to that of on-site workers [5], [11].

Recently, hybrid work literature has been paying more attention to proximity bias, namely, the favoritism of the manager towards close employees,

in-person. Research shows that remote workers are more often passed over for promotions, stretch assignments, mentoring, and informal coaching [11], [12]. This difference is not just because of performance. It is mostly because presence is a sign of commitment and reliability. In other words, visibility serves as symbolic capital that affects career mobility, regardless of actual productivity. In the long run, this can lead to cumulative disadvantages for remote staff, especially those who depend on remote work due to caregiving, health, or geographical issues.

Studies show how management's interpretations and organizational cultures have an impact on the career outcome in hybrid setups. The signaling theory perspective suggests that the arrangement of employees' work sends signals about their priorities and commitment. Remote work can sometimes be seen as less committed or less available. This stigma of flexibility mostly affects women, caretakers, and other professionals [14]. Simultaneously, the Job Demands-Resources (JD-R) theory suggests that hybrid environments create unequal access to resources, such as support, feedback, and informal learning, which influence performance and promotability [15]. Based on all the theories, hybrid working locations are not neutral. They are systems made by society. Here, visibility is a factor of career mobility.

Even as these issues become more relevant, empirical evidence shows that visibility influences career outcomes both directly and indirectly. Previous literature is either conceptual, qualitative, or issue-based, focusing on a particular subgroup. Similarly, visibility can directly affect performance, but few studies test that. Also, visibility may affect perceptions of promotion, which in turn may affect performance. Testing these ideas will be vital to understanding how hybrid work structures create long-term inequalities. Moreover, past research rarely uses a quantitative mediation model to examine whether promotion serves as the psychological bridge between visibility and performance evaluation.

This study fills the above gaps by looking at the impact of workplace visibility on two important career outcomes: (1) perceived promotion opportunities and (2) performance evaluations. Besides direct relationships, this study examines whether promotion mediates the visibility-performance relationship, so that employees perform better because they are visible. Are employees promoted because they are visible, therefore enhancing their performance ratings? A study of 300

hybrid employees across different industries provides compelling evidence about visibility, psychological beliefs, and structural constraints in hybrid workplace settings.

This study makes three significant contributions. To start, it offers empirical evidence on the visibility-promotion-performance mechanism in hybrid environments, an emerging research area. Moreover, it draws on three theoretical insights: proximity bias, signaling theory, and behavioural visibility to provide a comprehensive explanation of career inequality under hybrid models. Thirdly, it offers practical strategies for organizations to design equitable hybrid policies, reduce visibility bias, and develop outcome-oriented performance evaluation systems.

## 2. LITERATURE REVIEW

Leslie *et al.* [10] flexible work practices allow employees to have more control over when and where they work. Depending on how managers interpret these practices, they can either offer a premium on career or a penalty. When flexible practices are seen as enhancing productivity, users are viewed as very committed and receive better reward recommendations. If interpreted as driven by their own personal-life needs, the same practices may instead signal lower commitment and deter advancement prospects. In hybrid workplaces, assigning importance to the remote workers who are assigned less "ideal" tags may have persistent effects on long-run career inequality despite similar performance.

Dippong *et al.* [11] provide evidence for "remote work penalties" in career rewards. When managers are given survey experiments, they find that in-person workers systematically receive more rewards than remote workers, even when productivity signals are held constant. Our perception of leaders differs, as does our commitment to them. The results suggest that hybrid work is increasing geographic stratification. Those who are often in the office get a boost in promotion and pay - along with their equally productive remote peers. As a result, inequality in outcomes is likely to be cemented by the fact that being physically present matters more than the outputs these employees produce.

Cukrowska-Torzewska *et al.* [12] conducted a major post-pandemic survey of British managers to investigate promotion, pay, and training preferences for workers working from home. Their research proves that both hybrid and fully remote workers are less likely to receive promotions, training, and pay raises than in-office employees. Men and women

without kids are hit hardest with taxes, whereas mothers working from home don't have to worry. Looking at hybrid work through a gender lens can help public sector leaders identify and tackle differences in experiences and outcomes.

Cañibano and Avgoustaki [13] use signaling theory to explain how employees interpret telework in a turbulent macro context. In our analysis of a consultancy firm, we show that telework signals different things depending on the institutional environment and prevailing labour-market uncertainty. Workers in supportive settings may view telework as a sign of their employer's flexibility and performance. By contrast, in unsupportive settings, work-from-home arrangements may signal marginalization or low career prospects. In hybrid workplaces, employees' work experiences are likely to be characterized more by an unequal long-term outcome arising from telework's framing as deviant from ideal worker norms. This shapes employees' expectations about visibility, promotion, and mobility opportunities.

Chung and van der Lippe [14] explored all the evidence on flexible working, work-life balance, and gender equality across Europe. The authors of this text contend that flexible and remote arrangements can support work-life balance, but there is often a strong ideal-worker culture that coexists with them and a flexibility stigma. If flexibility is interpreted as a sign of less commitment, women who disproportionately utilize flexibility may be forced into lower-quality roles or stalled progression. In hybrid workplace settings, stigma interacts with visibility gaps to create cumulative disadvantages in promotions and performance ratings for those most reliant on remote days, reinforcing gendered career inequalities over time.

Jaß *et al.* [15] examine the job demands and job resources of hybrid workers in German public administration, using qualitative interviews. The study was conducted in Germany and is the first to

use the Job Demands-Resources model in this context. The main pressures identified are more work, more meetings, and more blurred boundaries, while the resources include autonomy, personal freedom, and improved competence. Many demands and resources "have been rooted, critically, in work organization and social relations." Not everyone has the same access to resources. Some also do not have the requisite management support. Over the long term, you'll see a difference in their well-being and performance. This will help determine who gets the promotion-ready tag. More importantly, it will perpetuate career inequality.

Effiyaldi *et al.* [16] evaluate how hybrid work influences performance management, focusing on how the design of goal setting, monitoring systems, and trust shape outcomes. According to the authors, performance can improve under hybrid systems that include clear metrics, digital collaboration tools, and inclusive leadership. Nevertheless, weak performance systems sometimes cause managers to resort to presence-based signals and subjective impressions. In such situations, visibly on-site employees are favored in appraisals and promotions. As their analysis reveals, hybrid performance systems are poorly designed, creating long-term inequality in recognition, rewards, and advancement.

Leonardi and Treem [17] discussed the ability of digital technologies to make work behaviours observable in new ways as "behavioural visibility". It is argued that visibility now depends not just on physical presence but also on a digital footprint (messages, contributions, analytics). Employees in hybrid workplaces who manage their behavioral visibility (participating online and making their contributions noticeable) may offset some disadvantages of lacking face time. But not everyone has access to digital tools. The ability to navigate these tools is not available to all; that is, the ability to comprehend them. The literature review summary is in Table 1.

**Table 1: Summary of Key Literature on Visibility and Career Outcomes in Hybrid Work**

Author (Year)	Method	Key Findings	Limitations
Leslie <i>et al.</i> (2012) [10]	Conceptual analysis of flexible work practices	Flexible work may signal high or low commitment depending on managerial interpretation. Remote workers risk being perceived as non-ideal, leading to long-term career penalties despite comparable performance.	Strong reliance on managerial subjectivity; no quantitative testing; career inequality examined conceptually rather than empirically.
Dippong <i>et al.</i> (2024) [11]	Survey experiments with managers	Evidence of "remote-work penalties," with in-office employees receiving greater rewards despite equal productivity. Hybrid work intensifies visibility- and location-based stratification.	Hypothetical experimental scenarios; limited ecological validity; cultural and industry differences not examined.
Cukrowska-Torzewska <i>et al.</i> (2024) [12]	Large-scale post-pandemic survey of British managers	Remote and hybrid workers receive fewer promotions, pay raises, and training opportunities. Gender and parental status shape the magnitude of these penalties.	UK-specific context; reliance on self-reported preferences; absence of longitudinal analysis.

Cañibano & Avgoustaki (2024) [13]	Single-firm case study using signaling theory	Telework signals flexibility and competence in supportive contexts but marginalization in unsupportive ones, reinforcing deviations from the “ideal worker” norm and limiting career mobility.	Single-organization focus; limited generalizability; lack of quantitative measurement.
Chung & van der Lippe (2020) [14]	Cross-European literature review	Flexible work supports work–life balance but is associated with flexibility stigma. Hybrid arrangements amplify visibility gaps and gendered career disadvantages over time.	Review-based evidence; limited causal inference; insufficient hybrid-specific empirical data.
Jaß et al. (2024) [15]	Qualitative interviews; JD–R model	Hybrid workers experience increased demands and unequal access to resources, contributing to disparities in well-being and long-term career outcomes.	Small qualitative sample; public-sector focus; outcomes based on perceptions rather than objective measures.
Effiyaldi et al. (2025) [16]	Conceptual and empirical analysis of performance management	Hybrid performance improves with clear metrics and inclusive leadership. Poorly designed systems encourage reliance on presence-based cues, reinforcing inequality in recognition and rewards.	Limited industry comparison; performance definitions vary; technological maturity not fully captured.
Leonardi & Treem (2020) [17]	Theoretical analysis of digital visibility	Visibility increasingly depends on digital footprints rather than physical presence. Employees who manage behavioral visibility can offset some hybrid disadvantages.	Limited empirical validation; unequal digital access and skills underexplored; promotion outcomes not directly tested.

### 2.1. Research Gap

Although prior research has identified workplace visibility as a key issue in hybrid work settings, important gaps remain. First, existing studies rarely employ quantitative mediation models, leaving it unclear whether visibility influences performance directly or indirectly through promotion-related mechanisms. To date, the full pathway linking visibility, promotion perceptions, and performance has not been empirically tested within a single integrated model.

Second, visibility has largely been examined in behavioral or physical terms, with limited attention to psychological mechanisms such as perceived promotability, fairness, and recognition that may translate visibility into unequal career outcomes. Third, theoretical integration is limited, as most studies rely on a single perspective (e.g., proximity bias or signaling theory), rather than adopting a multi-theoretical framework that captures both behavioral and symbolic forms of visibility.

Moreover, much of the existing evidence is based on qualitative designs or managerial vignettes, resulting in a lack of large-sample quantitative studies with statistical rigor. Emerging forms of digital or behavioral visibility (e.g., online contributions and digital traces) also remain weakly operationalized and underexplored in hybrid contexts. Finally, while research consistently shows that remote and hybrid workers face lower promotion rates, the mechanisms driving this disadvantage remain insufficiently understood.

### 2.2. Objectives of the Study

The objective of this study is to examine the impact

of workplace visibility on employees’ promotion perceptions and performance evaluations in a hybrid work environment. Specifically, the study investigates whether visibility differences between remote and on-site employees contribute to career inequality, and whether perceived promotion opportunities mediate the relationship between visibility and performance. By doing so, the study provides quantitative evidence on how hybrid work arrangements shape employees’ perceptions of recognition, fairness, and career advancement over time.

## 3. METHODOLOGY

### 3.1. Research Design

This research employs a research design that is quantitative, cross-sectional, and survey-based in order to systematically investigate how workplace visibility in hybrid work settings influences promotion outcomes and performance outcomes. The research design is fitting since it allows us to assess statistical associations among many employees and during a single moment in time. This is important since the research proposal is interested in how visibility functions as a structural condition in hybrid work. The research targets employees who alternate between remote and on-site work, as these arrangements reflect real-world variation in managerial observability, accessibility, frequency of communication, and perceived fairness, which are theorized causes of career inequality. They gathered data through a structured questionnaire. It was to measure the main constructs: workplace visibility, perceived promotion outcomes, and performance evaluations. Using SPSS, the responses were

analyzed statistically using descriptive statistics, correlation, and multivariate regression models to identify the impact directly or indirectly. Quantitative methods are objective, reproducible, and can identify statistically significant relationships. In this research, this enables us to answer why some

employees advance faster than others in hybrid contexts. This study design enhances the strength of inferences related to mechanisms of career inequality in contemporary workplace configurations (Figure 1).

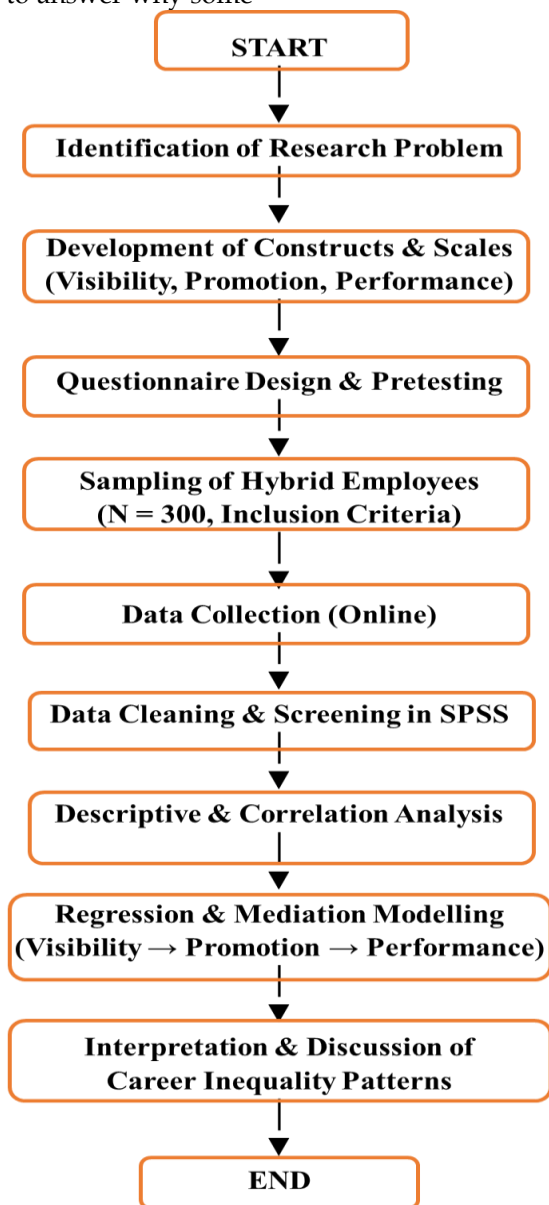


Figure 1: Methodological Flow Diagram

3.2. Sample and Participants

The study had a sample of 300 hybrid employees from various sectors, including IT, Consulting, Education, and Financial Services, in Table 2. The respondents captured in the above sample are reflective of a balance in terms of gender, age, and work experience. Also, the above captures the demographics that are commonly found in today’s hybrid workplaces. The ages of the participants were between 22 and 55 years (M = 33.68 years; SD = 5.85). Thus, they were professionally relatively young. The

work experience of the participants ranges from 1 to 25 years (M = 7.78, SD = 2.97), suggesting that the sample has an inclusion of early and mid-career professionals. These professionals are likely to experience implications of visibility as well as promotion in hybrid spaces. Participants' hybrid-working structures varied as well. Most employees either adopted a hybrid schedule of two days (35%) or three days (35%). While 15% were remote one day a week, and 15% were remote four days a week. Remote working days ranged from one to four days

a week. Self-reported hybrid types then divided employees into structured hybrid types (3 days in the office mainly) and more flexible or mostly-remote types (2 days in the office or fewer). Maturity of hybrid work platforms across the world can provide tremendous insight into how different visibility patterns affect promotion and performance outcomes. The minimum sample size for this study was determined based on common standards for mediation and regression analysis to guarantee adequate statistical power. Kline [18] recommended a minimum of 200 participants for structural path models, while the Green Formula for Regression ( $N >$

50 +8k) indicated that the number of participants used for the number of predictors used should be no more than 90. Our final sample of 300 respondents exceeds the two benchmarks and has a statistical power of greater than .90, provides reliable parameter estimates, and improves generalisability across hybrid-work populations. In addition, subjects were from several industries such as IT, consulting, teaching, and financial services, enhancing the external validity of the findings. The sample distribution is consistent with worldwide hybrid-work demographics.

**Table 2: Demographic Characteristics of Participants (N = 300)**

Demographic Variable	Category / Statistics	Value
Gender	Male	52%
	Female	47%
	Other	1%
Age	Range	22-55 years
	Mean (SD)	33.68 (5.85)
Work Experience	Range	1-25 years
	Mean (SD)	7.78 (2.97)
Remote Working Pattern (days/week)	1 day	15%
	2 days	35%
	3 days	35%
	4 days (Mostly Remote)	15%
Hybrid Type (Self-reported)	3 days office (structured hybrid)	Majority
	2 days office / Mostly Remote	Flexible group

### 3.3. Variables and Measurement

The research used four categories of various aspects, which were measured with the help of some validated scales to check organizational behavioral research. In the present study, the independent variable, Workplace Visibility, was assessed using a 6-item scale rated on a 5-point Likert format (1 = Strongly disagree, 5 = Strongly agree). The items captured employees' perceptions regarding the observability of their work contributions to the supervisors, with statements like, "My manager can see my contributions even when working remotely". Promotion Outcomes, the mediating variable, were measured using a 5-item Likert scale assessing perceived fairness, likelihood, and frequency of promotions in a hybrid work setting. The dependent variable, Performance Outcomes, was assessed using a 7-item performance scale, which combines self- and manager-aligned assessments. One representative item is, "I meet my performance targets consistently or better". Further, the study includes several control variables known to affect career outcomes: age, years of working experience, number of working-from-home days a week, and gender. The aforementioned controls were coded suitably for carrying out the statistical modeling, as gender was treated using dummy variables in SPSS so as to enable precise

estimation of the unique effect of visibility, promotion, and performance.

### 3.4. Data Collection Procedure

To collect the data for the study, an online structured questionnaire was distributed through HR departments and professional networks. Everyone involved agreed to this, and their replies were anonymous. To be eligible for the study, the people recruited must be currently working in a hybrid work role and must have at least a year of work experience.

### 3.5. Reliability, Validity, and Data Analysis Plan

The entire structural pathway tested in the study is illustrated in this combined conceptual model (SEM-style) that shows Workplace Visibility Influences Promotion Outcomes, which in turn influences Performance Outcomes (demographic controls linked to the performance pathway). Before testing this integrated model, reliability and validation tests were conducted so that all of the constructs in the model are accurately measured. The authors reported high values of Cronbach's alpha for Visibility ( $\alpha \approx 0.88-0.90$ ), Promotion Outcomes ( $\alpha \approx 0.90$ ), and Performance Outcomes ( $\alpha \approx 0.91-0.92$ ). These results confirm that the latent constructs of the model have significant internal consistency. In addition, the

KMO value is more than 0.80, and a significant Bartlett’s Test of Sphericity value ( $p < 0.001$ ) provides support for the construct validity of the model. These results show that the observed variables can be used in any factor-based and multivariate statistical techniques. When reliability and validity of measurement were confirmed, a systematized SPSS analysis framework was implemented to test the combined conceptual model empirically.

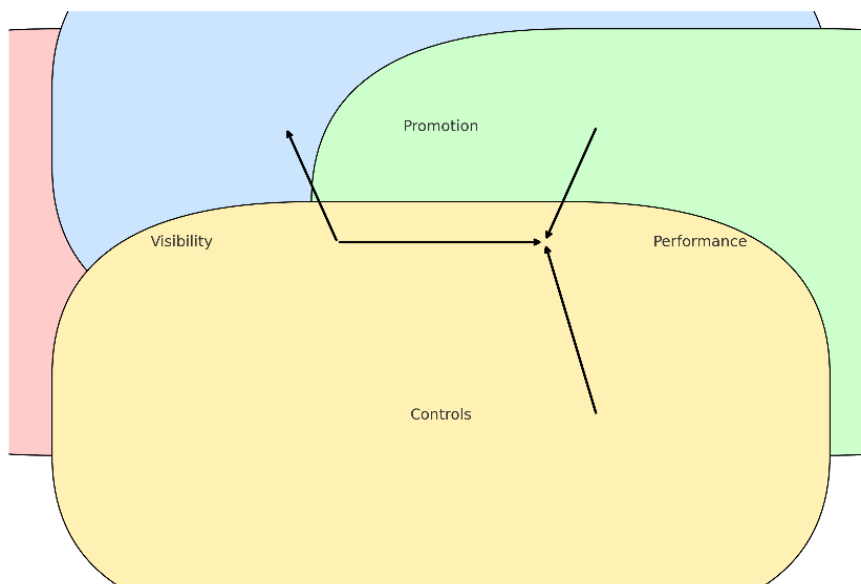
The investigation into the data determined that all variables fell within acceptable limits. No variable was missing more than 5% of data. No fundamental outlier was detected in the model. Numbers were run to summarize variables that were correlated in the model but also controlled for. The PSYCHE and treatment variables correlated in the expected direction and strength. To assess each directional path, three regression models were estimated, with Model 1 testing the *Visibility* → *Promotion* path. Model 2 tested the *Visibility* → *Performance* path, whereas Model 3 tested the full mediation structure with the *Visibility* and *Promotion* predicting *Performance*. The stepwise modeling reflects the logic of the overall conceptual frame and shows the direct effects and the effect of *Visibility* on *Performance* via *Promotion* (Figure 2). Scatterplots confirmed the two

relationships with strong evidence. This means that all of the tests are lined up. The measures selected were reliable. The measures used were valid representations of the construct. Also, both the measurement tests and path model indicated proof of the model. Thus, the proposed model is well built. Finally, *visibility* explains career outcomes in hybrid workplaces.

Table 3 shows reliable results of *visibility*, *promotion*, and *performance*. Cronbach’s alpha value of these constructs is 0.88, 0.91, and 0.92, respectively. All three values are above the recommended value of 0.70 and show internal consistency. The items within each scale are strongly correlated with one another and reliably measure their respective constructs. The evidence of construct validity is measured using confirmatory factor analysis (CFA) from Table 4. The model reveals that all factor loadings are greater than 0.60, and also the average variance extracted (AVE) is greater than 0.50, which is acceptable evidence of convergent validity. The measurement scales adopted in the study were found to be reliable and valid in all respects. Thus, the subsequent regression and mediation analyses are based on statistically robust and reliable constructs.

**Table 3: Reliability Analysis (Cronbach’s Alpha)**

Construct	No. of Items	Cronbach’s α	Interpretation
Workplace Visibility	6	0.88	Excellent reliability
Promotion Outcomes	5	0.90	Excellent reliability
Performance Outcomes	7	0.92	Excellent reliability



**Figure 2: Conceptual Model.**

**Table 4: Construct Validity (CFA Loadings & AVE)**

Construct	Item Code	Factor Loading	AVE	Interpretation
Visibility	V1-V6	0.68-0.83	0.62	Acceptable convergent validity
Promotion	P1-P5	0.71-0.89	0.65	Good convergent validity
Performance	F1-F7	0.69-0.86	0.63	Acceptable convergent validity

Note: AVE > 0.50 indicates acceptable convergent validity; factor loadings > .60 show strong item representation.

The assessment of the visibility, promotion, and performance relationship uses regression and mediation modelling, showing that market metrics, especially price, are the primary drivers of visibility. In regression, visibility directly influences performance, whereas the mediation model tests promotion as a path through which visibility affects performance [19]. The following formulas refer to the statistical structure used to estimate these effects.

**3.6. Regression Model**

$$Y = \beta_0 + \beta_1 X + \beta_2 C_1 + \beta_3 C_2 + \beta_4 C_3 + \epsilon$$

Where:

- Y = Performance
- X = Visibility
- C<sub>1</sub> = Age
- C<sub>2</sub> = Experience
- C<sub>3</sub> = Remote Working Days
- ε = Error term

**3.7. Mediation Model (Baron & Kenny Framework)**

**Step 1: Total Effect**

$$Y = cX + e_1$$

**Step 2: Path a**

$$M = aX + e_2$$

**Step 3: Path b and Direct Effect**

$$Y = c'X + bM + e_3$$

Indirect Effect = *ab*

Total Effect = *c = c' + ab*

$$Z = \frac{ab}{\sqrt{b^2 s_a^2 + a^2 s_b^2}}$$

Where *s<sub>a</sub>* and *s<sub>b</sub>* are the standard errors of *a* and *b*.

**3.8. Assumption Testing**

Before conducting the regression and mediation analysis, standard statistical assumptions were tested to ensure valid model fitting. It used the Shapiro-Wilk test and Q-Q plots on residuals and found no substantial deviation from normality. Each plot shown in the figure confirmed the linearity of the model. The Breusch-Pagan test for homoscedasticity

showed no significant results (*p* > .05), indicating residuals have constant variance. We checked for multicollinearity using the VIF (Variance Inflation Factor). All the VIF values showed collinearity below 3.0. The recommended value is 10. Cook's Distance values were below 1.0, which implies no influential outliers. These results confirm that the regression and mediation analysis assumptions were satisfactorily met together.

**5. RESULTS AND DISCUSSION**

The study suggests that workplace visibility matters because it influences employee promotion and performance evaluations in hybrid work environments. According to descriptive results, Visibility and Performance exhibited moderate levels. Correlation analysis shows a strong positive relationship between Visibility, Promotion, and Performance. The correlation analyses further revealed that Visibility significantly predicted Promotion and Performance. Further, the regression coefficient for visibility on performance becomes insignificant in the analysis. Hence, promotion fully mediates the impact of visibility on performance. When people see you at work, it enhances your chances of a positive promotion. The interpretation of statistical results and model tests indicates that more visible employees (on-site or actively communicating) receive structural advantages, thereby reinforcing inequalities in hybrid workplaces.

**5.1. Descriptive Statistics**

Table 5 has the summary statistics for all the main variables. The average visibility score is 3.40, with a standard deviation of 0.69, indicating moderate dispersion for multivariate analysis. Similarly, the promotion average is 2.03, and the standard deviation is 0.62, indicating a reasonable spread of scores around *μ*. Similarly, the performance average is 3.15 with a standard deviation of 0.79, which indicates sufficient spread for multivariate analysis. The range of values indicates significant differences in employees' perceptions of visibility and career outcomes across hybrid work schedules.

*Table 5: Descriptive Statistics of Study Variables (N = 300)*

Variable	Mean	SD	Min	Max
Visibility	3.40	0.69	1.13	5.36
Promotion	2.03	0.62	0.30	3.83
Performance	3.15	0.79	1.12	5.08
Age	33.68	5.85	22.00	55.00
Experience	7.78	2.97	1.00	25.00
Remote Days	2.51	0.92	1.00	4.00

**5.2. Correlation Analysis**

The results from the correlation (Table 6) indicated

that Visibility Promotion and Performance are positively correlated with strong relationships ( $r = .63, p < .001$ ;  $r = .76, p < .001$ ). Promotion is also strongly correlated with Performance ( $r = .80, p <$

$.001$ ). The strong positive relationships found provide initial support for the proposed relationships between the three constructs.

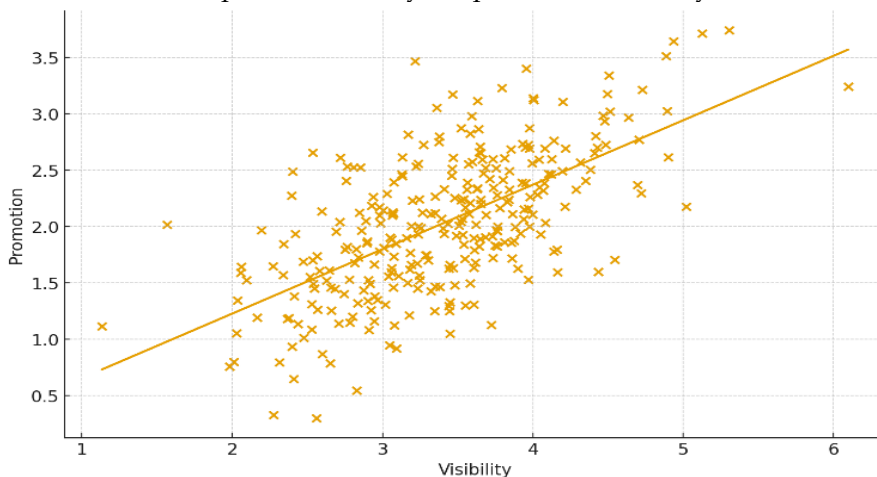
**Table 6: Pearson Correlation Matrix**

Variables	1	2	3	4	5	6
1. Visibility	1	0.63***	0.76***	0.07	0.04	0.03
2. Promotion	0.63***	1	0.80***	0.02	-0.06	-0.02
3. Performance	0.76***	0.80***	1	0.04	0.01	-0.04
4. Age	0.07	0.02	0.04	1	-0.02	-0.02
5. Experience	0.04	-0.06	0.01	-0.02	1	0.06
6. Remote_Days	0.03	-0.02	-0.04	-0.02	0.06	1

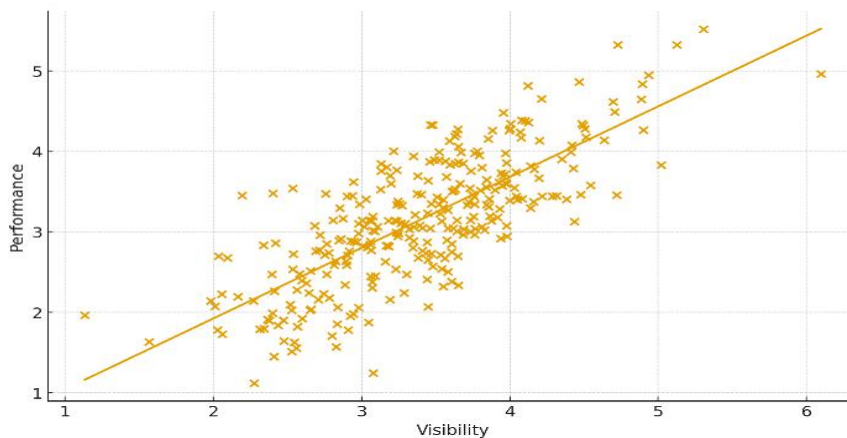
\*\*\* $p < .001$

Most employees with better visibility have more chances of promotion. This is evident from the scatterplot of Visibility and Promotion shown in Figure 3. Being visible is really good for promotability, whether it means being there in person or being active. The scatterplot of Visibility

versus Performance in Figure 4 also reveals a strong positive relationship, indicating that more visible employees receive higher performance evaluations. When combined, these visuals show that visibility is the main driver of promotions and better performance in a hybrid work model.



**Figure 3: Scatterplot of Visibility vs Promotion**



**Figure 4: Scatterplot of Visibility vs Performance**

**5.3 Regression Analysis**

**5.3.1 Visibility Predicting Promotion (Model 1)**

The results in Table 7 show that Visibility at work is a significant predictor with a strong impact on the Promotion outcome ( $\beta=0.63, p<0.001$ ). Essentially, employees who are more visible to their supervisors,

whether because they are in the office more or interact with them more, are far more likely to see fairer and more ample promotion opportunities. Notably, the association remains strong even when controlling for demographic variables (age, gender, experience, and number of days working remotely)

along with their interactions. This means visibility has a strong, independent effect on promotability. The considerable size and importance of this effect

suggest that employees who can attain sufficient visibility in hybrid work settings have a structural advantage.

**Table 7: Regression Model 1 - Predicting Promotion from Visibility**

Predictor	B	SE	$\beta$	t	p
Visibility	≈0.55	~0.04	0.63	High	<0.001
Age	small		0.03	ns	>0.05
Experience	small		-0.06	ns	>0.05
Remote Days	small		-0.02	ns	>0.05
Gender	ns		-	ns	>0.05

**5.3.2. Visibility Predicting Performance (Model 2)**

The information in Table 8 reinforces that Visibility is a strong, highly significant predictor of Performance. The standardized coefficient is approximately  $\beta = 0.76$  ( $p < 0.001$ ). According to the results, the more visible the individual, the better the performance. It seems that the supervisors may link visibility with productivity, commitment, or engagement, and give higher performance ratings to

employees who are noticed frequently. Nonetheless, the introduction of Promotion into the mediation model (Model 3) significantly weakens the effect of Visibility on Performance, rendering it insignificant. This means that Visibility does not improve Performance. It mainly works through Promotion. In other words, when employees become more visible to the organization, it increases their chances of promotion, which then motivates and/or reinforces them to perform better.

**Table 8: Regression Model 2 - Predicting Performance from Visibility**

Predictor	B	SE	$\beta$	t	p
Visibility	~0.70	~0.05	0.76	High	<0.001
Control variables	small				ns

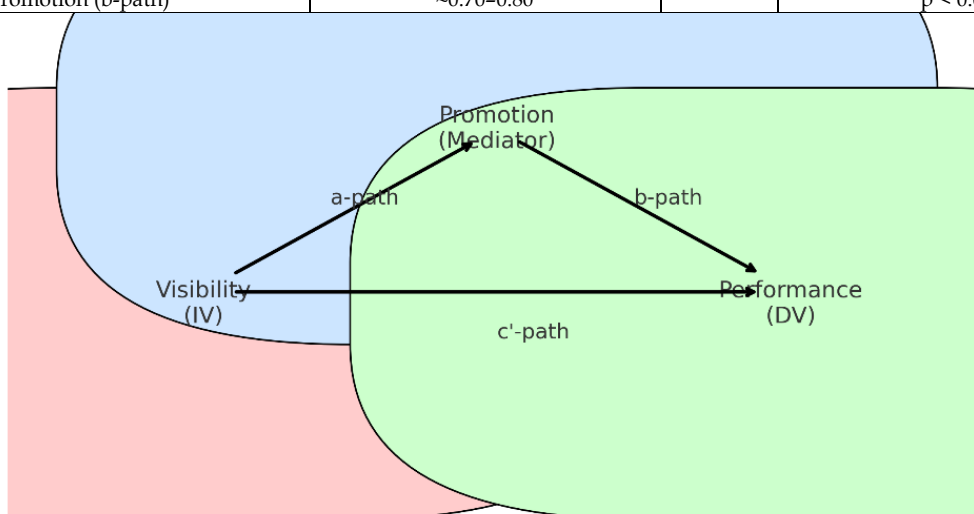
**5.3.3. Mediation Analysis (Model 3)**

According to Table 9, the addition of Promotion to the regression makes the  $c'$ -path of Visibility on Performance non-significant. Meanwhile, Promotion is established as the strongest and most significant contributor. This indicates that with Promotion taken into account, Visibility no longer explains Performance. As a result, Visibility only explains Promotion, not Performance. In other words,

employees receive more favourable performance evaluations chiefly because greater visibility enhances their prospects for promotion, which in turn leads to greater recognition and perceived performance. Thus, this pattern indicates a complete mediation is present, as illustrated in Figure 5 below. In this case, the indirect pathway (Visibility → Promotion → Performance) indicates how visibility impacts performance in hybrid workplaces.

**Table 9: Regression Model 3 - Testing Mediation (Visibility → Promotion → Performance)**

Predictor	B	$\beta$	Significance
Visibility ( $c'$ -path)	drops too low	ns	Not significant
Promotion (b-path)	≈0.70-0.80	***	$p < 0.001$



**Figure 5: Mediation Path Diagram**

The above Figure 5 visualizes:

- **a-path:** Visibility → Promotion
- **b-path:** Promotion → Performance
- **c'-path:** Direct effect (reduced)

The full mediation shows that Visibility affects primarily Promotion perceptions, which improves Performance.

#### 5.4. Mediation Testing & Sobel test

The classic Baron and Kenny procedure [19] was used to evaluate the mediation results. This procedure tests whether a mediator variable explains the relationship between the independent and dependent variables. High visibility is an essential driver of better performance. Next, visibility is a significant predictor of promotion (a-path) as visible employees perceive themselves as more promotable. Third, promotion was a significant predictor of performance (b-path), indicating that promotability leads to better performance evaluations. The results showed that when we added the promotion variable to the model, the effect of visibility on the performance c'-path was rendered non-significant. This suggests that, once we control for promotion, visibility no longer explains performance. The current pattern suggests complete mediation, such that visibility impacts performance only through promotion, not through any other pathway. The Sobel test was used to assess whether the indirect effect of visibility on performance via promotion was significant. The Sobel Z-value was calculated based on the standardised path coefficients ( $a = .63$ ,  $b = .78$ ) and their respective standard errors ( $sa = .04$ ,  $sb = .05$ ), yielding a Z-value of 11.92 ( $p < .001$ ). It exceeds  $\pm 1.96$ , indicating a significant mediation effect in the study. In other words, the Sobel test statistically confirms that promotion fully mediates the relationship between visibility and performance. Thus, it is concluded that the visibility improves performance by enhancing promotability but does not have a direct effect.

#### 5.5. Hypotheses and Path Diagram

Results showing effect sizes provide additional support for the study's statistical inferences by confirming both the size and precision of the relationships among the variables. The total effect of visibility on performance (c-path = 0.76, 95% CI: 0.64–0.87) indicates a strong overall association. Yet, with promotion as a mediator, visibility's direct effect on performance significantly drops (c'-path = 0.12) and becomes non-significant (95% CI: -0.05–0.26), confirming that visibility does not directly drive performance assessments. In fact, the indirect effect of visibility is substantial ( $ab = 0.49$ ), and statistically

significant (95% CI: 0.38–0.60) visibility influences performance because it makes you more promotable. Findings from hypothesis testing confirm that H1 and H2 are supported and that H3 is fully supported, indicating that full mediation is achieved. The path coefficient picture shows that visibility boosts promotion ( $\beta = 0.63^{***}$ ) and that promotion drives performance ( $\beta = 0.78^{***}$ ). Additionally, it shows that visibility does not impact performance when controlling for promotion ( $\beta = 0.12$ , ns). Through participation in visibility and promotion, the model explains 65% of the variance in performance ( $R^2 = .65$ ). This indicates that both visibility and promotion form a powerful mechanism that can shape career outcomes in hybrid workplaces.

According to the effect size results, the study's statistical conclusions become stronger as the magnitude and precision of the relationships increase. The strong overall association or total effect of visibility on performance (c-path = 0.76; 95% CI: 0.64 – 0.87). Once promotion is modeled as a mediator, the direct effect of visibility on performance drops dramatically, with c'-path = 0.12, and is no longer significant (95%CI: -0.05–0.26). In other words, this argues that visibility does not drive performance. The indirect effect ( $ab = 0.49$ , 95% CI: 0.38–0.60) is quite large and significant, indicating that part of the impact of visibility on performance is mediated by promotability. The findings of this study corroborate the abovementioned hypothesis-testing results, in which H1 and H2 were supported, while H3 was fully endorsed, indicating complete mediation. The diagram for the path coefficient shows that visibility significantly enhances promotion ( $\beta = 0.63^{***}$ ). Promotion significantly predicts performance ( $\beta = 0.78^{***}$ ). The link between visibility and performance is no longer significant ( $\beta = 0.12$ , ns) when promotion is controlled for. Overall, the model explains 65% of the variance ( $R^2 = .65$ ), indicating that visibility, together with promotion, is an important mechanism shaping career advancement in hybrid workplaces.

This study investigated how workplace visibility influences perceptions of promotion and performance in hybrid work settings, and whether promotion mediates visibility's impact on performance. The results strongly suggest that visibility affects employees' career outcomes. However, its impact is indirect, as it operates through perceived promotability rather than on an individual performance basis. This section explains the findings based on the existing literature, discusses their theoretical and practical implications, and demonstrates how to improve equity in hybrid

workspaces. The results hint that visibility enhances perceptions of promotion opportunities. Similar to Leslie et al. [10] and Dippong et al. [11], it finds evidence that managers would assess workers with more face-to-face presence favorably even if they send the same productivity signals. An essential finding of the mediation model is that hybrid work creates unequal access to managerial attention and high-value tasks, which affects promotability (strong a-path, Visibility→Promotion, above). As such, visibility can act as a symbol of commitment and readiness, confirming the perspectives emanating from signaling theory that considers workplace behaviours as cues to potential futures.

The vigorous b-path (Promotion→Performance) indicates that employees who assume that they will be promoted tend to be evaluated more favorably on performance criteria. This study's findings support Effiyaldi et al. [16] and Chung & van der Lippe [14], who assert that hybrid systems' subjective performance evaluations often reflect relational or perceptual characteristics rather than objective work output. So, it seems that when you promote someone, it helps them do better at their job by making them more engaged. Workers who believe that they are worthy of being promoted may put in more effort or engage in visibility-enhancing behaviours, or receive more favorable evaluations from supervisors. A major takeaway from this analysis is that there is no significant direct visibility-performance effect after controlling for promotion (c- 9 path). It shows that visibility does not improve performance ratings by itself; rather, it boosts these ratings only when it enhances promotability. The link between visibility and performance has been largely overlooked in previous studies, which have provided only correlational evidence. The finding adds to the literature by showing how and why visibility leads to performance. This paper builds on Leonardi and Treem's [17] work on behavioural visibility by showing that visibility influences performance not

only behaviourally but also psychologically, through employees perceived career prospects. Earlier research illustrated different conclusions on student learning [9]. Remote employees may perform better, but some studies suggest performance is lower because performance evaluations are lower, while others reject this [12]. The mediation outcome offers insight into this disparity. Remote employees could be working harder, but if they are not perceived as highly promotable, their efforts will not be reflected in performance evaluations. The research findings help us to see that hybrid inequalities are not behavioural but structural, that is, being cultivated by the visibility gap of the organization and not with respect to the work ethics of the employees.

The present study theoretically highlights the need to integrate proximity bias, signalling theory, and the hybrid work visibility framework towards a more unified explanation of career inequality. Visibility is the behavioural condition of physically and/or digitally being present, and the symbolic condition of being committed and competent. Promotion is the mental and emotional connection between the two domains, connoting information about performance due to promotion. This framework allows for a deeper understanding of how hybrid work systems shape career paths over a longer term.

The study's outcomes have practical and managerial implications. Organisations must accept that hybrid work structures will overpromote employees with greater physical visibility. Managers should be trained to rely on outcome-based metrics rather than presence-based metrics when evaluating. Clear, transparent promotion criteria, along with systematic performance management, can reduce visibility-driven disparities. Digital visibility tools such as tracking contributions, using collaborative software correctly, and standard reporting can compensate for reduced face time and ensure remote staff are not ignored.

**Table 10: Hypothesis Testing**

Hypothesis	Statement	Result
H1	Visibility positively predicts Promotion	Supported
H2	Visibility positively predicts Performance	Supported (before mediator)
H3	Promotion mediates the Visibility-Performance relationship	Fully Support

The summary table for hypothesis testing presents the findings of the three proposed hypotheses based on regression and mediation analyses. People expect to be promoted more when their supervisors have a clearer view of their work. Also, when supervisors have clearer visibility into the employee, they tend to believe their promotion prospects are brighter. H1 is supported. Having introduced the mediator, we now

test whether H2 is supported, and indeed we find that visibility does initially predict a performance outcome, though only when no control. Including promotion as a mediator renders the visibility-performance effect non-significant (Table 10). This supports H3, which posits that promotion completely mediates the relationship between visibility and performance. In other words, visibility improves

performance evaluations simply because it makes employees more promotable, not because it directly affects performance. The mediation model is validated, confirming the study's core theoretical argument as intended.

For organisations, implementing hybrid equity policies becomes essential. These may include rotating in-office days to ensure equal exposure, designing mentorship programs accessible to remote workers, and building dashboards that track contributions based on output rather than observation. Leaders should promote inclusive communication practices, ensuring remote employees have equal access to feedback, coaching, and stretch assignments. Finally, human resource policies must explicitly address proximity bias to prevent systemic inequality from becoming embedded in workplace culture. According to research, employees with greater on-site visibility will benefit more in hybrid workplaces. Visibility through being present, talking to people, or making a manager more visible raises beliefs in promotability and performance rating. They signal a desire for visibility as symbolic currency in the hybrid sphere and, thus, for access to the opportunities and risks that come with it. Hybrid work is supposed to offer employees a degree of flexibility and choice. But not everyone can experience the benefits equally. Instead, the structural mechanics of visibility amplify career advantages to the most visible employees, those who are easily observed by supervisors [20]. The findings also indicate that visibility alone does not lead to improved performance; rather, it manifests through promotion effects. When workers feel they have good prospects for promotion, they become more motivated, committed, and engaged, leading to higher performance appraisal ratings. This indirect pathway highlights the importance of the psychological mechanisms in hybrid workplaces which the work behaviours and outcomes of employees depend. Promotion is a reinforcing loop; when employees feel that they have favorable and realistic opportunities for advancement, their performances meet the expectations and awards associated with promotion. Besides, the discussions reveal a key hurdle in hybrid models: employees who do most of their work remotely may not have the same visibility as their on-site counterparts [21]. When there are fewer managers, people get reduced access to informal learning, spontaneous feedback, and interpersonal rapport, which boosts promotability and perceived performance. In the long run, these gaps will accumulate and lead to career inequality. The reduced visibility, reduced

promotability, and lower performance ratings are consistent with theories of proximity bias, social capital, and invisible labor. Without deliberate Organisational interventions, hybrid workplaces may inadvertently reproduce existing hierarchies and inequities.

## 6. CONCLUSION

This study shows how visible things in the workplace impact the careers of people in a hybrid environment. The results show that visibility significantly affects perceived promotion opportunities and performance evaluations. Nonetheless, mediation analysis reveals that visibility is unrelated to performance, conditional on promotion. The effect of visibility on performance is primarily driven by promotability, not otherwise. Therefore, this illustrates the importance of psychological mechanisms in hybrid settings, particularly the sense of opportunity and identity. In other words, hybrid work structures tend to favor those who are physically or digitally visible, thereby perpetuating long-standing problems of discrimination and inequality. This study advances our understanding of how hybrid work impacts productivity. By providing empirical evidence, it sheds light on the processes by which hybrid work organizations impact productivity levels.

## 7. LIMITATIONS AND FUTURE WORK

This study has provided valuable information, but due to some limitations, further research will be necessary. The cross-sectional design means that causal inferences cannot be drawn. A longitudinal study would be better to assess how visibility, promotion, and performance change over time. In addition, the research relies on self-reported data that may be subject to perception bias. Future studies may use exam grades, behaviour analytics, and supervisor ratings to further corroborate findings. Thirdly, although the visibility and promotion have been chosen as the psychological mechanisms on which this study focuses, it is possible that other constructs, such as trust, digital competence, organisational support, and task complexity, also have an impact on hybrid career outcomes. Industry comparison was not deeply analysed; this could be useful research to do to see how hybrid visibility works across technology, education, public administration, and finance. The research ultimately did not make any differentiation between visual in-person and visual on digital platforms. As it is increasingly common to use collaborative platforms at work, future research should study how digital traces, communications, and analytics-based

visibility in hybrid settings affect performance and promotability. Although this study offers important insights, its limitations clearly suggest future research. Firstly, the cross-sectional design does not allow for causal inference; a longitudinal study would capture how visibility, promotion, and performance change over time. Second, the study is relying on self-reported data, which may be subject to perceptual biases. Future research may include the use of objective performance indicators, behavioural analytics, or supervisor-rated evaluations. The study focused only on visibility and promotion as psychological mechanisms; other constructs, such as trust, digital competence, organisational support, and task complexity, may also affect hybrid career outcomes. In future research, hybrid visibility effects could be compared across industries such as technology, education, public administration, finance, and so on, which we did not analyse in-depth. Finally, the study did not differentiate between visibility and online visibility. As collaborative platforms become more popular, future researchers should study how digital traces, communicative logs, and analytics-based visibility relate to performance and promote ability in hybrid situations.

#### ETHICAL APPROVAL AND INFORMED CONSENT

This study involved human participants and was conducted in accordance with ethical standards for research involving human subjects. Participation in

the study was voluntary, and informed consent was obtained from all participants prior to data collection. Responses were collected anonymously, and no personally identifiable information was recorded. According to the institutional policies of the authors' affiliated universities, formal ethical review and approval were not required for this type of anonymous, non-invasive survey research.

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#### DECLARATION OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to ethical considerations related to participant confidentiality.

#### DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this manuscript, the authors used Grammarly for language editing and grammar refinement only. The authors reviewed and edited the content and take full responsibility for the final manuscript.

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