



Developing Effective Interventions for Gender Equality in Project-Based Organizations

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Executive Summary

Project-based organizations increasingly recognize the importance of addressing gender inequality. While existing literature extensively examines the dimensions of sexism and their impacts within project-based organizations, there remains an unexplored area: the study of gender equality interventions and their outcomes. In this document we describe the specific dimensions of sexism that women experience within project-based organizations, the strategies that project-based organizations have implemented to combat gender inequality, and the impact—positive, negative, null, or unclear—these interventions have had. By investigating these aspects, we provide valuable insights into gender equality in project-based contexts.

To achieve this, we conducted a systematic literature review, drawing publications from Scopus journals and analyzing them using the context-intervention-mechanism-outcome (CIMO) approach, identifying interventions, mechanisms, and outcomes. We then conducted 69 semistructured interviews with employees of project-based organizations from the United Kingdom, Italy, Mexico, and Kazakhstan, identifying recurring patterns that determine the effectiveness or ineffectiveness of these interventions through a thematic analysis. Our study shows that empirical evidence showcasing the effectiveness of measures against gender inequality in projects is scarce.

Our findings show that gender-equality interventions can be categorized into (1) structural interventions, (2) mentorship and support programs, (3) training, (4) work-life balance policies, (5) signaling interventions, (6) organization culture shifts, (7) laws and regulations, and (8) health and safety programs. The five main mechanisms explaining how the different measures against gender inequality are effective are: raising awareness, enhancing transparency, incentivizing stakeholders, eliminating perceptual barriers, and shifting mentalities. Our research shows that while some interventions are generally more effective than others, the outcome of an intervention is influenced by individuals' perceptions of the experience rather than the intervention itself. Therefore, project-based organizations need to ensure that interventions are implemented in a way that aligns with the intended outcomes. By doing so, they can minimize any discomfort or dissonance in the workforce that might otherwise result in negative outcomes.

Introduction

Gender equality is a key element of sustainability, representing the fifth United Nations' Sustainable Development Goal (SDG). It also relates to the eighth SDG sustainable development goal of “decent work and economic growth,” which “promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” In this research, we refer to gender inequality as defined by the European Institute for Gender Equality (EIGE) (2016): “the legal, social and cultural situation in which sex and/or gender determine different rights and dignity for women and men, which are reflected in their unequal access to or enjoyment of rights, as well as the assumption of stereotyped social and cultural roles.” Gender equality is therefore an umbrella term for all other terms that refer to discrimination against women in different contexts. The two specific terms we chose to include in our search for literature are “sexism” and “gender bias.” This has been done to cover a broader range of studies. EIGE defines gender bias as “prejudiced actions or thoughts based on the gender-based perception that women are not equal to men in rights and dignity.” Sexism includes “actions or attitudes that discriminate against people based solely on their gender.” In our literature review, we consider sources that refer to any of these terms to cover a broader range of studies.

Although different interventions are in place for addressing gender inequality in project-based organizations and particularly construction, there is no systematic analysis on which intervention exists, which works, which does not, and the reason behind them. The knowledge on this topic in scientific literature is anecdotal, incomplete, and scattered in different fields and journals. This research aims to address the gap by identifying relevant interventions, developing a taxonomy, evaluating their effectiveness, and uncovering the underlying factors that contribute to their outcomes. This will contribute to deriving clear guidelines and strategies on how barriers and challenges for women in project-based organizations can be addressed.

Research Questions and Objectives

Specifically, this research project aims to examine the effectiveness of gender equality interventions in project-based organizations. We will answer two research questions (RQ):

RQ1: What interventions do project-based organizations use to deal with gender inequality?

RQ2: Which interventions are effective, and which are not, and why?

Research Frame: Concepts and Brief Literature Review

How Does Gender Inequality Manifest in Project-Based Organizations?

Construction, engineering, mining, property, consultancy, and information and communications technology can be labeled as project based, although nowadays more and more industries choose to operate through projects (Bredin, 2008; Crawford et al., 2013). Project-based organizations are largely male dominated (Baker et al., 2021). This is despite the positive effects of more women in project-based organizations having been proven to improve team works dynamics and ultimately the profitability/economics (Baker et al., 2019) (see Table 1). Gender inequality in project-based organizations manifests itself in different ways, including underrepresentation of women (Afolabi et al., 2019), glass ceiling and vertical segregation (Regis et al., 2019), leaky pipeline (Aboagye-Nimo et al., 2019), no access to informal network (Baker & French, 2018), sexual harassment (Rubin et al., 2018), pay gap (Afolabi & Akinola, 2021), and gender stereotypes (Galea et al., 2020). The Project Management Institute (PMI) report on *Project Management Job Growth and Talent Gap* (2017) states that project-based organizations are challenged by skill shortages and recommends that

Table 1. Women Representation in Different Sectors and Countries

	% Women in Construction	% Women in Engineering	% Women in Property	% Women in Mining	% Women in Tech
USA	11% (2022) (Baker and Clegg, 2023)	17% (2021) (Baker and Clegg, 2023)	48% (2019) (Baker and Clegg, 2023)	15% (2021) (International Energy Agency, 2023)	26% (2023) (CompTIA, 2023)
EU	9% (2020) (Baker and Clegg, 2023)	35% (2020) (Baker et al., 2021)	-	10% (2021) (International Energy Agency, 2023)	22% (2022) (Blumberg et al., 2023)
UK	14% (2022) (Baker and Clegg, 2023)	16% (2022) (Baker and Clegg, 2023)	54% (2020) (Baker and Clegg, 2023)	20% (2021) (International Energy Agency, 2023)	28% (2023) (Women in Tech, 2023)
Australia	25.9% (2021) (Baker and Clegg, 2023)	11% (2022) (Baker and Clegg, 2023)	48.7% (2021) (Baker and Clegg, 2023)	18% (2021) (International Energy Agency, 2023)	31% (2021) (Deloitte, 2023)
Global	10.9% (2022) (U.S. Bureau of Labor Statistics, 2023)	-	-	16% (2022) (Baker et al., 2021)	28% (2023) (Women in Tech, 2023)

improving gender diversity to leverage female participation could meet this demand, and, at the same time, improve team and organizational performance and competitiveness (Baker & Clegg, 2023). The consequences of gender inequality for women working in project-based organizations are mental health and well-being related impacts, lower performance and efficacy, and high turnover rates (Jones et al., 2016).

To address gender inequality, project-based organizations apply different gender equality interventions to create a more equitable workplace by promoting fairness, inclusivity, and equal opportunities for all genders. This can foster a more diverse and supportive environment for their teams and employees. Examples of such interventions include human resource initiatives such as targeted recruitment and promotions, training and development, remuneration and succession planning, and work-life initiatives such as workplace flexibility arrangements (Baker & Clegg, 2023). These interventions can take various forms, such as awareness campaigns, legislative reforms, inclusive hiring practices, gender-sensitivity training, and mentorship programs, all working toward creating a more equitable and just society. Yet, there is extremely

limited literature on these interventions, and even less on their effectiveness. Indeed, some gender equality interventions not only can be useless but also harmful, worsening the situation: the “Cobra effect” or “negative spillover” (Baker & French, 2018).

Existing Gender Equality Interventions in Project-Based Organizations

The literature suggests successful gender equality interventions that have been applied or recommendations of interventions to be applied in project-based organizations.

The presence of women in male-dominated executive positions enables them to mentor and provide additional opportunities for other women in the company to navigate through their career successfully. Data show that this practice may increase the likelihood of women reaching middle-management positions by 56% (Hickey et al., 2022). No matter what position women employees hold in the company, they often take long-term leave for family reasons such as maternity leave, childcare, and caring for elderly family members, contributing to the so-called “leaky pipeline” (Bartel et al., 2021). This

situation hinders career advancement, particularly for women, and calls for companies to implement targeted, ad hoc measures. To alleviate work-family conflict, many organizations adopt human resource policies aimed at improving work-life balance. Althammer et al. (2021) reference a Mindfulness-Based Intervention (MBI), originally developed by Michel et al. (2014), as a cognitive-emotional segmentation strategy. They emphasize that smart working can enhance women's well-being and mindfulness by enabling them to mentally disconnect from work, even when it remains integrated into their daily routines. Weigel et al. (2020) also explore the issue of work-life balance, highlighting the role of flexible work arrangements. These include adaptable schedules, opportunities to align professional and family responsibilities, financial support, assistance for individuals returning after career breaks, and telecommuting options. These, in conjunction with the above-mentioned family-friendly policies, reduce stress and improve working mothers' retention (Stamarski & Son Hing, 2015).

Another significant factor leveraged to raise women's awareness and motivation is the implementation of equal pay plans. According to Adam's Equity Theory of Motivation (Adams, 1963), individuals' motivation at work is driven largely by their sense of fairness. Women who know they are underpaid compared to men performing the same job feel less appreciated. Consequently, they would naturally "give less" at work, which could be detrimental to the overall company's results (Awaworyi et al., 2019). Moreover, according to Chamberlin and Plant (2023), and in a broader context, an effective way of fighting gender inequalities is through activism, as historical events have already shown, like the suffragette movement or the #MeToo movement.

Pinto et al. (2017) suggested that gender inequality could be reduced by increasing awareness and encouraging diversity in the selection process when they explored the gender bias in the selection process for project managers. The study found that male candidates were often preferred over female candidates, even when their qualifications and experience were similar. According to Henderson and Stackman (2010), interventions aimed at challenging gender stereotypes and promoting diversity can help to create a more inclusive project management environment particularly effective in addressing how stereotypes influence the roles and responsibilities assigned to women in project management, particularly concerning leadership roles.

Methodology

Research Design

The research design has three main phases: The first is to leverage the CIMO approach to conduct a systematic review and extract evidence regarding gender equality interventions. Design-oriented research synthesis, implemented with CIMO, is an approach to systematic literature review in which empirical evidence concerning the study phenomenon is systematically synthesized from existing research (Briner & Denyer, 2012). The design is especially relevant in situations where, as in this research, empirical research and evidence of the study phenomenon are scattered across a broad range of publication outlets within different disciplines (Denyer et al., 2008). To identify the papers for the CIMO analysis, we targeted Scopus, the largest peer-reviewed publication database. We utilized a keyword-based approach and identified 72 articles after performing four rounds of keyword-based research on Scopus (see Figure 1).

In the second phase, given the topic's novelty, we conducted exploratory, qualitative research. Considering (1) the aims of the research (2) the nature of the research (3) the time and budget available, we performed 69 semistructured interviews. The selection criteria for the interviewees were: employment in a project-based organization for at least one year in direct involvement with project work. The targeted countries for these interviews were Italy, the United Kingdom, Kazakhstan, and Mexico. These countries have similar rankings in the Global Gender Gap Index 2024: United Kingdom (0.78), Mexico (0.77), Kazakhstan (0.71), and Italy (0.7). All four countries have made legislative efforts to promote gender equality and have seen improvements in women's education and health but still face challenges with gender pay gaps and underrepresentation in leadership roles (Pal et al., 2024). While these countries share similarities, the extent of gender equality varies. The United Kingdom ranks high in educational attainment and health but faces challenges in political empowerment. Italy has made strides in health and education but lags in economic participation and political empowerment. Kazakhstan shows moderate performance with room for improvement in political empowerment and economic participation. Mexico has strengths in health and education but needs to improve economic participation and political empowerment (The World Economic Forum, 2024). The interview guide was developed based on the findings from the CIMO analysis. We aimed to investigate the reasons behind interventions being effective or

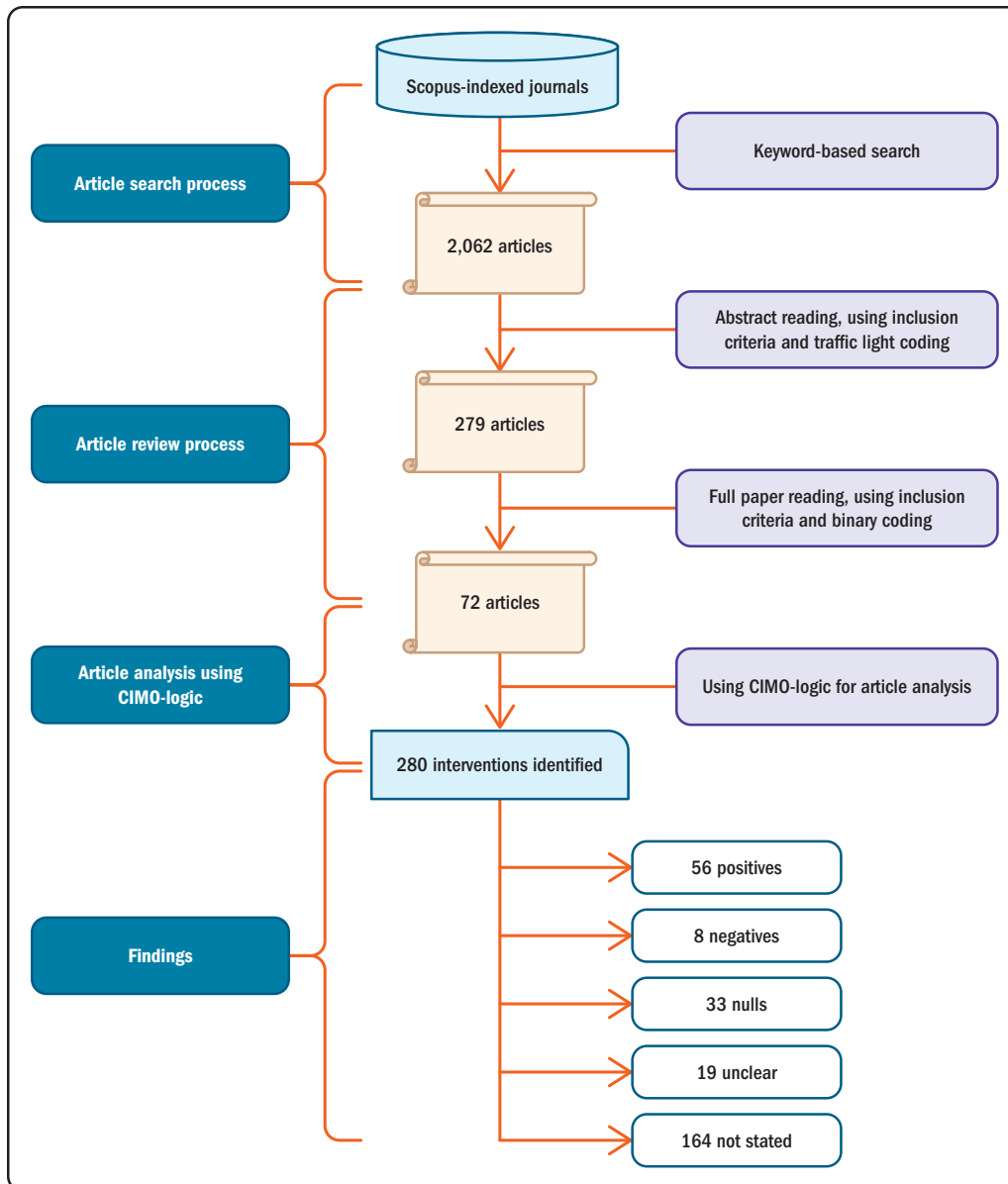


Figure 1. Article search, review, and analysis process.

ineffective as well as the enablers and barriers to applying them from the participants' perspective. The interviewees were contacted via an email or a LinkedIn message containing a brief explanation of the research project. Upon agreement of a date and time, the interviews were conducted online via Microsoft Teams.

In the third phase, after analyzing the selected articles and interview results, we ran two virtual focus groups in September 2023 and March 2024, each with 10 to 15 participants, to validate the strategies. The purpose of the focus group was to reach a consensus on which gender equality interventions work or do not work in different contexts, why this is the case, and what can be done to overcome these challenges.

Data Analysis

Once we gathered the 72 articles that we deemed valid for our research, we applied a CIMO-logic analysis to them. Often used in design-oriented research, CIMO-logic is a qualitative research approach. This approach allowed us to study the articles in a structured and targeted way that allows for structured and targeted analysis. As its letters suggest, CIMO exposes how, in a given context [C], interventions [I], through certain mechanisms [M] can lead to an outcome [O] (Denyer et al., 2008). In our case, CIMO-logic studied how in a geographical and sectorial context of a project-based organization, certain interventions that tackle gender inequalities are actively applied, to trigger

mechanism, that lead to intended outcomes. To that end, we decided to divide the [C] category into geographical context and sectoral context, and the [O] category into intended outcome and effective outcome.

The interviews were analyzed through a thematic analysis on the Atlas.ti software. Thematic analysis is a method used in qualitative research to identify, analyze, and report patterns (or themes) within data. It involves examining a data set—such as interview transcripts—and systematically identifying recurring ideas, topics, or concepts (Braun & Clarke, 2006). The scripts were coded on a paragraph-by-paragraph basis, using an initial codebook continuously updated throughout the process. This approach aimed to capture the perspectives of different interviewees on the same topic, highlighting both their similarities and differences.

Data collected at the final stage (focus groups) was also analyzed through a thematic analysis focusing on gender equality interventions and their effectiveness from the participants’ perspective.

Primary Results and Discussion of Findings

This section presents the most interesting findings from this research, including: (1) dimensions of gender inequality in project-based organizations, (2) gender equality interventions in project-based organizations, and (3) effective and ineffective gender equality interventions in project-based organizations, and the reasons behind them.

Dimensions of Gender Inequality

Based on the theoretical background and our findings, we identified a list of 10 subcategories for the different dimensions of gender inequality:

- 1. Glass Ceiling:** The unseen yet unbreachable limit that prevents women from advancing to the highest levels of leadership and management within an organization, despite having the necessary qualifications and experience.
- 2. Glass Walls:** The challenges that women face in moving laterally within a company. These barriers can prevent employees from transferring to different departments or taking on varied roles often necessary for gaining the diverse experience required for upward mobility. For example, women may hold high-level management positions but remain confined to support functions, preventing them from reaching even higher roles.

- 3. Leaky Pipeline:** Refers to the phenomenon of women leaving their careers due to personal circumstances, such as maternity or other caring responsibilities.
- 4. Male Behavior:** A set of behaviors exhibited by men to assert superiority or exclude women.
- 5. Gender Pay Gap:** The disparity where women earn less than men for comparable work.
- 6. Sexual Harassment:** Inappropriate behavior of a sexual nature.
- 7. Gender Stereotypes:** Preconceived notions and beliefs about women’s characteristics, roles, and behaviors.
- 8. Underrepresentation of Women:** The situation where women are inadequately or disproportionately less represented.
- 9. Barriers to Entry in Male-Dominated Sectors:** Obstacles that discourage women from entering industries predominantly dominated by men.
- 10. Female Behavior:** Set of behaviors carried out by women to “fit in” within the industry and work harder to demonstrate that their presence in the industry is purposeful.

These elements were both extracted from the literature review and the interviews. The frequencies of these elements being mentioned through both sources are presented in Table 2.

Table 2. Dimensions of Gender Inequality in Project-Based Organizations

Dimension	% of Articles Citing the Element	% of Interviewees Citing the Element
Glass Ceiling	25%	62%
Glass Walls	18%	1%
Leaky Pipeline	14%	45%
Male Behavior	40%	58%
Gender Pay Gap	14%	52%
Sexual Harassment	21%	25%
Gender Stereotypes	40%	68%
Underrepresentation of Women	29%	54%
Barriers to Entry in Male-Dominated Sectors	50%	29%
Female Behavior	10%	32%

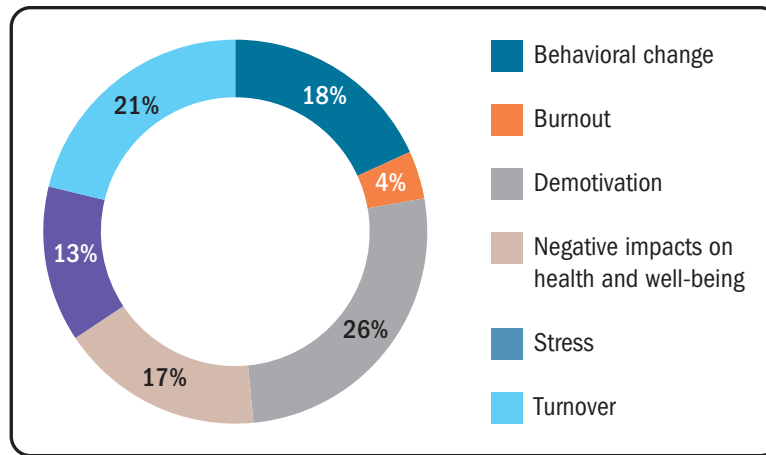


Figure 2. Effect of gender inequality on women in project-based organizations.

The interviewees mentioned how gender inequality affected them. We categorized these consequences into six main groups (see Figure 2). Only a few articles discussed the effect of gender inequality on women.

According to Ackrill et al. (2017), women face significant challenges due to gender inequality in various sectors. One of the primary issues is the barriers to entry, particularly in male-dominated fields like construction. Women often lack access to key hiring networks, and the industry is perceived as a hostile environment due to its overwhelmingly masculine workforce, arduous working conditions, and long-hours culture. Informal recruitment networks further exclude women, making it difficult for them to enter and remain in the sector. Additionally, women often feel the need to prove themselves more than their male counterparts. This pressure leads them to change their behavior, becoming more assertive or adopting harsher communication styles. This is partly because women are sometimes accepted into sectors not for their abilities but for administrative reasons related to positive discrimination, which makes them feel uncomfortable and leads them to alter their attitudes to better fit their roles (Wang et al., 2021).

The behavior of men in male-dominated industries also contributes to gender inequality. These industries are often characterized by a macho culture that is overly masculine and non-inclusive, with a higher tolerance for behaviors that may be perceived as sexual harassment, bullying, and discrimination. This creates a challenging environment for women, particularly in manual trades (Simon & Clarke, 2016; Wright & Conley, 2018).

Gender stereotypes further perpetuate inequality. Women are often perceived as riskier hiring choices than men and are stereotyped into certain roles, such as makeup and costume work. In fields like engineering, which are considered masculine, both parents and girls

themselves often underestimate girls' technical abilities (Coles & Eikhof, 2021; Gaikwad & Pandey, 2022). These stereotypes limit opportunities for women and reinforce existing biases, making it harder for them to succeed in various industries.

Gender Equality Interventions in Project-Based Organizations

We categorized our 280 interventions from CIMO articles into eight subcategories under the intervention category macro-category using a thematic analysis approach (Braun & Clarke, 2006). The 69 interviewees mention a total of 240 interventions (see Figure 3). We divided them into the same categories used for the articles. Frequencies with which these elements were mentioned through both sources are presented in Table 3.

Each of these categories of interventions can support gender equality. We refer to these in our research as mechanisms. The mechanism in this context “is triggered by the intervention, in a certain context, by indicating why the intervention produces a certain outcome. It can be an explanation of the cognitive processes (reasoning) that actors use to choose their response to the intervention and their ability (resources) to put the intervention into practice, that in a certain context is triggered by the intervention” (Costa et al., 2018, p. 259). The mechanism triggered by the application of the intervention is the very core reason for how an intervention works. Among the 280 interventions that we found in the 72 articles, exactly 50% had a stated mechanism. This could suggest that the interventions were stated without explaining the way they practically work. Furthermore, only 10% of total interventions have their mechanism stated without a stated intended or actual outcome. Of the 240 interventions extracted from the interviews, 186 had a stated mechanism, and we



Figure 3. Gender equality intervention categories.

Table 3. Gender Equality Interventions Implemented in Project-Based Organizations

Interventions	Literature Review		Interviews	
	# of interventions	% over total interventions	# of interventions	% over total interventions
Structural Interventions	96	34%	38	16%
Training	46	16%	47	20%
Mentorship and Support Programs	45	16%	32	13%
Work-Life Balance Programs	30	11%	37	15%
Signaling Interventions	15	5%	8	3%
Laws and Regulations	25	9%	6	3%
Organizational Culture	13	5%	43	18%
Health and Safety Programs	10	4%	28	12%
Other Interventions	0	0%	1	0%
Total Interventions	280	100%	240	100%

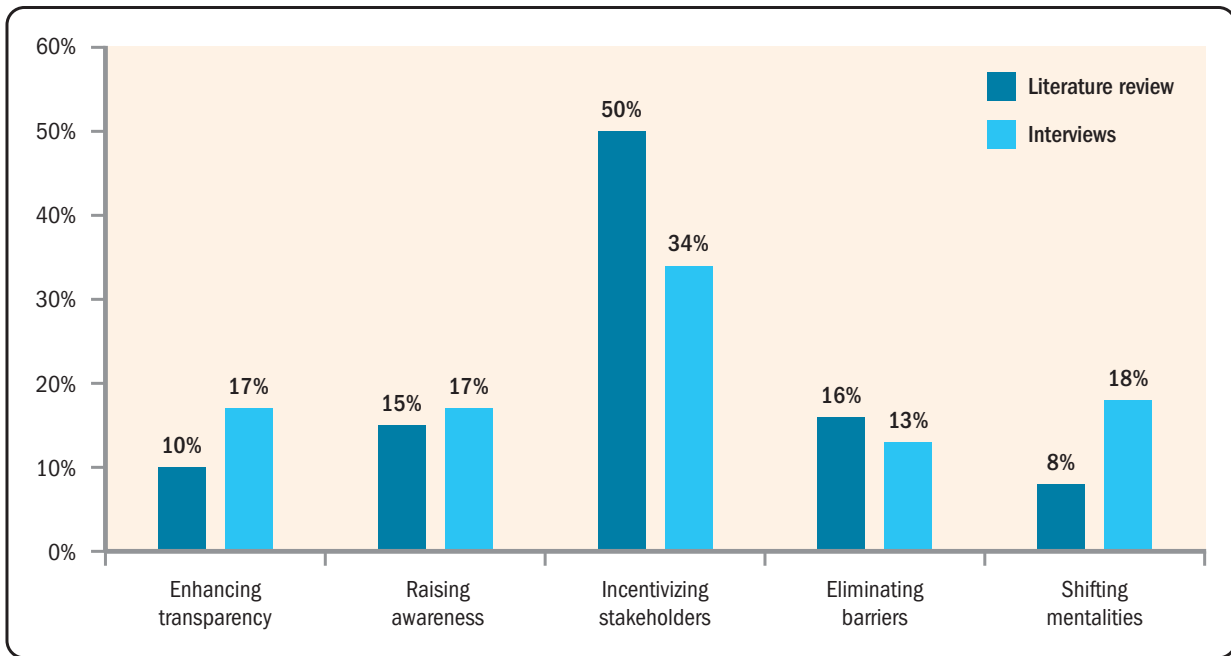


Figure 4. Mechanisms of interventions based on literature review and interviews.

classified them into the same five categories used for the articles. Figure 4 presents the distribution of mechanisms for interventions identified through the literature review and interviews.

Effective and Ineffective Gender Equality Interventions in Project-Based Organizations Based on Literature Review and Interviews

We classified interventions into four different categories: interventions with a positive outcome, interventions with a negative outcome, interventions with a null outcome, and interventions with an unclear outcome. To do so, only interventions with a stated actual outcome have been considered, as we considered all intended outcomes to be positive.

Interventions with a positive outcome are those that have either achieved their intended outcome or resulted in a different outcome that was still beneficial to the project-based organization without causing a collateral negative outcome simultaneously. Interventions with a negative outcome are interventions that not only failed to achieve their intended outcome (or any other positive outcome) but also had a negative impact on women. Interventions with a null outcome are interventions that did not have either a positive or a negative impact on the project-based organization. Interventions with an unclear outcome are interventions that do not belong to either of the previously cited categories. This includes

interventions that had both positive and negative effects, or interventions that are difficult to evaluate.

Among the 280 interventions we found, 57% have a stated intended outcome, 41% have a stated actual outcome, and only 18% have both intended and actual outcomes.

Effective and Ineffective Gender Equality Interventions in Project-Based Organizations Based on Findings From Delphi Seminars

Our study involved two focus groups with a total of 20 participants. During these sessions, we presented the findings from our literature review and interviews. Subsequently, we engaged the participants in discussions to evaluate the effectiveness of various interventions based on their practical experience.

The most effective interventions mentioned were the following:

- Gender pay-gap statutory reporting increases accountability and drives action to advance gender equality in the workplace.
- Using inclusive language when designing job descriptions (particularly in the construction industry) where some job advertisements seem to have been originally written for a male audience, without specifically saying so, and have never been reviewed and modified.

- Interactive sessions (often called discussion series) allow participants to explore various topics, including gender bias, and are effective in raising awareness about issues that are not typically discussed such as comments or behaviors from men that may unintentionally come across as discriminatory.
- Structured mentorship programs, where women are put in contact with someone whom they might otherwise not meet, allowing them to discuss matters and challenges with their mentors without being concerned that it will affect their day-to-day work and professional relationships. Mentoring women by male colleagues was especially mentioned, but women supporting women is also important because they better understand the challenges.

Childcare policies that support not only mothers but also fathers can indirectly empower women to return to their careers by promoting shared parental responsibilities. Interventions that were found to be ineffective or less effective were the following:

- Having women in senior management roles does not necessarily reduce gender inequality. In fact, it depends on individuals and, in some instances, men in senior roles can be more understanding and supportive toward women.
- The 50% women/50% men policy is not always effective because it is important that the right person gets the job based on their competencies and not only based on their gender. Promoting science, technology, engineering, and mathematics subjects to schools is also not effective if only men are representing the company, as the organization needs to set an example by representing women in such roles.
- While positive discrimination can compensate for the time women lose due to maternity leave and caring responsibilities, it can be counterproductive as women's success and career growth are perceived as resulting from the quota rather than their own hard work and accomplishments.
- Online gender-bias training, which is mandated by many organizations, is not always effective as it is more of a check-the-box exercises. Such training, however, can be useful if it is in person and includes time for discussions among staff.
- Women-only networks promoted by organizations are perceived as “finger-pointing exercises.” Such networks reinforce the idea that women need to

change their behavior and what they do to fit in, rather than changing structures, policies, and procedures to accommodate women. In addition, these networks shut out 50% of women's potential allies (men).

- Flexible working policies are seen as more effective for younger staff as it appears they are more normalized and accepted among younger employees than among senior staff.

The participants made the important point that sometimes the intervention itself is intended to bring about positive outcomes, but it is not effective if managers do not support them or if they are not accepted within the organization. So, the culture of the organization, education, and internal buy-in are important determinants for the effectiveness of interventions. Participants also mentioned that while training and mentorship are both important, unless there are structural interventions in place, change will not happen.

We would like to highlight the importance of positioning diversity, as the starting point to equity can inadvertently create environments where employees from diverse backgrounds bear the additional burden of transforming workplace culture. While promoting diversity is crucial, it often leads to superficial changes if not accompanied by genuine efforts to address underlying systemic issues. When organizations focus solely on hiring diverse candidates without creating an inclusive and supportive environment, these employees may find themselves responsible for driving cultural change. This additional labor can be both exhausting and demoralizing, as individuals endeavor to cultivate an organizational environment that not only recruits diverse candidates but also effectively supports and retains them. Moreover, this approach can mask deeper organizational problems related to equity, diversity, and inclusion (EDI) without addressing these issues; the presence of diverse leaders may be seen as a token gesture rather than a meaningful commitment to equity. This can lead to frustration and burnout among diverse employees, who may feel unsupported and undervalued. To truly achieve equity, organizations must go beyond simply hiring diverse candidates. They need to implement comprehensive EDI strategies that foster an inclusive culture, address systemic barriers, and provide ongoing support for all employees. This includes creating policies and practices that promote equity, offering training and development opportunities, and ensuring that diverse voices are heard and valued at all levels of the organization (Hudson, 2024).

Table 4. Interventions With Positive and Negative Outcomes

Interventions	Interventions with Positive Outcome	Interventions with Negative/ Null Outcome
Structural Interventions	<ul style="list-style-type: none"> Increasing board and top management team diversity Proactive recruitment policies Having a dedicated entity to monitor and enhance gender equality 	<ul style="list-style-type: none"> Pink quotas 50–50 representation mandates Positive discrimination
Training Interventions	<ul style="list-style-type: none"> Continuous professional development trainings; soft skills Trainings focused on nature of subtle biases and benefits of inclusive, heterogeneous learning environments Leadership trainings Competence-focused trainings 	<ul style="list-style-type: none"> Mandatory online training on gender bias (tick-a-box approach)
Mentorship and Support Programs	<ul style="list-style-type: none"> Support networks Role models Mentoring programs 	<ul style="list-style-type: none"> Networks with a focus on social events Women-only networks
Work-Life Balance Programs	<ul style="list-style-type: none"> Family-friendly arrangements Flexible working arrangements (mainly effective for younger employees) Return-to-work schemes 	<ul style="list-style-type: none"> Bring-your-child-to-work arrangements
Signaling Interventions	<ul style="list-style-type: none"> Women critical mass Redesign of job adverts to encourage applications from women 	<ul style="list-style-type: none"> Removal of gender from curriculum vitae
Laws and Regulations	<ul style="list-style-type: none"> Paid parental leave The Equality Act 2017 	<ul style="list-style-type: none"> 40% gender board quotas for public sector
Organizational Culture	<ul style="list-style-type: none"> Building an inclusive and positive culture through setting clear corporate values and practicing them 	<ul style="list-style-type: none"> Mass communication regarding gender equality
Health and Safety Programs	<ul style="list-style-type: none"> Sex-based harassment and discrimination policies Mental well-being programs 	<ul style="list-style-type: none"> Setting reporting lines without provision in place to address the reported issue

Table 4 presents the most effective interventions identified through the literature review, interviews, and focus groups.

Implications for Practice

Given that project-based organization managers play a crucial role in selecting, shaping, and implementing gender equality interventions, a deep understanding of these interventions and their implications from their perspective is fundamental.

Intervention outcomes found in this research are contrasting, and some were inconsistent as the same intervention sometimes had different results. Despite these discrepancies, some results were confirmed multiple times and can offer valuable insights into managers, policymakers, and professional bodies on how to enhance gender equality in project-based organizations.

Mentorship programs have shown positive outcomes, with female interviewees particularly valuing work-life balance interventions such as flexible hours and the option to work from home. Combining different

interventions is key to addressing gender inequality in project-based organizations, as they target various aspects of the issue. Training programs can be helpful, but participant engagement should be evaluated. These recommendations are generally applicable to all project-based organizations, but they must consider the unique nature of each project. For example, construction companies may focus more on health and safety, implement anonymous whistleblowing systems for harassment, and ensure proper conditions for women on worksites. Thoughtfully designed interventions, tailored to individual experiences, can maximize positive outcomes.

Another crucial factor is the synergy created by combining various interventions. By addressing different dimensions of inequality, organizations can make meaningful progress toward gender equality. Organizations that implement multiple strategies to promote diversity and inclusion can avoid the pitfalls of a diversity-only or diversity-first approach, which often fails to address necessary cultural shifts. When an organization focuses solely on increasing diversity without fostering an inclusive culture, it risks creating an environment where new hires from diverse backgrounds do not feel welcomed, valued, or supported. This can lead to high turnover rates, as these employees may leave due to a lack of belonging or opportunities for growth. By implementing a combination of strategies, such as mentorship programs, work-life balance initiatives, and training courses on inclusivity, organizations can create a more supportive and inclusive environment. These strategies help to address various dimensions of diversity and inclusion, ensuring that new hires not only join the organization but also thrive within it. For example, mentorship programs can provide guidance and support to new employees, helping them navigate the workplace and develop their careers. Work-life balance initiatives can help employees manage their personal and professional responsibilities, reducing stress and increasing job satisfaction.

Different types of organizations can adopt these recommendations. Construction-based companies, which often require on-site presence, should prioritize health and safety programs. Given that women are more vulnerable to worksite harassment, implementing anonymous whistleblowing systems across all organizations can empower women to report inappropriate behavior. Moreover, conditions for women

on construction sites, such as restroom facilities, equipment availability, and safety protocols, deserve attention.

It is important for project-based organizations within the construction sector to acknowledge that due to the nature of project work, and the high turnover of employees in this sector, organizations often find it difficult to establish a solid company culture, which prevents well-intended interventions from becoming fully effective. Another factor is the high number of project stakeholders from different companies and even countries, which makes it difficult to embed a culture that represents a specific value.

In IT-based companies, offering mandatory skill development courses specifically tailored for women can help bridge existing skill gaps. Since the pool of female candidates is relatively smaller, targeted training can enhance their qualifications.

Professional bodies can contribute by providing educational courses on the history and dimensions of gender equality, emphasizing its significance and consequences. Finally, policymakers should shift their focus away from rigid gender quotas (often referred to as “pink quotas”) and instead prioritize mandatory training, mentorship programs, and relevant events. By embedding these changes deeply into organizational culture, we can move beyond mere statistics and foster lasting transformation.

Limitations and Future Research

Given that gender interventions in project-based organizations are still relatively new, our research takes an exploratory and normative approach. Future investigations should examine individual interventions and their mechanisms through in-depth case studies or longitudinal analysis. Such studies will help reveal the long-term effects and the interplay of various interventions. Additionally, it is important to explore how organizational policies are embedded into practices that foster gender equality and inclusivity. By examining the implementation and outcomes of specific policies, we can gain actionable insights for developing more inclusive work environments.

It is also vital to broaden research by incorporating data from other regions, as well as focusing on under-represented groups such as men in women-dominated fields, people of color, and members of the LGBTQIA+ community. These groups may face distinct forms of discrimination compared to cisgender women. Conducting sector-specific studies in various regions will help shed light on the unique challenges these groups face across different industries.

References

- Aboagye-Nimo, E., Wood, H., & Collison, J. (2019). Complexity of women's modern-day challenges in construction. *Engineering, Construction and Architectural Management*, 26(11), 2550-2565.
- Ackrill, R., Caven, V., & Alaktif, J. (2017). "Black boxes" and "fracture points": The regulation of gender equality in the UK and French construction industries. *International Journal of Human Resource Management*, 28(21), 3027-3046.
- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, 67(5), 422-436.
- Afolabi, A. O., Oyeyipo, O. O., Ojelabi, R. A., & Patience, T. (2019). Balancing the female identity in the construction industry. *Journal of Construction in Developing Countries*, 24(2), 83-104.
- Afolabi, A. O., & Akinola, A. (2021). An empirical investigation of the mentor-mentee relationship among female architects and female architectural students. *International Journal of Emerging Technologies in Learning*, 16(13), 168-185.
- Althammer, S. E., Reis, D., Beek, S., Beck, L., & Michel, A. (2021). A mind-fulness intervention promoting work-life balance: How segmentation preference affects changes in detachment, well-being, and work-life balance. *Journal of Occupational and Organizational Psychology*, 94(2), 282-308
- Awaworyi Churchill, S., & Valenzuela, M. R. (2019). Determinants of firm performance: Does ethnic diversity matter? *Empirical Economics*, 57(6), 2079-2105.
- Baker, M., Ali, M., & French, E. (2019). Effectiveness of gender equality initiatives in project-based organizations in Australia. *Australian Journal of Management*, 44(3), 425-442.
- Baker, M., Ali, M., & French, E. (2021). Leadership diversity and its influence on equality initiatives and performance: Insights for construction management. *Journal of Construction Engineering and Management*, 147(10), article number: 04021123.
- Baker, M., & Clegg, S. (2023). Policies and practices of gender-based equality and diversity in Australian project-based organizations. *Project Leadership and Society*, 4(2), 100087.
- Baker, M., & French, E. (2018). Female underrepresentation in project-based organizations exposes organizational isomorphism. *Equality, Diversity and Inclusion*, 37(8), 799-812.
- Bartel, A. P., Rossin-Slater, M., Ruhm, C. J., Slopen, M., & Waldfogel, J. (2021). *The impact of paid family leave on employers: Evidence from New York* (Working Paper 28672). National Bureau of Economic Research. <http://www.nber.org/papers/w28672>
- Blumberg, S., Krawina, M., Mäkelä, E., & Soller, H. (2023). *Women in tech: The best bet to solve Europe's talent shortage*. McKinsey & Company.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Bredin, K. (2008). People capability of project-based organisations: A conceptual framework. *International Journal of Project Management*, 26(5), 566-576.
- Briner, R. B., & Denyer, D. (2012). Systematic review and evidence synthesis as a practice and scholarship tool. In *The Oxford handbook of evidence-based management* (pp. 112-129). Oxford University Press.
- Chamberlin, K. G., & Plant, E. A. (2023). Systemic sexism recognition and antisexism encourage gender equality activism: An adaptation of bystander intervention theory. *Journal of Applied Social Psychology*, 53(10), 911-924.
- Coles, A., Eikhof, D. R. (2021). On the basis of risk: How screen executives' risk perceptions and practices drive gender inequality in directing. *Gender, Work & Organization*, 28(6), 2040-2057.
- CompTIA. (2023). *State of the tech workforce 2023*. <https://www.comptia.org/content/research/state-of-the-tech-workforce-2023>

- Costa, E., Soares, A. L., & De Sousa, J. P. (2018). Exploring the CIMO-logic in the design of collaborative networks mediated by digital platforms. In L. Camarinha-Matos, H. Afsarmanesh, & Y. Rezgui (Eds.), *Collaborative networks of cognitive systems* (pp. 266-277). Springer. https://doi.org/10.1007/978-3-319-99127-6_23
- Crawford, L., Langston, C., & Bajracharya, B. (2013). Participatory project management for improved disaster resilience. *International Journal of Disaster Resilience in the Built Environment*, 4(3), 317-333.
- Deloitte. (2023). *Women @ work 2023—A global outlook*. https://www2.deloitte.com/content/dam/insights/articles/glob175810_global-women-at-work/Women_at_Work_2023.pdf.
- Denyer, D., Tranfield, D., & van Aken, J. E. (2008). Developing design propositions through research synthesis. *Organization Studies*, 29(3), 393-413.
- European Institute for Gender Equality. (2016). *Gender inequality*. https://eige.europa.eu/publications-resources/thesaurus/terms/1329?language_content_entity=en
- Gaikwad, H. V., & Pandey, S. (2022). Finding my place in this man's world—Investigating the perspectives of equity in engineering education. *Journal of Engineering Education Transformations*, 35(S1), 207-214.
- Galea, N., Powell, A., Loosemore, M., & Chappell, L. (2020). The gendered dimensions of informal institutions in the Australian construction industry. *Gender, Work & Organization*, 27(6), 214-231.
- Henderson, L. S., & Stackman, R. W. (2010). An exploratory study of gender in project management: Interrelationships with role, location, technology, and project cost. *Project Management Journal*, 41(5), 37-55.
- Hickey, P. J., Hercules, V., Johnson, A., Erfani, A., & Cui, Q. (2022). *A gender analysis of construction executive career path progression using LinkedIn data*. In Construction Research Congress 2022: Health and safety, workforce, and education—Selected papers from Construction Research Congress 2022 (pp. 706-714).
- Hudson, L. (2024, April 29). *New report explores how "pushing" people of color into leadership at nonprofits can have negative effects*. WABE. <https://www.wabe.org/new-report-explores-how-pushing-people-of-color-into-leadership-at-nonprofits-can-have-negative-effects-on-dei-efforts/>
- International Energy Agency. (2023). *Share of women in selected energy-related occupations, 2023*. <https://www.iea.org/data-and-statistics/charts/share-of-women-in-selected-energy-related-occupations-2023>
- Jones, M. K., Latreille, P. L., & Sloane, P. J. (2016). Job anxiety, work-related psychological illness and workplace performance. *British Journal of Industrial Relations*, 54(4), 742-767.
- Michel, A., Bosch, C., & Rexroth, M. (2014). Mindfulness as a cognitive-emotional segmentation strategy: An intervention promoting work-life balance. *Journal of Occupational and Organizational Psychology*, 87(4), 733-754.
- Pal, K. K., Piaget, K., Zahidi, S., & Baller, S. (2024). *Global gender gap report 2024*. World Economic Forum. https://www3.weforum.org/docs/WEF_GGGR_2024.pdf
- Pinto, J. K., Patanakul, P., & Pinto, M. B. (2017). "The aura of capability:" Gender bias in selection for a project manager job. *International Journal of Project Management*, 35(3), 420-431.
- Regis, M. F., Alberte, E. P. V., Lima, D. d. S., & Freitas, R. L. S. (2019). Women in construction: Shortcomings, difficulties, and good practices. *Engineering, Construction and Architectural Management*, 26(11), 2535-2549.
- Rubin, D., Tuchman, J. L., Powers, M. B., Cubarrubia, E., & Shaw, M. (2018, October 11). *#MeToo in construction: 66% report sexual harassment in ENR survey*. Engineering News-Record. <https://www.enr.com/articles/45452-metoo-in-construction-66-report-sexual-harassment-in-enr-survey>
- Simon, L., & Clarke, K. (2016). Apprenticeships should work for women too! *Education + Training*, 58(6), 578-596.
- Stamarski, C. S., & Son Hing, L. S. (2015). Gender inequalities in the workplace: The effects of organizational structures, processes, practices, and decision makers' sexism. *Frontiers in Psychology*, 6.
- Wang, C. C., Mussi, E., & Sunindijo, R.Y. (2021). Analysing gender issues in the Australian construction industry through the lens of empowerment. *Buildings*, 11(11), 553.
- U.S. Bureau of Labor Statistics. (2023). *Women in the labor force: A databook*. <https://www.bls.gov/opub/reports/womens-databook/2022/>.

Weigel, K. S., Kubik-Huch, R. A., & Gebhard, C. (2020). Women in radiology: Why is the pipeline still leaking and how can we plug it? *Acta Radiologica*, 61(6), 743–748.

Women in Tech. (2023). *Women in tech survey January 2023*. <https://www.womenintech.co.uk/wp-content/uploads/2022/12/Women-in-Tech-Survey-2023.pdf>.

Wright, T., & Conley, H. (2018). Advancing gender equality in the construction sector through public procurement: Making effective use of responsive regulation. *Economic and Industrial Democracy*, 41(4), 975–996.

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Outputs

List of Presentations

1. Virtual focus group No. 1—Developing Effective Interventions for Gender Equality in Project Organisations, 22/09/2023
2. Guest lecture at Politecnico di Milano: Women in male-dominated professions; Engineering and construction projects, 19/04/2023
3. The Effectiveness of Gender Equality Interventions in Project-Based Organisations, Presented at European Academy of Management Conference, 14–16 June, Trinity Business School, Dublin, Ireland
4. Virtual focus group No. 2—Gender Equality Interventions in Project-Based Organisations—Do they work? 01/03/2024
5. Guest lecture at Politecnico di Milano: Gender Equality Interventions in male-dominated professions; Engineering and construction projects, 11/03/2024
6. Virtual Guest talk at University of Technology Sydney: Importance of gender equality for a sustainable world, 08/05/2024
7. The Effectiveness of Gender Equality Interventions in Project-Based Organisations, Presented at European Academy of Management Conference, 25–28 June, University of Bath School of Management, Bath, United Kingdom

Articles

“Gender Equality Interventions in Project-Based Organizations: What Works, What Doesn’t, and Why” (*Project Management Journal*®, April 2025). <https://doi.org/10.1177/87569728251335301>



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