

RESEARCH ARTICLE - EMPIRICAL OPEN ACCESS

Interest in Working Remotely: What Factors Are at Play?

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ABSTRACT

In the postpandemic era, attitudes toward remote work appeared to undergo a lasting transformation, with a high degree of location flexibility becoming increasingly common. Yet, in recent years, many organizations have introduced return-to-office (RTO) initiatives aimed at re-establishing traditional workplace dynamics and prioritizing in-person collaboration. These mandates have drawn significant attention and criticism for limiting software developers flexibility, diminishing well-being, and potentially impacting women disproportionately. This study seeks to understand software developers preferences and actual work behaviors in companies that promote in-office presence. Specifically, we investigate whether certain demographic groups, including women, are differentially affected by RTO initiatives. We also explore a range of factors that may influence individual preferences for remote or on-site work, beyond gender-based assumptions. We report findings from a survey conducted in two large Scandinavian companies engaged in the development of software-intensive systems and services. Data analysis includes descriptive statistics, contingency tables along with post hoc tests, chi-square test of association, and Cramér's V for effect sizes. Our findings reveal that gender differences among software developers in both industrial cases are minimal and statistically insignificant. Instead, other variables—such as the degree of collaborative work, commute time, and responsibility to support teammates—demonstrate a stronger association with both actual and preferred office attendance. Our results challenge common narratives around gendered responses to RTO mandates, suggesting that other contextual and task-related factors may play a more decisive role. While the impact of RTO initiatives should not be dismissed, our findings indicate that a deeper understanding of work dynamics—particularly around collaboration intensity and commuting burden—is essential to designing equitable and effective work policies. Finally, our findings imply that organizational recommendations for work location must go hand in hand with task design.

1 | Introduction

The role of the office space has undergone a dramatic transformation in the wake of the COVID-19 pandemic. In the past, the office life was the center of professional work. Software engineers commuted daily, and software team activities were anchored in shared physical spaces. This traditional setup supported both individual productivity, through fixed personalized

workstations equipped with multiple monitors, and team cohesion, with dedicated areas for collaboration such as whiteboards, burndown charts, and informal problem-solving sessions. Today, however, the reality looks very different [1].

As remote and hybrid work have become the norm across numerous organizations employing knowledge workers, such as software developers, many offices remain half empty on most

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days. With the more flexible office attendance, new patterns of office use are emerging that challenge long-held assumptions about how, when, and why people gather at work [2, 3].

Few years into the postpandemic reality, many companies are eager to reinvent their offices and revitalize socialization that is found to be the cornerstone of remote and hybrid working. This is evident in studies reporting reduced team cohesion [4] and impaired collaboration [5–7] within the teams developing software. Many offices have been redesigned to offer open-plan layouts, hot-desking systems, social hubs, and casual collaboration zones [3]. These changes aim to repurpose the empty fixed workstations to support flexibility and foster spontaneous interaction, in theory said to appeal to a more mobile, hybrid workforce.

However, in practice, flexible policies have a tendency to create irregular and unpredictable office occupancy patterns [8, 9], undermining the purpose of co-location. Developers increasingly expect autonomy over where they work [8], and many software-intensive organizations have relaxed their attitudes toward office presence to keep their employees satisfied [1]. Thus, studies show that despite recent efforts to return software developers to the office, attendance remains stubbornly low [2, 4].

Software developers continue to exercise their autonomy to work remotely, even when perks are available. The usual perks, like ice-cream machine or a new pool table, are often perceived as “one-time attractions” that drive immediate attention but very soon lose the appeal [3]. Another typical reason for the stagnation of office attendance is the conflicting corporate actions on one hand calling for the return to the office, while on the other hand reducing the number of available workstations, canceling the free parking services and alike [10]. Further, the call for social interaction at the office (and concentration at home) expressed by many software developers [2, 3, 11] is often confused with the need for recreation areas instead of meeting rooms equipped with whiteboards and team spaces equipped with classic workstation. Without these, other incentives such as free meals, wellness amenities, and remodeled environments to make the office more attractive [3] are often insufficient to ensure consistent office occupancy.

The failed efforts to repopulate the offices can be partially explained by unprecedented scale of current remote work. Managers are not equipped with any arguments for why office work is more superior than working on-site, and if that is actually true. This raises a crucial question: What can we do better? Faced with underused offices and limited returns on workplace redesign investments, and unpredictable occupancy patterns that hinder the potential benefits of co-location [9], many companies are introducing blanket return-to-office (RTO) policies, typically requiring a fixed number of in-office days per week [10, 12]. While these policies aim to restore predictability and cohesion, they can backfire. These top-down policies are often met with resistance from employees, which sometimes results in people quitting [13], are inconsistently followed, and may ultimately prove ineffective in software companies [9]. In practice, employees may still end up commuting to the office only to spend the day in online meetings with colleagues who remain

remote, in a phone booth, undermining the whole intent behind the policy.

Interestingly, while the focus on in-office work is trending, structured RTO mandates are not overwhelming [12]. Some companies opted for softer, recommendation-based policies letting employees decide where to work when. Yet, both approaches, strict or soft, raise critical questions: Who is coming to the office, and why? What types of work are they trying to accomplish on-site? And how can offices be redesigned to support these goals in ways that are responsive to real needs rather than theoretical ones?

While prior research has examined factors such as commuting burden, collaboration intensity, or demographic characteristics in relation to remote work, much of this knowledge is rooted in pre-pandemic contexts or generalized knowledge worker populations. In the current postpandemic reality of software companies that experiment with RTO mandates and office renovations, the motivations for working remotely or on-site remain poorly evidenced. Much of the current discourse surrounding RTO policies relies on assumptions, such as that women are more reluctant to return to the office, or that developers will naturally come in for collaboration but stay home for individual work. Yet, these claims are rarely tested empirically in large-scale industrial contexts.

In this paper, we therefore seek to understand which factors influence software developers' preferences and actual work behaviors. To this end, we analyze survey data from two Scandinavian companies that promote office presence. We analyze 390 responses using contingency tables, chi-square significance test, and Cramér's V for determining the effect sizes to determine the association between the contextual factors and office presence, and also between the contextual factors themselves. We further develop “archetypes” of office-first and remote-first workers, which can inspire companies in their efforts to reinvent their workplaces.

This paper is an extension of an earlier submission [14], which presented findings from the survey in one of the two companies and was dedicated to exploring the gender differences in office attendance. Extending that previous work, our present analysis of the “State of Hybrid Working” survey examines a broader set of factors influencing office presence, including demographic, work-related, and contextual variables associated with software developers' in-office attendance patterns.

Our study contributes by (1) empirically challenging gender-based assumptions and showing that they are not supported once contextual and task-related factors are considered; (2) empirically grounding widely circulated but weakly evidenced claims about collaboration, commute, and office presence in robust industrial surveys; and (3) shifting the analytical focus from demographics toward task design and organizational context. While many of our findings may appear “intuitive,” organizational policies must be based on validated evidence rather than assumptions. By clarifying which factors matter most, our results help companies avoid misguided RTO policies and instead align workplace design with actual developer needs and behaviors.

The remainder of the paper is structured as follows: Section 2 provides an outline of the background and related work. Section 3 presents the research methodology, followed by the results in Section 4. In Section 5, we discuss our results and their implications. Finally, Section 6 concludes the paper with a summary of the key findings.

2 | Background and Related Work

The COVID-19 pandemic has irreversibly changed the landscape of work arrangements. Thus, during the early postpandemic period, many companies institutionalized flexible work policies, allowing employees to work remotely either partially or indefinitely. In particular, software development companies, as representatives of the most prominent knowledge-intensive work groups, have become places of flexible working [3, 15] with often underpopulated office spaces and office presence ranging between 30% and 50% and only in rare cases reaching 70%.

While flexible work arrangements have been widely appreciated by employees [13], research has highlighted that flexibility comes at a certain cost. There is a growing understanding that flexible work is not for everyone and that it has its disadvantages [1, 5, 16–18]. As the challenges became more visible, companies began re-evaluating their hybrid work strategies, ranging from encouraging on-site presence to implementing structured RTO mandates [1, 12, 19].

The effectiveness of the new work policies can vary depending on how well they align with employee desires. Research on employee preferences in software-intensive companies consistently shows that there is no universal agreement within companies—some employees prefer to work entirely remotely, while others favor a fully in-office arrangement [1]. In this section, we review existing studies that explore the factors that gravitate employees toward on-site and remote work options.

2.1 | Individual Motivations and Demographics

Remote work motivations have long been associated with demographic characteristics such as gender and parental status. Early telework literature from the 1970s to 1980s portrayed typical remote workers as clerical women, managerial and professional mothers, and male managers or professionals seeking work and family life integration [20]. More recent studies suggest that women workers, on average, place slightly more value on the option of WFH than men due to caregiving responsibilities [21]. However, these differences tend to diminish when accounting for variables such as education level and parental status [19]. Some evidence even suggests that fathers of young children work from home more often than mothers [19] and that both genders value different types of flexibility—women more often seek flexible time, while men prefer flexible location [22]. Generally, family people and individuals with many nonwork obligations tend to value the ability to work remotely [11, 23, 24].

In contrast, studies conducted within the software engineering domain report minimal gender differences in remote work

participation and preferences [1]. In a study of patterns of co-presence in 17 DevOps teams partially working from home, Moe et al. [4] observed slightly higher attendance rates among women, but these differences were statistically insignificant. Our own analysis of a survey in a Scandinavian company [14], which we extend in this paper, led to a similar conclusion. We learned that women had a slightly higher degree of remote working, but gender differences among software developers (unlike other departments) were negligible and insignificant.

Taken together, these studies suggest that while gender may play a role in shaping remote work preferences in general populations, its effects may be less pronounced in the context of software engineering companies. Thus, a broader set of influencing factors is needed.

Beyond gender, existing research highlights the commute as one prominent factor in this matter. Daily commute to the office, especially for long commuters, is a large investment of personal time that many try to avoid by working from home [2, 11, 23, 24]. Similarly, employees with barriers to accessing the office, such as disabilities, are likely to become remote workers [23]. Another factor mentioned in the literature is age. Corporate human resource managers are increasingly concerned about the young generation employees that enter the job market and perceive the ability to work remotely as the default option; however, the studies of preferences for remote versus on-site work among representatives of different generations are inconclusive [1]. Some studies report that remote work is lower among the young employees [1, 19], others report no major differences [1].

Differences in individual preferences for remote versus on-site working may be also explained by several competencies that make specific individuals more effective in a particular work modality, including self-discipline and ability to concentrate on tasks over a long period of time without getting distracted, communication skills, initiative, adaptability, time management, and technical skills [23, 25]. Finally, preference to work in the office versus home may be also influenced by the preference for segmentation versus integration of the work and life spheres [26].

2.2 | Task-Related Factors

Beyond demographics, the nature of one's work is a critical determinant of where it can be best performed. Early studies on remote work have linked the interest in work from home with certain occupations and job profiles, including self-employed professionals, artists, writers, and craftspeople [24]. Today, knowledge workers of different professions with remote-compatible jobs are using this opportunity [23]. Some studies report that managerial duties increase the interest in on-site working, while engineers are more interested in working remotely [1].

Many software engineers associate remote work with increased productivity due to the superior ability to focus [11]. This is why, employees gravitate toward remote work when having tasks that demand deep concentration or uninterrupted time [2, 8]. Yet, there are also voices for the office as a superior place for productivity—these are employees who report achieving better focus,

and daily routines in the office, in the stimulating atmosphere of positive peer pressure and in the absence of distractions from kids, spouses, pets, and home duties [3]. Tasks that are compatible with remote work tend to have relatively low need for communication and coordination, clear criteria, milestones and deliverables [23, 24], and demand ability to work autonomously without supervision [25].

Collaborative activities that require interaction or cocreativity, such as planning, brainstorming, workshops, and task assignment, are reported to benefit from physical co-location [2, 8]. Some teams may even have an agreed upon schedule for on-site team meetings [11]. Additionally, employees can be driven to visit the office due to the need for essential infrastructure, management request, or client demands [3, 11]. On the other hand, employees who are scheduled to spend a full in online meetings prefer to work from home [2].

As different tasks are more or less conducive to work modalities, the ability to choose a location based on the type of task at hand is becoming an increasingly important factor in workplace decisions.

2.3 | Evolution of Remote Work Regulation and Office Redesign

One fundamental problem inherent in flexible work arrangements is the unpredictable occupancy of offices. When individuals are free to choose their work location based on personal preferences, demographic conditions, or task requirements, it becomes increasingly difficult (nearly impossible) for organizations to manage their workplaces effectively. Recent studies show that unstructured hybrid work surfaces problems with work coordination, resource utilization, and spontaneous collaboration, which all require co-location and not just office presence.

To address these concerns, organizations have taken one of two strategic directions. Some have embraced remote-first models, often accompanied by downsizing of office infrastructure, while others adopted structured RTO policies in an effort to reestablish office-centered work.

Among companies that favor the latter route, the strategies vary. Some enforce mandatory office days or time, the approach that often receives criticism [9]. Others attempt to encourage attendance by offering redesigned office spaces and added amenities [3]. A growing trend is to make the office feel more like home, introducing open-plan layouts, communal lounge areas, greenery, and social spaces. These changes, while well intentioned, often lead to hot-desking policies that reduce desk personalization, increase noise levels, and create environments that may be poorly suited to deep focus or collaborative team work [27].

As a result, there is increasing skepticism about the effectiveness of such interventions, as attendance in many redesigned offices remains low. This prompts a question: Do we know who we design our offices for?

Solving the hybrid work puzzle is not a straightforward task. Recent studies suggest that employee needs and expectations are far from uniform. While some workers value the office for social connection and collaboration, others prioritize individual productivity. Likewise, preferences vary by role, task type, team dynamics, and even home environment conditions and regional electricity prices. This variation points to a need for more nuanced understanding. Rather than treating the workforce as a homogeneous group, organizations must begin to recognize the archetypes of office and remote workers—distinct patterns in how, when, and why employees use the office. Yet, few empirical studies to date have systematically examined these patterns across both actual and preferred office use.

To summarize, while prior studies discussed above offered valuable insights into demographic and task-related influences on remote work preferences, most of this evidence is grounded in prepandemic conditions or focuses on general knowledge workers rather than software developers. It remains unclear whether well-documented factors like gender, commute time, or collaboration needs still explain work-location preferences in the same way within today's software industry contexts and whether software engineers in different national contexts demonstrate similar patterns of behavior. This study addresses this gap by examining the persistence and relative strength of these factors in two large Scandinavian software companies undergoing postpandemic RTO transitions. By empirically testing gender-based assumptions and contrasting demographic variables with task- and context-related factors, our work contributes new evidence about how software developers navigate evolving workplace expectations and organizational mandates.

3 | Research Methodology

The aim of our study is to understand the factors that affect software developers' actual and preferred office presence in the context of hybrid work. By “software developers,” we mean software engineers and other professionals involved in developing digital products (such as designers, testers, architects, and product and project managers) who often work as members of cross-functional teams.

As organizations continue to adapt their RTO strategies, it is critical to examine how these policies align with employee preferences and behaviors. A better and nuanced understanding can inform evidence-based redesign of offices, ensuring they meet the needs of those who choose to return voluntarily and decrease dissatisfaction of those who return by mandate.

3.1 | Research Questions

Our study aims to answer the following research questions:

RQ1. What are the actual and preferred office presence among software developers?

Motivation: In our study of survey responses collected in two Scandinavian companies, we explore the actual and preferred office presence, which serve as the key

dependent variables in the analysis. Understanding the gap between what software developers currently do and what they would prefer helps reveal the degree of alignment, or misalignment, with current policies. The goal of such analysis is to obtain insights pertaining to whether employees comply with the RTO expectations out of necessity or genuine preference and estimate how many employees have their preferences not met with the current RTO policy.

RQ2. What factors are associated with the actual and preferred office presence?

Motivation: Further, we study direct and indirect relationships between a variety of factors to uncover their dynamics that shape employee behavior and preferences. This broader view offers organizations a deeper understanding of what motivates certain work arrangements, which can inform more effective and adaptive workplace strategies, for example, by considering differentiated policies or exceptions.

RQ3. What characterizes software developers with various degrees of remote, hybrid, and in-office work?

Motivation: Finally, we analyze how the demographic characteristics (independent variables) and other relevant factors combined influence software developers' work location choices. Such analysis support identification of useful patterns and archetypes of remote and office workers. This knowledge can help companies assess the potential impact of changes in the office design, office location, or policy mandates.

3.2 | Empirical Cases

In this study, we analyze two empirical cases—NorBank and GlobCo. The cases were selected through convenience sampling. Both companies participate in an ongoing research project. The company names are anonymized to preserve confidentiality.

NorBank is a financial services company headquartered in Norway, which operates in the Nordic markets and offers pension, savings, insurance, and banking products to both the private and the business market. While the company employs more than 2000 people in total, this study primarily focuses on software developers working in software teams from different parts of the company.

After the pandemic, *NorBank* introduced a very soft RTO policy with a very flexible formulation: Fully remote is not an option. Their flexible policy is supported by a clear priority for in-office work. *NorBank* management communicates their beliefs in the importance of serendipitous conversations, often associated with physical interaction. However, as a company focusing on employee autonomy, *NorBank* intentionally fosters discussions over rules to build habits around sound reasoning and cooperation in teams rather than strict policies. A number of office renovation projects were launched to make on-site work more attractive, for example, dedicated focus

areas, meeting rooms equipped with modern technology, and improved cafeteria.

GlobCo is a large international company headquartered in northern Europe with more than 14,500 employees in Sweden. The company develops a wide range of software-intensive products and solutions, including generic software products, offered to an open market, and complex compound systems with customized versions.

After the pandemic, *GlobCo* launched their first version of RTO policy that required employees to work from the office “at least 50% of the time during a calendar year.” Despite sounding strict, this policy was perceived as rather flexible due to a vague formulation and the absence of strict follow-ups for office presence on an individual level. Management motivated their RTO mandates by emphasizing the importance of peer support and close collaborations for the corporate business. Office interactions were also seen as the key to innovation and preserving the corporate culture. The RTO initiative at *GlobCo* was supported by several other changes, such as regular in-office educational events and gatherings, and upgraded offerings in the local cafeteria, including complementary ice-cream. Office space renovation at *GlobCo* is planned but has been delayed due to the rental contract renegotiation.

3.3 | Data Collection

To study behavior and preferences of software developers for hybrid working, we conducted a comprehensive “The State of Hybrid Work” survey. This survey is part of a larger research initiative at SERL BTH to support our partner companies throughout the pandemic and transitioning into fully hybrid mode of working.

3.3.1 | Survey Content

The survey comprised more than 80 questions covering a wide range of topics related to hybrid work, including demographic information, job characteristics, actual and preferred office presence, work schedules, job satisfaction, collaboration, psychological safety, teamwork, and well-being. Most questions were on a Likert scale, and many offered optional free-text fields for more nuanced responses. The survey was administered online and distributed via the data collection and storage platform Netigate, ensuring accessibility for participants and secure storage of the collected data. The tool also has a user-friendly version for mobile devices.

For the purpose of this study, we focus on a subset of variables from the broader survey. Specifically, we focus on respondent gender, actual office presence, preferred office presence, the extent of collaborative and individual tasks, the extent to which others' performance depends on the respondent, and commute time. The selection of this subset was guided by the research questions and our interest in understanding the relationship between demographic and work-related factors and software developers' actual and preferred work arrangements.

TABLE 1 | Overview of the survey questions analyzed in this study.

| Identifier | Question formulation | Scale, multiple-choice response options |
|---------------------------|---|---|
| gender | Your gender? | Nominal scale: <i>Female, Male, Prefer not to disclose</i> |
| age | How old are you? | Likert scale: <i>18–27 years, 28–37 years, 38–47 years, 48–57 years, 58–67 years</i> |
| office_presence | How often do you work in the office during a typical week (current office/remote work schedule)? | Likert scale: <i>I don't have a fixed days I work in the office, Never or almost never, Less than 1 day/week, 1–2 days/week, 2–3 days/week, 4–5 days/week</i> |
| office_presence_preferred | How often do you prefer to work in the office during a typical week (ideal office/remote work schedule)? | Likert scale: <i>Not at all, Less than 1 day/week, 1–2 days/week, 2–3 days/week, 4–5 days/week, I want flexibility from week to week</i> |
| collaborative_tasks | To what extent are <i>Collaborative tasks</i> (e.g., work meetings, workshops, and pairing) a part of your daily work? | Likert scale: <i>Not at all, To a small extent, Somewhat, To a large extent, Very much</i> |
| independent_tasks | To what extent are <i>Independent work</i> (e.g., coding, analysis, testing, and documentation) a part of your daily work? | Likert scale: <i>Not at all, To a small extent, Somewhat, To a large extent, Very much</i> |
| others_depend | To what extent do others' performance depend on you (e.g., task dependencies and dependencies on your knowledge or instructions)? | Likert scale: <i>Not at all, To a small extent, Somewhat, To a large extent, Very much</i> |
| commute_time | How much time do you spend commuting to the office (one way)? | Likert scale: <i>Less than 15 min, Between 15 and 30 min, Between 30 min and 1 h, Between 1 and 2 h, More than 2 h, Not relevant</i> |
| tenure | How long have you been working at the company? | Likert scale: <i>0–2 years, 2–5 years, 5–10 years, 10–15 years, More than 15 years, Prefer not to answer</i> |

The exact phrasing of the questions and response options are summarized in Table 1. For brevity and clarity, we use question identifiers in the text to refer to specific survey items.

3.3.2 | Sampling Participants

The survey was deployed in two companies distributed via internal communication channels.

- *NorBank*: All employees at NorBank were invited to participate in the company-wide survey. The survey was conducted over two weeks in June 2023 and gathered 182 valid responses (48% response rate) from software engineers and business professionals involved in developing digital financial products using agile methods, such as large-scale Scrum and ScrumBan. Employees were situated in both Norway (mostly) and Sweden (some).
- *GlobCo*: At GlobCo, all employees in three departments that volunteered to participate in the study were invited to participate in the survey. These departments included two software product development departments and one DevOps department. The survey was conducted from March to April 2024 and gathered 208 valid responses (53% response rate). Employees were situated in Sweden

(mostly) and India (some). The roles of the surveyed employees included those of software engineers, designers/architects, testers, DevOps experts, and line/project/program managers.

The response rates (48% and 52%, respectively) can be considered good in organizational surveys, particularly given the voluntary nature of participation [28]. The resulting nonrandom sample, although not strictly representative of the company employee populations, however, does not influence the reliability of our results. The aim of our study is not to statistically generalize the results to the entire workforce, but rather to explore patterns and understand relationships within the responding sample. In this context, we consider the sample sizes (390 responses in total combining 182 responses in NorBank and 208 responses in GlobCo) and response rates to be adequate for the intended exploratory analysis.

3.3.3 | Survey Administration

All participants received our invitation email with the link to the survey, which was combined with company managers' emails and reminders emphasizing the importance of responding.

3.3.4 | Informed Consent

Before launching the survey, we obtained the ethical approval from the Norwegian Agency for Shared Services in Education and Research (SIKT). We followed their guidelines and template [29] to create an informed consent form. The form was shared with the respondents, explained the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Participants were assured that their responses would be anonymous and used solely for academic purposes.

3.4 | Data Analysis

In our analysis, we apply a series of methods across multiple stages to interpret the data and address our research questions.

First, we review the responses for completeness of the studied dimensions; see Table 1. Any responses containing missing values are to be removed.

We continue by visual analysis of the dataset using bar charts, placing the two cases side by side for comparison. To ensure fair interpretation, we present both absolute frequencies and normalized values. Normalization is done by dividing the number of responses in each category by the total number of responses, allowing proportion-based comparisons.

Further, we conduct a contingency table analysis using adjusted residuals alongside the chi-square test to determine significance (with $p = 0.05$) [30]. We identify cells with significant deviations by inspecting adjusted residuals, considering values with an absolute magnitude above 1.96 as statistically significant [31]. Such analyses allow to pinpoint answer categories responsible for the associations.

Contingency table analysis allows us to assess whether the distribution of observations differs from what would be expected under the assumption of independence, highlighting specific category combinations with notable discrepancies [31]. Contingency table analysis and chi-square test are designed to analyze mutually exclusive categories of data.

To quantify the strength of the observed associations, we use Cramér's V , which ranges from 0 (no association) to 1 (perfect association) between nominal categories. We interpret the results based on Rea and Parker [32] guidelines summarized in Table 2.

To present our results in an easy-to-read form, we develop archetypes highlighting the common traits among respondents with respect to our dependent variable—the actual office presence. To create the archetypes, we conduct joint stratified analysis. First, we concatenate the datasets of both cases and stratify them by the actual office presence dimension. Further, we apply contingency table analysis between the dependent variable and the rest of the dimensions. Such results reveal what traits are overrepresented or underrepresented in each cohort.

TABLE 2 | Interpretation of Cramér's V values by Rea and Parker [32].

| Value | Description |
|---------------------|-------------------------------|
| 0.00 and under 0.10 | Negligible association |
| 0.10 and under 0.20 | Weak association |
| 0.20 and under 0.40 | Moderate association |
| 0.40 and under 0.60 | Relatively strong association |
| 0.60 and under 0.80 | Strong association |
| 0.80 to 1.00 | Very strong association |

3.5 | Threats to Validity

Following the recommendations of Wohlin et al. [33], we evaluated our study with respect to four types of validity: conclusion, internal, construct, and external validity. Our study explores factors associated with the preference for and actual presence in the office. Because we do not examine causal relationships per se, some criteria typically relevant for experimental studies are less applicable here.

Construct validity concerns the extent to which the operationalization of concepts accurately reflects the underlying theoretical constructs [33]. In our study, this threat concerns the understandably and validity of our survey questionnaire. To mitigate this threat, we developed, reviewed, and iterated the questionnaire several times with our industry partners. Our partners provided valuable input on the scope of the questionnaire and the question-and-answer option formulations.

The answers are prone to biases due to participants' perceptions. Participants responses may inadvertently overestimate or underestimate their situation. For instance, our survey respondents may not have a full perspective to what extent others' performance depends on their work. To somewhat mitigate this threat, most questions contain "Not sure" answer option. Unfortunately, the survey format limits more profound measures to mitigate such perception-based biases. As a future work, we intend to complement our results with interviews to gain a more in-depth and validated perspective factors determining hybrid working preferences.

Internal validity relates to potential factors that could affect causal relationships between variables without the researchers' awareness [33]. In our study, we do not explicitly seek to confirm causation; rather, we focus on understanding relationships and influences between different factors. Furthermore, in a few places, we have identified relationships that may appear causal, for example, the extent of collaborative tasks and office presence, we explicitly discuss this relationship and provide multiple explanations.

Conclusion validity concerns the appropriateness of the statistical analysis and the composition of subjects [33]. In this study, we employed established statistical techniques such as chi-square tests and Cramér's V to estimate the associations and their strength. These methods are well suited for

detecting patterns in categorical data and provide robust effect estimates. We also consider the sample size—390 responses in total (182 from NorBank and 208 from GlobCo)—to be adequate for identifying statistically significant associations using these methods.

Regarding selection, participation in the survey was voluntary, which introduces the possibility of self-selection bias, as only those motivated to respond did so (approximately 50% of employees). However, the relatively high response rate suggests sufficient heterogeneity among participants, and the large sample size reduces the risk of random effects due to self-selection.

Regarding instrumentation, we developed the survey specifically for this study, which may introduce measurement bias. To mitigate this, we followed best practices for survey design, such as using scaled rather than dichotomous (yes/no) items and including “not relevant” options to reduce forced responses. As the survey was cross-sectional, causal inferences cannot be made. Furthermore, we did not control for contextual factors such as cultural differences between sites. Given that the participating organizations operate across multiple locations and countries, contextual factors may influence how employees perceive and act upon office presence. For instance, employees from some regions might be more accustomed to working off-site. Exploring such cross-cultural effects is an interesting avenue for future research.

External validity concerns the generalizability of the findings to other contexts and populations [33]. Our data were collected from two companies headquartered in Scandinavia. Further, our studied sample may not be representative to the involved companies as GlobCo is a multinational enterprise with offices in all continents. However, the respondents represented several nationalities (Norwegian, Swedish, and Indian), which somewhat broadens the applicability of the results.

To permit readers accurately evaluate the extent to which our results are applicable in their context, we present demographic information of our sample. We encourage future studies to investigate whether similar patterns can be observed in other cultural and organizational contexts.

4 | Results

4.1 | Overview of the Dataset

In this study, we analyze a dataset of 390 responses and nine dimensions; see Table 1. To give a short summary of the dataset, we will now present an overview of the collected responses; see Figure 1. All responses exported from the survey tool (Netigate) were complete in terms of our variables of interest, see Table 1, and no responses were removed from analysis.

4.1.1 | Respondent Demographics

Across both companies, the majority of respondents are male, ranging from 60% to 80%, with a few respondents choosing

not to reveal their gender. Notably, NorBank displays a slightly more balanced gender distribution with a higher proportion of female respondents compared to GlobCo (see subplot *gender* in Figure 1). In terms of age, the distribution is fairly consistent across the two cases. Most respondents fall within 28- to 57-year-old range (see subplot *age*).

Regarding tenure, GlobCo's respondents are notably more senior, with most respondents having been with the company for 15 or more years. Meanwhile, NorBank shows a more balanced distribution, with a mix of both recently hired and long-standing employees (see subplot *tenure*).

4.1.2 | Commute

Commute times differ across the companies. At GlobCo, the majority of respondents live within 30 min from their office. In NorBank, commute times are generally longer, with most respondents traveling between 30 min and 1 h to the office (see subplot *commute_time*). The differences are related to the office locations. Most respondents at GlobCo belong to the office situated in a small town, while the vast majority of respondents at NorBank belong to the office situated in a capital city.

4.1.3 | Nature of Work and Collaboration

Most respondents across both companies report a blend of collaborative and independent tasks (see subplots *collaborative_tasks* and *independent_tasks*). However, we observe noteworthy difference in perceived interdependencies. At NorBank, many respondents indicate that others' performance does not depend on them. At GlobCo, responses are more normally distributed, with the majority stating that others depend on them somewhat or to a large extent (see subplot *others_depend*).

4.1.4 | Actual Office Presence

In terms of actual office presence, responses are biased toward moderate office attendance. The most common response across both cases is 2–3 days/week. However, there are subtle differences between the cases—GlobCo has a higher proportion of respondents attending the office only 1–2 days/week, while NorBank reports more respondents attending the office 4–5 days/week (see subplot *office_presence*).

4.1.5 | Preferred Office Presence

Preferences for office presence also vary (see subplot *office_presence_preferred*). A small number of respondents prefer minimal or no office presence at all, but the most popular preferences differ by company. In GlobCo, respondents favor 1–2 or 2–3 in-office days per week. In contrast, NorBank respondents prefer 2–3 and 4–5 in-office days per week, indicating a stronger inclination toward in-person work, which can be seen as an unexpected result, given the soft RTO policy at NorBank compared to the stricter RTO at GlobCo.



FIGURE 1 | An overview of the collected data.

4.2 | Associations Between the Factors

We continue our analysis by studying the associations between the factors using contingency table analysis between *office_presence* and all other dimensions; we present the results in Table 3.

Results from both companies show that the strongest factor associated with the actual office presence is the preferred office presence; see Table 3. Other important factors are commute time and whether respondents have collaborative tasks or influence on others' performance.

TABLE 3 | Factors associated with the actual office presence. We show significance of each result with a *p* value from chi-square test, calculate the effect size with Cramér's *V*, and interpret the Pearson's adjusted residuals.

| Variable | GlobCo | | NorBank | | Interpretation |
|-----------------------------------|---------------------------|----------------------------------|---------------------------|----------------------------------|---|
| | Significance (<i>p</i>) | Effect size (Cramér's <i>V</i>) | Significance (<i>p</i>) | Effect size (Cramér's <i>V</i>) | |
| Preferred office presence | <0.001 | 0.563 (relatively strong) | <0.001 | 0.591 (relatively strong) | The actual presence is relatively strongly associated with the preferred office presence. |
| Commute time | <0.001 | 0.262 (moderate) | <0.001 | 0.402 (relatively strong) | Respondents commuting less than 15 min are likely to be present at the office 4–5 days/week. Those commuting for 1 or more hours are likely to be at the office less than 2 days/week. |
| Influence on others performance | 0.004 | 0.222 (moderate) | 0.103 | — | Respondents without the responsibility for others performance are more likely to be at the office less than 1 day/week. |
| The extent of collaborative tasks | 0.017 | 0.207 (moderate) | 0.021 | 0.219 (moderate) | Respondents with few collaborative tasks are less likely to be at the office 2–3 days/week. |
| Tenure at the company | 0.111 | — | 0.026 | 0.211 (moderate) | Respondents with 2–5 years of tenure are likely to be at the office 4–5 days/week. Respondents with more than 15 years of experience are less likely to be at the office 4–5 days/week. |
| Age | 0.131 | — | 0.022 | 0.218 (moderate) | Respondents in the 58–67 age range disproportionately prefer not to be in the office 4–5 days/week. |
| Gender | 0.303 | — | 0.561 | — | No significant associations in any of the categories. |
| The extent of independent tasks | 0.687 | — | 0.069 | — | No significant associations in any of the categories. |

The first results show that office attendance behavior is strongly shaped by the employee preferences. Therefore, as the next step, we examine the factors associated with the software developer' preferences for office presence. We present results from contingency table analysis with all pairs of variables. Our analysis includes all factors and reveals several interesting insights, as discussed in the following (see Tables 4 and 5).

We visualize the relationships captured in Tables 4 and 5 using graphs; see Figure 2. Line thickness and accompanying numbers indicate the effect size. While the exact effect sizes vary across cases, the overall graphs structures remain largely consistent.

There is a weak association between gender and whether others' performance depend on the respondent in NorBank. Further analysis with contingency tables and Pearson's residuals shows that proportionally more respondents who have preferred not to reveal their gender report that others depend on them by a large extent. Hence, while significant, this result does not point at any specific gender being under or over represented in the association.

Respondents' age is weakly associated with whether others' performance depends on them. The analysis with contingency tables shows differences between the companies. In GlobCo, disproportionately more respondents in the age group 28–37 have reported no influence on others. However, in NorBank, respondents in the same age group report that others depend on them to a large extent. Furthermore, in NorBank, we observe a weak association between the age and the preferred office presence. The contingency table reveals that the most senior age group (58–67) disproportionately less prefer 4–5 days/week at the office.

The preferred office presence is weakly associated with whether others performance depend on the respondents, commute time and the extent of collaborative tasks. These results are similar across the cases. Contingency tables reveal that respondents with no influence on others performance disproportionately more prefer not to be at the office at all. Respondents with long commute time (over 2 h) prefer to be at the office less than 1 day/week or prefer flexibility from week to week. At the same time, respondents with the shortest commute time (less than 15 min) prefer to be at the office 4–5 days/week. The preferred office presence is associated with the extent of collaborative tasks—respondents with more collaborative tasks also report a higher office presence. However, the exact causality of this association is not clear. It could be that collaboration causes more office presence. Equally likely, more office presence stimulates collaboration.

Further, we devise the archetypes of respondents preferring a certain degree of work–office balance. In this analysis, we merge the data from both GlobCo and NorBank as both companies show similar patterns.

In Figure 3, we present the characteristics of the respondents stratified by their preferred and actual office presence. We observe an emergence of two groups—those who prefer working fully from home and visit the offices less than 1 day/week and those who prefer a degree of regular office presence.

TABLE 4 | Factors associations in GlobCo. We show the effect size with Cramér's V for significant results with a ($p < 0.05$) from the chi-square test.

| | Gender | Age | Actual office presence | Preferred office presence | Tenure at the company | Influence on others' performance | Commute time | The extent of independent tasks | The extent of collaborative tasks |
|-----------------------------------|--------|-----|------------------------|---------------------------|-----------------------|----------------------------------|--------------|---------------------------------|-----------------------------------|
| Gender | 1.0 | — | — | — | — | — | — | — | — |
| Age | — | 1.0 | — | — | 0.462 | 0.182 | — | — | — |
| Actual office presence | — | — | 1.0 | 0.563 | — | 0.222 | 0.262 | — | 0.207 |
| Preferred office presence | — | — | — | 1.0 | — | 0.221 | 0.223 | — | 0.225 |
| Tenure at the company | — | — | — | — | 1.0 | 0.25 | — | 0.193 | 0.188 |
| Influence on others' performance | — | — | — | — | — | 1.0 | — | 0.196 | 0.272 |
| Commute time | — | — | — | — | — | — | 1.0 | — | — |
| The extent of independent tasks | — | — | — | — | — | — | — | 1.0 | 0.346 |
| The extent of collaborative tasks | — | — | — | — | — | — | — | — | 1.0 |

TABLE 5 | Factors associations in NorBank. We show the effect size with Cramér's V for significant results with a ($p < 0.05$) from the chi-square test.

| | Gender | Age | Actual office presence | Preferred office presence | Tenure at the company | Influence on others' performance | Commute time | The extent of independent tasks | The extent of collaborative tasks |
|-----------------------------------|--------|-----|------------------------|---------------------------|-----------------------|----------------------------------|--------------|---------------------------------|-----------------------------------|
| Gender | 1.0 | — | — | — | — | 0.231 | — | — | — |
| Age | — | 1.0 | — | 0.218 | 0.375 | 0.201 | — | — | — |
| Actual office presence | — | — | 1.0 | 0.591 | 0.211 | — | 0.402 | — | 0.219 |
| Preferred office presence | — | — | — | 1.0 | 0.208 | 0.224 | 0.332 | — | 0.277 |
| Tenure at the company | — | — | — | — | 1.0 | 0.244 | — | — | — |
| Influence on others' performance | — | — | — | — | — | 1.0 | — | 0.258 | 0.282 |
| Commute time | — | — | — | — | — | — | 1.0 | — | 0.268 |
| The extent of independent tasks | — | — | — | — | — | — | — | 1.0 | 0.327 |
| The extent of collaborative tasks | — | — | — | — | — | — | — | — | 1.0 |

5 | Discussion

5.1 | RQ1: What Are the Actual and Preferred Office Presence Among Software Developers?

With respect to the actual office presence, our findings suggest that 2–3 days/week is the most common office presence in both cases; see Figure 1, subplot Actual office presence. This finding is consonant with the results of aggregated studies [19] and demonstrates a higher office attendance than that reported by de Souza Santos et al. [11] in the context of one particular organization [11]. The distribution of hybrid work modalities across our two cases also varied. For example, GlobCo reported more employees with only 1–2 on-site days per week, while NorBank had more employees working predominantly from the office (4–5 days/week). Both companies report a much higher office presence than a related case reported by de Souza Santos et al. [11], who surveyed employees of a company with predominantly remote and remote-first working.

Furthermore, our results show that some weekly structure with office and home days is preferred over fully remote or flexible work arrangement. It is fair to conclude that remote work patterns are not universal, driven solely by the individual preferences, but likely depend on the corporate context and related factors.

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Our analysis shows that most preferred office presence is 2–3 days/week and dependent on the corporate context and related factors.

5.2 | RQ2: What Factors Are Associated With the Actual and Preferred Office Presence?

The complex web of interrelationships illustrated in our analysis, see Figure 2, reveals that both actual and preferred office presence are shaped by a combination of individual characteristics and the nature of the work being conducted.

5.2.1 | Actual Office Presence

Across both GlobCo and NorBank cases, we found a strong link between actual and preferred office attendance. At first glance, this association may appear surprising, given that management in both companies expresses certain expectations for in-office presence. Yet, these expectations are not enforced through strict monitoring or coercive measures. Instead, software developers are largely free to act on personal discretion, which likely contributes to the observed convergence between actual behavior and reported preferences.

In addition to individual preferences, commute time emerged as a key determinant of office attendance in both companies. In line with prior studies [2, 19, 34], we found that long commute correlate with reduced office presence. Interestingly, the link between commute time and office presence is stronger than with

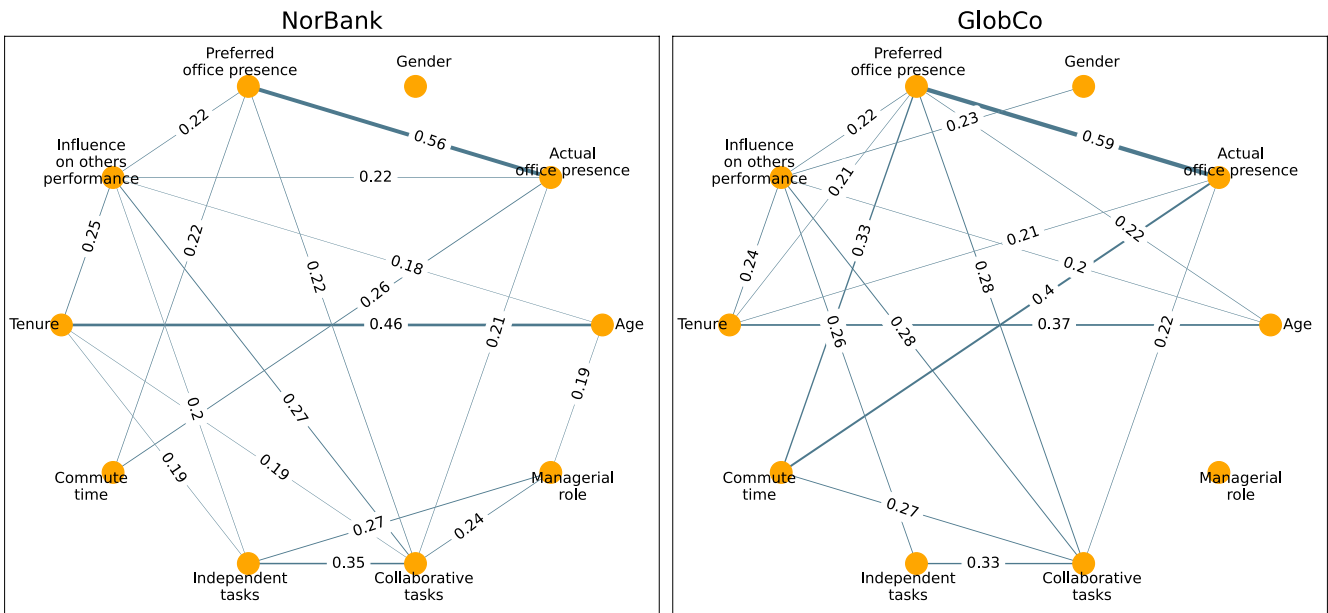


FIGURE 2 | The significant relationships among the factors. The thickness of the edges and edge labels denotes the effect size.

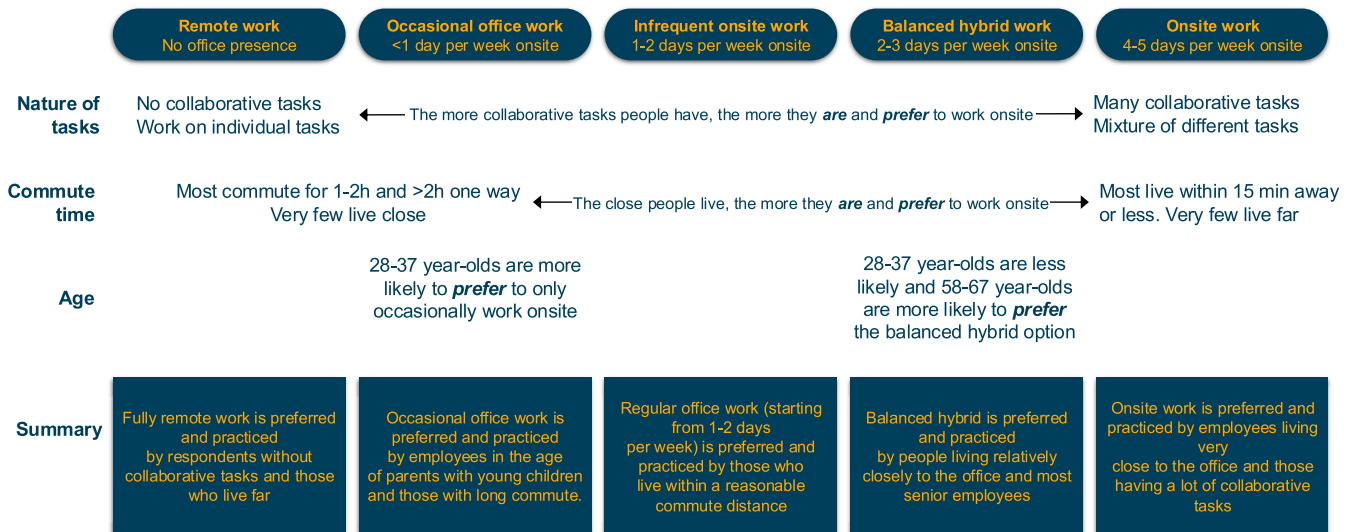


FIGURE 3 | Overview of the respondent archetypes from both NorBank and GlobCo.

preferred office presence. This is because some respondents living close preferred to work more remotely, while some employees living far ideally preferred more office presence than they could afford.

Taken together, our findings confirm earlier research emphasizing the role of individual needs, values, and preferences among the top reasons for the choices of work location [23].

Another major factor shaping actual office presence was the nature of the work itself. While this insight is not new, previous studies have focused on the feasibility of a particular job to be performed away from the workplace, including the availability of the infrastructure to support remote work [23, 34]. Our findings offer a more nuanced view. Specifically, we found that peer dependencies and the prevalence of collaborative tasks are key motivators for in-office work at GlobCo. At NorBank, actual

office presence is most strongly associated with collaborative tasks and tenure. We interpret the latter as a potential proxy for peer interaction patterns, including managerial and mentoring responsibilities. These findings align with the notion that collaborative work encompassing various forms of interpersonal coordination tends to draw employees into the office [2].

It is worth noting that we deliberately excluded questions about personal or family circumstances in our survey, as perception-based responses may be biased toward respondents' preferred work modality, or perceived as invasion of respondents' personal life. Nonetheless, we acknowledge the value of understanding how personal traits and work habits interact with locational choices. For example, a recent literature review highlighted the importance of self-discipline, autonomy, and initiative-taking as critical behaviors for successful remote work [25]. Exploring these factors is a promising future research direction.

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Our results show that both actual and preferred office presence are influenced by personal characteristics and the nature of work. Developers' office presence aligns closely with their preferences, shaped by commute length, collaboration demands, and job responsibilities.

5.2.2 | Preferred Office Presence

Given the strong link between preferences and actual office presence, it is equally important to understand what shapes these preferences. In this study, we confirm with the evidence from an additional case that office presence preferences are not gender specific [14, 19]. In one of the cases, however, preferred office presence was closely linked with age—in line with related studies [19], we found that interest in remote work peak for employees in the age between 28 and 37, likely due to increasing family commitments.

Most interestingly, in both our cases, we found that employees engaged in collaborative tasks and those with peer dependencies preferred working more from the office, while those whose work was more independent tended to prefer remote working. This finding carries interesting psychological implications. While external factors (such as commute time or job obligations) directly influence office presence, similar factors also appear to shape the preferences for particular work modality, which can be understood as intrinsic motivations. This parallel suggests that employees' preferences are not formed solely on the basis of personal convenience or self-interest. Instead, software developers appear to account for the needs of their teams and peers when forming attitudes toward remote or in-office work. The consistent association between collaboration intensity and preference for in-office work indicates a collective orientation among employees, where relational and task dependencies play a key role in determining where work is conducted.

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Our analysis show that office presence preferences are shaped by both individual and work-related factors rather than demographics like gender. Employees engaged in collaborative or interdependent work tend to prefer the office, reflecting team-oriented motivations, while those with more independent tasks favor remote work.

5.3 | RQ3: What Characterizes Software Developers With Various Degrees of Remote, Hybrid, and In-Office Work?

Joint stratified analysis of GlobCo and NorBank, see Figure 3, reveals that the preferred office presence is closely associated with respondents' age, commute time, and the extent of collaborative tasks. Based on statistical analysis of respondents in each category, we derived the typical characteristics of software developers with the different degrees of office presence.

Fully remote work (no office presence at all) is preferred by respondents without collaborative tasks. Contingency table analysis, see Tables 4 and 5, indicates an inverse relationship between the extent of collaborative and independent tasks. Thus, we can conclude that respondents without collaborative tasks are occupied predominantly with independent tasks and prefer staying away from office distractions. This conclusion is in line with earlier studies contrasting distraction-free work from home with the dynamic work in the office [2, 17].

The causality between the extent of collaborative work and the preferred office presence can be explained in two ways. One possible explanation is that software developers with few collaborative tasks see no benefit in the office presence and thus opt for fully remote work. An alternative, and likely, confounding explanation could be that engineers with little office presence are more likely to be assigned individual and not collaborative tasks. Thus, software developers with little office presence are marginalized, trusted with fewer collaborative tasks, and as such given fewer reasons to be at the office.

Occasional office presence (less than 1 day/week) is preferred by younger engineers, 28–37 years old, with long commutes to the office. This is in line with other studies pointing to the peak of interest in remote work among people in the same age group and parents [19]. In fact, this age is reported to be the age when people in Scandinavia are likely to get married and have their first child [35]. Such life events are associated with a need for flexibility, hence the explanation for less office presence.

This finding shows that a blanket policy may not be optimal for all, as the requirements for flexibility could be different for software developers with different personal circumstances at different life stages.

Balanced hybrid work (office/remote work 2–3 days/week) is preferred by older employees, 58–67 years old, and less preferred by younger employees, 28–37 years old.

Office work (office presence 4–5 days/week) is preferred by respondents living nearby, within 15 min of commute time to the office, and less preferred by respondents living far with 1–2 h of commute time. This finding is hardly a surprise, given that one of the main drivers of remote work is the willingness to avoid commute [19].

6 | Conclusions and Practical Implications

The world is unlikely to converge toward fully remote or fully on-site work arrangements [8, 12]. Instead, the future of work is expected to continue exploring hybrid work models [25] combining the strength of both modalities. Hybrid work helps companies to balance the benefits of in-person collaboration with the autonomy and flexibility of remote work, thereby addressing the limitations of either approach when taken to the extreme. This balance has been shown to enhance work effectiveness and foster engagement [8].

Our study provides further empirical support for the hybrid ideal by showing that software developers' *actual and preferred*

office presence are shaped less by managerial mandates or personal convenience and more by the *nature of the work itself*, particularly collaboration intensity, and peer dependency. These findings reinforce that rigid, one-size-fits-all policies are unlikely to succeed in the long run. In line with Conboy et al. [36], we too advocate for *task-based and event-based decision-making* over calendar-driven mandates. That is, office presence should be guided by team dynamics and situational demands, such as system failures, changes in customer requirements, onboarding new team members rather than by fixed schedules that designate arbitrary in-office days.

Importantly, our study highlights that software developers often take into account not only their own needs but also those of their colleagues and teams when deciding where to work. This *collective orientation* opens new opportunities for designing aligned hybrid strategies that reinforce group cohesion while respecting individual autonomy. Managers should therefore avoid framing office attendance purely as a matter of compliance and instead foster shared understanding of when co-location adds the most value.

For managers who are responsible for designing work policies, we recommend the following:

1. *Designing work policies around tasks, not demographics.* Gender differences in office attendance are minimal. Organizations should therefore move beyond such assumptions and instead base attendance expectations on the nature of the work and interdependence within and outside teams.
2. *Enabling team-level autonomy in deciding when to co-locate.* Rather than enforcing uniform RTO rules, companies can empower teams to define their own collaboration rhythms and deciding together when in-person work brings the greatest benefit, taking into account particular work tasks or phases, and team composition in terms of tenure.
3. *Addressing commuting and similar contextual realities.* Our findings clearly show that context matters. Commuting time and office accessibility strongly influence attendance decisions. Corporate RTO policies designed at headquarters may be disconnected from local realities, particularly in geographically dispersed regions where commuting imposes a heavy burden. Hybrid policies should therefore incorporate flexibility to account for regional variations and commuting infrastructure.
4. *Aligning RTO expectations with recruitment strategies.* Recruitment and retention practices should communicate clearly the expected balance between remote and in-office work. Transparency helps attract candidates whose preferences align with the company's operational model and avoids future tension. Besides, age in our study was weakly associated with preferences for office versus remote work, which shall be carefully monitored in the future generations of new hires, to remain attractive in the market of employers.

As our study was conducted in two Scandinavian software companies, which represent work environments with traditionally

high levels of trust, flexibility, employee autonomy, and gender equality, we recommend future studies to focus on RTO mandates and employee work behaviors in contrasting contexts (more hierarchical, compliance driven) to increase our understanding of confounding factors.

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Data Availability Statement

Research data are not shared.

References

1. D. Smite, N. B. Moe, J. Hildrum, J. Gonzalez-Huerta, and D. Mendez, "Work-From-Home Is Here to Stay: Call for Flexibility in Post-Pandemic Work Policies," *Journal of Systems and Software* 195 (2023): 111552.
2. D. Smite, N. B. Moe, A. Tkalich, et al., "Half-Empty Offices in Flexible Work Arrangements: Why Are Employees Not Returning?" in *International Conference on Product-Focused Software Process Improvement* (Springer International Publishing, 2022), 252–261.
3. D. Šmite, E. Klotins, and N. B. Moe, "What Attracts Employees to Work on Site in Times of Increased Remote Working?," *IEEE Software* 42, no. 1 (2024): 100–109.
4. N. B. Moe, S. Ulsaker, D. Smite, J. M. Hildrum, and F. C. Ay, "Understanding the Difference Between Office Presence and Co-Presence in Team Member Interactions," preprint, arXiv, September 23, 2023, <https://doi.org/10.48550/arXiv.2311.05627>.
5. R. E. de Souza Santos and P. Ralph, "A Grounded Theory of Coordination in Remote-First and Hybrid Software Teams," in *Proceedings of the 44th International Conference on Software Engineering* (Association for Computing Machinery, 2022), 25–35.
6. D. Smite, N. B. Moe, E. Klotins, and J. Gonzalez-Huerta, "From Forced Working-From-Home to Voluntary Working-From-Anywhere: Two Revolutions in Telework," *Journal of Systems and Software* 195 (2023): 111509.
7. L. Yang, D. Holtz, S. Jaffe, et al., "The Effects of Remote Work on Collaboration Among Information Workers," *Nature Human Behaviour* 6, no. 1 (2022): 43–54.
8. I. Eng, M. Tjernberg, and M. F. Champoux-Larsson, "Hybrid Workers Describe Aspects That Promote Effectiveness, Work Engagement, Work-Life Balance, and Health," *Cogent Psychology* 11, no. 1 (2024): 2362535.
9. D. Smite, N. B. Moe, P. Chatzipetrou, P. Godliauskas, P. K. Helland, and A. Tkalich, "Trust vs. Control: Comparing Flexible and Restrictive Hybrid Work Policies in Two Software Companies," in *Proceedings of the 29th International Conference on Evaluation and Assessment in Software Engineering* (Association for Computing Machinery, 2025), 535–545.
10. D. Smite and N. B. Moe, "Defining a Remote Work Policy: Aligning Actions and Intentions," in *International Conference on Agile Software Development* (Springer Nature, 2022), 149–158.
11. R. de Souza Santos, W. D. N. Grillo, D. Cabral, C. De Castro, N. Albuquerque, and C. França, "Post-Pandemic Hybrid Work in Software Companies: Findings From an Industrial Case Study," in *Proceedings of the 2024 IEEE/ACM 17th International Conference on Cooperative and*

- Human Aspects of Software Engineering* (Association for Computing Machinery, 2024), 68–78.
12. D. Smite, N. B. Moe, M. T. Baldassarre, et al., “Who “Controls” Where Work Shall Be Done? State-of-Practice in Post-Pandemic Remote Work Regulation,” preprint, arXiv May 21, 2025, <https://doi.org/10.48550/arXiv.2505.15743>.
 13. J. M. Barrero, N. Bloom, and S. J. Davis, *Let Me Work From Home, or I Will Find Another Job* (University of Chicago, Becker Friedman Institute for Economics Working Paper 2021-87, 2021).
 14. P. Chatzipetrou, D. Smite, A. Tkalich, N. B. Moe, and E. Klotins, “Interest in Working Remotely: Is Gender a Factor?” in *International Conference on Product-Focused Software Process Improvement* 2024), 156–171.
 15. D. Russo, P. H. Hanel, S. Altnickel, and N. Van Berkel, “The Daily Life of Software Engineers During the COVID-19 Pandemic,” in *2021 IEEE/ACM 43rd International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)* (IEEE, 2021), 364–373.
 16. D. Smite, A. Tkalich, N. B. Moe, E. Papatheocharous, E. Klotins, and M. P. Buvik, “Changes in Perceived Productivity of Software Engineers During COVID-19 Pandemic: The Voice of Evidence,” *Journal of Systems and Software* 186 (2022): 111197.
 17. D. Ford, M. A. Storey, T. Zimmermann, et al., “A Tale of Two Cities: Software Developers Working From Home During the Covid-19 Pandemic,” *ACM Transactions on Software Engineering and Methodology (TOSEM)* 31, no. 2 (2021): 1–37.
 18. D. E. Bailey and N. B. Kurland, “A Review of Telework Research: Findings, New Directions, and Lessons for the Study of Modern Work,” *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior* 23, no. 4 (2002): 383–400.
 19. J. M. Barrero, N. Bloom, and S. J. Davis, “The Evolution of Work From Home,” *Journal of Economic Perspectives* 37, no. 4 (2023): 23–49.
 20. J. H. Pratt, “Home Teleworking: A Study of Its Pioneers,” *Technological Forecasting and Social Change* 25, no. 1 (1984): 1–14.
 21. C. G. Aksoy, J. M. Barrero, N. Bloom, S. J. Davis, M. Dolls, and P. Zarate, “Working From Home Around the World,” *Brookings Papers on Economic Activity* 2022, no. 2 (2022): 281–360.
 22. H. Russell, P. J. O’Connell, and F. McGinnity, “The Impact of Flexible Working Arrangements on Work-Life Conflict and Work Pressure in Ireland,” *Gender, Work and Organization* 16, no. 1 (2009): 73–97.
 23. P. M. Leonardi, S. H. Parker, and R. Shen, “How Remote Work Changes the World of Work,” *Annual Review of Organizational Psychology and Organizational Behavior* 11, no. 1 (2024): 193–219.
 24. M. H. Olson, “Remote Office Work: Changing Work Patterns in Space and Time,” *Communications of the ACM* 26, no. 3 (1983): 182–187.
 25. K. S. Allen, D. Grelle, E. M. Lazarus, E. Popp, and S. L. Gutierrez, “Hybrid Is Here to Stay: Critical Behaviors for Success in the New World of Work,” *Personality and Individual Differences* 217 (2024): 112459.
 26. T. D. Allen, K. Merlo, R. C. Lawrence, J. Slutsky, and C. E. Gray, “Boundary Management and Work-Nonwork Balance While Working From Home,” *Applied Psychology* 70, no. 1 (2021): 60–84.
 27. E. S. Bernstein and S. Turban, “The Impact of the Openworkspace on Human Collaboration,” *Philosophical Transactions of the Royal Society, B: Biological Sciences* 373, no. 1753 (2018): 20170239.
 28. K. B. Sheehan, “E-Mail Survey Response Rates: A Review,” *Journal of Computer-Mediated Communication* 6, no. 2 (2001): JCMC621, <https://doi.org/10.1111/j.1083-6101.2001.tb00117.x>.
 29. Sikt Norwegian Agency for Shared Services in Education and Research, “Template for Information Letter Consent and Public Interest,” (2024), <https://cms.sikt.no/sites/default/files/2024-12/Templateation>.
 30. N. J. Castellan and S. Siegel, *Nonparametric Statistics for the Behavioral Sciences* (McGraw-Hill, 1988).
 31. J. Cohen, *Statistical Power Analysis for the Behavioral Sciences* (Routledge, 2013).
 32. L. M. Rea and R. A. Parker, *Designing and Conducting Survey Research: A Comprehensive Guide* (John Wiley & Sons, 2014).
 33. C. Wohlin, P. Runeson, M. Höst, et al., *Experimentation in Software Engineering*, vol. 236 (Springer, 2012).
 34. A. Delbosc and J. Kent, “Employee Intentions and Employer Expectations: A Mixed-Methods Systematic Review of Post-COVID Intentions to Work From Home,” *Transport Reviews* 44, no. 2 (2024): 248–271.
 35. United Nations Economic Commission for Europe, “UNECE PXWeb Database,” (2025).
 36. K. Conboy, N. B. Moe, V. Stray, and J. H. Gundelsby, “The Future of Hybrid Software Development: Challenging Current Assumptions,” *IEEE Software* 40, no. 2 (2023): 26–33.