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# **The Importance of Similarity: How Gender Congruence Matters for the Impact of Leadership Training**

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# **The Importance of Similarity: How Gender Congruence Matters for the Impact of Leadership Training**

## **Abstract**

Leadership training is key to promoting more active leadership, but the effects of leadership training can depend on the gender context. Gender congruence between manager and employee can affect how the manager employs leadership behaviors adapted from training and how employees perceive leadership behavior. Quantitative data on 474 managers' 4,833 employees before and after a large-scale field experiment with leadership training enable us to examine changes in employee-perceived leadership following training. The results show that gender congruence between manager and employee is associated with stronger leadership training effects on employee-perceived leadership behaviors. Female gender congruence shows the most pronounced effects.

## **Keywords**

Leadership training; gender congruence; perceived leadership; transformational leadership; transactional leadership

## **Introduction**

Gender is an ever-present context in which leadership is enacted, communicated, and perceived. According to the literature on gender and leadership, male and female managers tend to exercise leadership differently because of early socialization experiences (Eagly & Johannesen-Schmidt, 2001). Empirical research supports that gender differences exist in the use of leadership strategies, such as transformational and transactional leadership (e.g., Eagly, Johannesen-Schmidt, & van Engen, 2003; Eagly & Johannesen-Schmidt, 2001; Bass, Avolio, & Atwater, 1996). Yet research on leadership training tends to overlook the role of gender (Seidle, Fernandez, & Perry, 2016; Schachter, 2017) or is only focused on the manager's gender (An & Meier, 2020) with rare accounts of the importance of employee gender.

Leadership works through interactions between managers and employees, and we argue that taking the gender of both the manager and the employee into account is important to understand how leadership training is implemented and perceived in organizations. According to the similarity/attraction (Byrne, 1971) and social identity (Tajfel & Turner, 1986) theories, individuals with similar characteristics are more likely to have a higher mutual understanding, acceptance, and social connection. Based on these theoretical premises, we claim that the effects of leadership training will depend on gender congruence between manager and employee for two reasons: First, we argue that managers are more inclined to increase trained leadership behavior towards gender-congruent employees; second, we argue that gender-congruent employees perceive more of their manager's adapted leadership behavior because they understand their manager better.

The study uses data from a randomized field experiment in Denmark to investigate whether gender congruence between manager and employee moderates the effects of leadership training on employee-perceived leadership behavior. We study employee-perceived leadership because it allows us to investigate the transmission of leadership

training. We achieve a better understanding of the mechanism, by not including employees' actions but instead their perceptions. Studying employee-perceived leadership has the limitation that we do not know what the effect is on performance. However, the effectiveness of leadership in relation to organizational performance often depends on the employees' perceptions of leadership, and more so than on the leaders' own perceptions (Jacobsen & Andersen, 2015), but this is beyond the scope of this article. In terms of leadership, the study focuses on transformational and transactional leadership styles, which are well-developed concepts with relevance in both public and private organizations (e.g., Park & Rainey, 2008; Trottier, Van Wart, & Wang, 2008; Jacobsen & Andersen, 2015; 2017). Furthermore, these two types of leadership constitute different leadership logics, relevant in a gender context (Eagly, Johannesen-Schmidt, & van Engen, 2003).

Data come from 474 managers and 4,833 employees from public and private social welfare and financial organizations (day care centers, primary and lower secondary schools, higher secondary schools, banks, and tax offices). The managers were randomly assigned to one of three treatment groups (transformational, transactional, and combined leadership training) and a control group. Before and after leadership training, we ask both managers and employees a set of survey questions to examine the effectiveness of leadership training.

Our primary findings suggest that the effects of leadership training on employee-perceived leadership to some extent depend on the gender congruence between the manager and the employee. Even though gender congruence does not seem to have a universal moderating effect, it seems to influence the changes in perceived leadership following training—especially for female managers. Thus, the study contributes to gender and leadership literature in multiple ways: First, it increases the knowledge on the significance of gender congruence in regards to leadership training and employee-perceived leadership. Second, it provides practical implications for understanding how leadership training is

expected to be converted in organizations in relation to gender combinations. Third, managers can benefit from incorporating these gender-related insights in their leadership behavior towards the individual employee to support the employee's understanding of their leadership. Managers can be aware that they might (inadvertently) behave differently towards men and women, and that a given behavior can be perceived differently depending on the gender context. Fourth, the Danish context of our study also contributes to the literature. Gender equality in Denmark is high, even compared to other OECD countries (UNDP, 2018). Therefore, we expect gender, and gender congruence, to be less important in the Danish context (Fjendbo, 2021, p. 41). In other words, if we are able to find gender differences in training effects, we expect these to be even greater in countries with lower gender equality. Furthermore, the range of organizations (schools, daycares, and finance) can enhance generality of our findings, as the gender context varies. In the following sections, we begin by illustrating how leadership training could affect employee-perceived leadership behaviors and how gender congruence (or combination) can moderate the proposed relationship.

### **The Role of Gender Congruence in Organizations**

That gender congruence, i.e., gender similarity between manager and employee, can play an important role in organizations can be identified in several lines of theory, such as relational demography, similarity/attraction, and social identity theories. Gender is not only regarded as a biological division, it also concerns the socially devised meaning ascribed to the genders by society and individuals (Eagly & Wood, 2011). Hence, women are on average considered to be more communal, which is related with being nurturing, friendly, and interpersonal; whereas men are considered to be more agentic, which is related with being competitive, dominating, and individualistic (Eagly & Karau, 2002; Eagly & Johannesen-Schmidt, 2001).

These differences in social expectations and potentially in traits are thus included in the gender term.

Numerous studies show that gender congruence correlates with different outcomes, such as job satisfaction and turnover (Grissom, Nicholson-Crotty, & Keiser, 2012; Giuliano, Leonard, & Levine, 2005). Furthermore, the likability of managers (and employees) often depends on the gender of employees (and managers). Tsui and O'Reilly (1989) and Tsui, Porter, and Egan (2002) argue that managerial behaviors are adapted depending on employee gender. Their studies show that managers like employees of their own gender better, and they rate their performance (Tsui & O'Reilly, 1989) and extra role behavior higher (Tsui, Porter, & Egan, 2002). The higher likability between gender-congruent employee and manager can lead to a higher volume of and better quality of communication, which again can lower role ambiguity as well as role conflict of employees (Tsui & O'Reilly, 1989).

Some studies have not found the expected effects of gender congruence or even indicate that gender incongruence can also be beneficial (Pedersen & Nielsen, 2016; Schieman & McMullen, 2008). Schieman and McMullen (2008) found that female employees with a male manager reported lower levels of physical symptoms of stress than those with a female manager. Similarly, studies have found that male managers rate female employees less harshly than female managers do (Cooper, 1997, p. 485). In other words, the empirical evidence generally supports that gender congruence has positive implications for employees and organizational outcomes, but a few studies have found no or opposite support for the hypothesis.

The organizational context can be important for the role of gender congruence, but it is not necessarily clear how. On the one hand, gender congruence can be expected to play less of a role in gender homogenous organizations such as daycares, which are highly dominated by women. The few men, who seek employment in daycares may be relatively more

communal than men on average, and hence be more like their female colleagues and managers. On the other hand, men and women in gender diverse organizations can also become more homogenous over time. According to the contact hypothesis, contact contributes to dissolving stereotyping and limiting differences in values and general outlook (Allport, 1954; Brown & Hewstone, 2005). This could cause gender congruence to matter less in more gender diverse organizations.

Furthermore, the national context can matter for the importance of gender congruence but again the expectation in the literature is not entirely clear. On the one hand, in more gender-equal countries, the social expectations towards girls and boys can be more similar and therefore, the gender differences can be expected to be smaller. On the other hand, some studies find the opposite correlation with some aspects of personality, i.e. that there are larger gender differences in personality in more gender-equal countries (Lippa, 2021; Schmitt et al. 2017). However, following the contact hypothesis; even if gender differences are larger in more gender-equal countries, compared to less gender-equal countries, the increased contact with diverse people, might limit the importance of gender differences and the impact of gender congruence. Gender congruence might thus matter less in gender-equal countries compared with less gender-equal countries.

### **Gender Congruence and Leadership**

In this section, we develop an argument for why gender congruence can play a role in relation to both the enactment and the perception of leadership behavior. First, classical approaches to the role of gender congruence and leadership are found in theories on similarity/attraction (Byrne, 1971) and social identity (Tajfel & Turner, 1986). These theories suggest that demographic similarity, such as having the same gender, increases compatibility and mutual understanding whereas dissimilarity increases incompatibility and disagreement (Grissom,



Nicholson-Crotty, & Keiser, 2012, p. 654; Pedersen & Nielsen, 2016, p. 363). Another line of arguments focus on the role of gender congruence in promoting communication. Due to differences in socialization experiences, men and women ascribe to different speech communities, which are associated with somewhat differing verbal and nonverbal expressions that can challenge communication and understanding between people of different gender (Lang, 1986). Finally, individuals with similar (demographic) characteristics are also more likely to have mutual trust, similar expectations, and shared social networks, which can create social bonds through cooperation (Grissom, Nicholson-Crotty, & Keiser, 2012, pp. 654–655). Employees and managers with the same gender will be more likely to share social networks, be more compatible, and have a better mutual understanding, which, in turn, can affect motives, attitudes, and behaviors, both consciously and subconsciously (Abrams & Hogg, 1988; Hogg, Terry, & White, 1995).

Empirically, studies have supported that women and men differ on average (Eagly & Karau, 2002; Eagly & Johannesen-Schmidt, 2001), and for example men have been found to be more agentic and women more communal on average (Fjendbo, 2020). Still, recent literature also reminds us that the role of gender is not deterministic. The average gender-based differences cover substantial individual variation such that many women are relatively agentic, and some men are relatively communal. Furthermore, studies have shown that although gender-based differences exist among employees, managers do not necessarily differ depending on their gender (Fjendbo, 2021). Thus, gender differences are complex and most likely highly dependent on both the organizational and national context.

### **Gender Congruence and Leadership Training**

In relation to leadership training, we expect that the transmission from training to employee-perceived leadership depends on two steps where gender congruence can play a role. First,

leadership training can be a source of stimuli to adapted leadership behavior. During and after leadership training, one of the greatest challenges for managers is to implement newly acquired skills (or leadership behavior) in the organization (Holten, Bøllingtoft, & Wilms, 2015, pp. 1109–1110). Therefore, managers are likely to use new skills with employees who they find more accessible, accepting, and familiar. Thus, positive feedback and opportunity to use one's skills are some of the significant factors that can help when transferring skills from training to practice (Rouiller & Goldstein, 1993, p. 383; Holton, Bates, & Ruona, 2000; Broucker, 2015). Gender-congruent employees are more likely to accept the new leadership behavior, and because of a closer social connection with their manager, they are more likely to spend time together and have shared grounds for channeling communication (Grissom, Nicholson-Crotty, & Keiser, 2012, pp. 654–655). As a result, it would be easier for the managers to communicate leadership to those employees, especially when they have to communicate newly learned and perhaps unfamiliar leadership strategies.

The second reason why gender congruence can make leadership training more effective is that gender-congruent employees are expected to perceive more of the manager's leadership behavior. Employees often receive more information than they are able to process when communicating with their manager. If the employees then have trouble decoding the message, for example, because of the manager's choice of words and expressions, this will result in communication being lost. In all communications, the recipient uses energy to decode the message; the harder the message is to decode, the more effort is required. As a result, we expect that employees never perceive all the leadership communicated by the manager (Jacobsen & Andersen, 2015). As gender-congruent employees are expected to be better at understanding their manager's language and expressions (Grissom, Nicholson-Crotty, & Keiser, 2012; Pedersen & Nielsen, 2016; Lang, 1986), we argue that it will be easier for them to decode the manager's communication and thus improve their perception of

the newly exercised leadership behaviors. Furthermore, gender-congruent employees are likely to be motivated to put more effort in decoding the leadership behavior. Greater compatibility, likability, and social bond between individuals with similar demographic characteristics (Grissom, Nicholson-Crotty, & Keiser, 2012; Tsui & O'Reilly, 1989) can cause the gender-congruent employees to be more willing to use time and energy on decoding the manager's communication. When the gender-congruent employees are willing to put more effort in decoding the manager's leadership, we also expect them to be more likely to recognize changes in leadership behavior. If leadership training causes the manager to increase his or her leadership behavior, we expect that employees with the same gender as the manager would perceive more of this change than employees of the opposite gender would.

[Figure 1 about here]

Based on the aforementioned theoretical arguments, we expect that employees with the same gender as the manager are more likely to perceive changes in leadership behaviors after their manager's leadership training. As shown in Figure 1, we expect this due to two mechanisms (Figure 1 (a)): 1) Asymmetric adaptation of leadership behavior; 2) asymmetric perceptions of leadership behavior. Given that actual leadership behavior is difficult to observe and that perceived leadership is often decisive for employee behavior and performance (Jacobsen & Andersen, 2015), our operational model (figure 1 (b)) focuses on how leadership training affects perceived leadership overall.

*H1: The effects of leadership training on employee-perceived leadership are larger for gender-congruent employees than for gender-incongruent employees.*

## **Gender Congruence or Gender Combinations?**

So far, we have argued for the general importance of gender congruence, but the effect of gender congruence can be different for female and male managers, i.e., gender combinations of managers and employees can work differently. For instance, Grissom, Nicholson-Crotty, and Keiser (2012) find that gender congruence is not equally important for job satisfaction and turnover for men and women. According to their findings, gender congruence matters most for female managers, and male employees with female managers has the lowest job satisfaction and highest turnover. We contribute to this literature by formulating theoretical speculations on how the effect of gender congruence might depend on the gender combination.

On the one hand, women are, as mentioned, often considered more communal (Eagly & Karau, 2002; Eagly & Johannesen-Schmidt, 2001), which can cause the effect of gender congruence to be larger for women than for men. Where men have a stronger tendency towards individualism, women's tendency to be interpersonal can be associated with spending more time together. This can increase the effect of gender congruence because women become more familiar with each other's language and the manager has more opportunities to communicate leadership to the female employees.

On the other hand, managers tend to be more agentic the higher they rank in the organizational hierarchy (Moskowitz, Suh, & Desaulniers, 1994; Wille et al., 2018). Compared to female employees, even female managers are likely to be more agentic. In this case, the characteristic of female managers may also be aligned with male employees, which can decrease the effect of gender congruence for female managers. As a result, it is still unclear how, or if, the manager's gender matters for the effect of gender congruence. We will empirically examine the effect of gender congruence across genders as well as for different gender combinations.

## **Transformational and Transactional Leadership: Leadership Training and Employee Perceptions**

In this study, we focus on transformational and transactional leadership because they are important leadership concepts in generic (Knippenberg & Sitkin, 2013) and public management research (Jensen et al., 2019) and related with core leadership tasks of motivating and directing employees to increase goal attainment (Oberfield, 2012; Jacobsen & Andersen, 2015).

Following recent trends in the transformational leadership literature (Jacobsen & Andersen, 2015, p. 832; Jensen et al., 2019) and based on criticism of the original multi-dimensional construct (Knippenberg & Sitkin, 2013; Yukl, 1999), we define transformational leadership by its visionary element and by the leader's behavior rather than by the ability of the leader to be successful. Following Jacobsen and Andersen (2015, p. 832), transformational leadership is here defined as “behaviors that seek to develop, share, and sustain a vision intended to encourage employees to transcend their own self-interest and achieve organizational goals.”

For transactional leadership, we adopt the definition by Jensen et al. (2019): “the use of contingent rewards and sanctions with the intent to facilitate that employees have self-interest in achieving organization goals.” Transactional leadership can be divided into three components: verbal rewards, pecuniary rewards, and sanctions, which are all contingent on the employees' behaviors (Jensen et al., 2019). Verbal rewards mainly consist of verbal acknowledgements and appreciation whereas pecuniary rewards consist of rewards with monetary values, such as salary supplements, training, and perks. The third component of transactional leadership is contingent sanctions where the leader sanctions the employee if he or she does not meet the agreed expectations. Sanctions can consist of informal or formal reprimands and, ultimately, firing. Transactional leadership consists of all three components,

which do not necessarily covary but are three different ways to conduct transactional leadership.

Several studies support the importance of transformational and transactional leadership for employees' motivation (Wright, Moynihan, & Pandey, 2012), commitment (Oberfield, 2012), and performance (Bellé, 2014; 2015). These studies also show that the links to performance are much closer for employee-perceived leadership behaviors than for the manager's self-assessed ones (Jacobsen & Andersen, 2015; Favero, Meier, & O'Toole, 2016). Therefore, the effectiveness of leadership could depend on employee-perceived leadership behaviors.

Studies have found that inducing leadership training generally can affect leadership behavior and thereby organizational outcomes such as performance (e.g., Dvir et al., 2002). However, we know very little about how leadership training affects employees and, particularly, whether gender congruence can cause heterogeneous responses following leadership training. The goal of this study is to investigate how gender congruence matters for the effects of three leadership training programs—transformational, transactional, and combined (both transformational and transactional) leadership—on employee-perceived leadership compared to a control group (no training).

We only expect to find effects for training programs where a given leadership strategy is taught. This means that we expect transformational and combined training to affect employee-perceived transformational leadership, and we expect transactional and combined training to affect employee-perceived verbal and pecuniary rewards. Managers did not receive any training in the use of sanctions, as it has not shown the same positive effects as the other transactional leadership components. Therefore, we hypothesize the following:

H1a: *The effects of transformational and combined leadership training on employee-perceived transformational leadership are larger for gender-congruent employees than for gender-incongruent employees.*

H1b: *The effects of transactional and combined leadership training on employee-perceived verbal rewards are larger for gender-congruent employees than for gender-incongruent employees.*

H1c: *The effects of transactional and combined leadership training on employee-perceived pecuniary rewards are larger for gender-congruent employees than for gender-incongruent employees.*

## **Research Design**

To test how leadership training affects perceptions across genders, this study utilizes a yearlong randomized field experiment on leadership training. In the spring of 2014, female and male managers in Danish public and private social welfare and financial organizations were invited to join a free leadership training program (the research program funded the training). These managers came from five different types of organizations: primary and lower secondary schools, higher secondary schools, day care centers, tax departments, and banks. In total, 673 managers signed up for the training program, and these managers were randomly assigned to four groups: 1) Transformational leadership training (TFT); 2) Transactional leadership training (TAT); 3) Combined leadership training (CBT); and 4) Control group. By the end, in summer 2015, 506 managers completed the program (including the control group). Attrition at the organizational level was surprisingly small (only about 25%), and the main reasons were job changes, disease, and busy schedules. Our final sample in this study includes 474 managers and 4,833 employees.

Managers in the three training groups participated in four sessions, each consisting of seven hours of training. The training program aimed at applying knowledge and reflection on leadership to improve leadership skills. All sessions consisted of short lectures followed by individual reflections and group discussions as well as practical exercises. Between classes, participants were placed in network groups, and they continued to work on individual action plans in which they described their application of the training program. Individual teachers provided written and oral feedback on the action plan. Four teachers from different backgrounds (one economist, two from public administration, and one from general management) taught all three types of training. These teachers were randomly assigned to classes to avoid potential confounding teacher effects. Due to ethical considerations, we could not take time from managers in the control group for a placebo treatment, but we informed them about leadership and the project during the experiment. To limit attrition, we also promised to provide individual evaluation reports at the end of the program to managers in all four groups and that managers in the control group could get privileged access to information on future leadership training. More details on leadership training and its modules can be found at the project website at XXXXXX (disguised for the review purpose).

### **Data and Measures**

The observational data on the perceived leadership strategies come from surveys that were distributed to all employees of participating managers before and after the training program. The response rates were 45.3% for the pre-survey and 41.8% for the post-survey; 38.3% of the employees responded to both surveys. Employee data were gathered for 474 of the 506 completing managers. Among the 32 managers without employee data, some opted out of the employee survey because of organizational concerns, others had no employees, and for a few managers, no employees answered the survey.



In these surveys, perceived leadership behaviors were measured using survey questions on a five-point Likert scale, previously validated and further described by Jensen et al. (2019). The questions are shown in Table A1 in the appendix. The transformational leadership questions focused on the development, sharing, and sustainment of a vision for the organization; transactional leadership is measured as the contingent use of 1) verbal rewards, 2) pecuniary rewards, and 3) sanctions. Given that none of the training programs induced sanctioning behavior, we only focus on the first two types of transactional leadership as well as transformational leadership. An additive measure of employee-perceived leadership behavior is used to measure the dependent variable. For easier interpretation, the measures were rescaled ranging from zero to 100. The measure is the change in perceived leadership, which is calculated as each employee's perceived leadership after the training program minus his or her perceived leadership before the training program. The theoretical range of these measures is between -100 and 100.

Confirmatory factor analyses show that our measurement instrument is highly satisfactory and that all items load highly and significantly on their respective factors. Mean lambdas are between 0.75 and 0.93, and the fit indicators also suggest a strong fit (RMSEA = .032 (pre and post), CFI = 0.96 (pre) and 0.95 (post), and TLI = .94 (pre and post)). One challenge for the model is high interclass correlation between transformational leadership and contingent verbal rewards. We expect that this correlation reflects that verbal rewards are somewhat similar to transformational leadership in regard to being communicative and more personal than, for example, pecuniary rewards (Yukl, 1999, p. 289). However, since we use these measures as dependent variables, we expect this to be a minor problem. MIMIC models also show that the measures are robust across areas and across time from pre- to post-measurement (see Jensen et al., 2019).

To identify the gender of employees and managers, we first acquired social security numbers from employees and managers from participating organizations. For employees and managers without social security numbers, we used a survey question asking about their gender. Gender congruence was operationalized as the manager and employee having the same gender (coded as 1) or not (coded as 0). Descriptive statistics and correlation coefficients are shown in Tables A2 and A3 in the Appendix.

We also include control variables at the organizational level to improve the precision of estimates. Since leadership training effects could differ by sector (An et al., 2019), and different types of organizations may attract different genders, we include the following types of organizations: public and private primary and lower secondary schools, public higher secondary schools, public and private day care (area managers and department managers), tax offices, and banks. Second, we include the manager's previous leadership education: no leadership education, other leadership education, diploma, and master. The more leadership education the manager already has, the lower the potential for further knowledge and, hence, less effect of further leadership training. Furthermore, women might be more likely to have leadership education because they have to live up to a higher standard to become managers (Eagly & Karau, 2002). Third, we include the manager's tenure in the current position as this can affect the gender combination between the manager and employee as well as how well the employees perceive the manager's communication. Fourth, we include the size of the organization as it might be more difficult to increase the employees' perception of leadership in larger organizations, and they might be more attracted of and by male managers. We centralized the measure at the mean.

## **Analytic approach**

We use survey data of changes in perceived leadership as dependent variables and thus base our analysis on a balanced panel with 4,833 employees from 474 organizations. The balanced panel allows us to estimate changes in perceived leadership during the training period, i.e., an employee's perceived leadership after the training program minus the same employee's leadership perception before the program. Hence, we use first-difference models, which excludes employees who entered the organization after the first survey was administered (August 2014) as well as retirees and "job-shifters" (between 2014 and 2015). This entails a control for any individual employee characteristics (observed as well as unobserved) that do not moderate the effect of leadership training.

## **Results**

The focus of this study is the moderating role of gender congruence for the effectiveness of leadership training. For each leadership component, we include five models. Model 1 shows the impact of the different leadership training programs and gender congruence on the employee's perception of the relevant leadership component. Model 2 includes the interactions between leadership training programs and gender congruence, while Model 3 adds the control variables. Model 3 is the primary model used to test the hypotheses as it shows the moderating effects of gender congruence on the relationship between leadership training and changes in employee-perceived leadership behavior. It thus shows the difference between employees with the same gender as their manager and those of the opposite gender in regards to the effect of leadership training on employee-perceived leadership. As the effect of gender congruence might be different for female and male managers, we include Model 4 with the moderating effect of gender congruence for female managers and Model 5 showing

the same for male managers. We also present a graphical figure of Models 4 and 5 to illustrate the effect of leadership training by each gender combination.

[Table 1 about here]

Table 1 depicts the results regarding the employees' perceptions of their managers' transformational leadership behaviors. The first model shows that both leadership training programs have significantly positive effects on employee-perceived transformational leadership. Although gender-congruent employees perceive significantly more transformational leadership than incongruent employees (Model 1.1), gender congruence does not significantly moderate the effect of either transformational (TFT) or combined (CBT) leadership training (Models 1.2 and 1.3). However, when looking at female and male managers separately (Models 1.4 and 1.5), we see that gender congruence does moderate the training effect for female managers, but not for male managers. After female managers have participated in leadership training, their female employees' perception of transformational leadership increases significantly more than their male employees' perception. As seen in Figure 2, the congruent employees' perception increased 5.5 points more after transformational training and 4.8 points more after combined training compared to incongruent employees' perception when the manager was female. These differences in effects are rather substantial compared to the overall training effects of 5.1 and 4.5 points for transformational and combined training respectively.

The conclusion on Hypothesis 1a is that even though gender congruence does not homogeneously moderate the training effects as expected, it does so for female managers. The effects of both transformational and combined leadership training on employee-perceived transformational leadership are significantly larger for gender-congruent/female employees than for gender-incongruent/male employees when the manager is female.

[Figure 2 about here]

Turning to perceived verbal rewards, Model 2.1 shows that transactional (TAT) and combined (CBT) leadership training have a significant effect on change in employee-perceived verbal rewards. Model 2.3 shows that the effects of CBT and TAT are insignificant for employees with another gender than their manager. More relevant to our hypothesis, Model 2.3 shows that after combined training, employees with the same gender as their manager on average perceive an increase in the use of verbal rewards significantly larger (4.4 points) than employees with the opposite gender. The 4.4 points difference in effect between gender-congruent and gender-incongruent employees is substantial compared to the overall effect of 2.8 points. Gender congruence only significantly moderates the effect of combined training, but the same tendencies are found for transactional training. Figure 3 (based on Models 2.4 and 2.5) shows that both the female and male gender-congruent matches seem to experience a larger effect of both transactional and combined training, but none of these differences are significant. To sum up, there is some support to Hypothesis 1b since gender congruence significantly increases the effect of combined training on employee-perceived verbal rewards and since the same tendencies are seen for transactional training.

[Table 2 about here]

[Figure 3 about here]

[Table 3 about here]

Table 3 presents the results regarding employee-perceived pecuniary rewards. Transactional training is the only training program that has an overall significant effect on the employees' perceptions of pecuniary rewards (Model 3.1). However, the later models suggest that this effect is primarily due to the effect for gender-congruent employees and managers. As seen in Model 3.3, the transactional training effect on employee-perceived pecuniary rewards is 5.6 points larger for gender-congruent employees than for gender-incongruent employees. When we divide the sample in female and male managers, Model 3.4 and Figure 4 show that gender

congruence only significantly moderates the training effect for female managers, but it does so for both transactional and combined training. After female managers have participated in transactional training, their female employees' perception of pecuniary rewards increases on average 6.4 points more than their male employees', while the difference is 8.6 points after combined training. These are very substantial differences in effects. However, it is worth noting that the combined training effect is lower than would be expected for female managers with male employees. This indicates that gender congruence might not be the sole explanation for this result.

As a result, we find some support for Hypothesis 1c, in particular for transactional training. First, gender congruence does significantly moderate the effect of transactional training, especially for female managers. Second, we find that female gender congruence moderates the effect of combined training. Yet it should be noted that the comparison group of female managers with male employees unexpectedly experiences a negative effect of combined training. The support for gender congruence to influence the effect of combined leadership training on the employee-perceived pecuniary rewards is therefore not entirely clear.

[Figure 4 about here]

## **Discussion**

This study investigates how gender congruence moderates the effect of leadership training on employee-perceived leadership. This is one of the first that investigates the role of gender congruence for the effectiveness of leadership training rather than looking at only the gender of managers (An & Meier, 2020). We expect that gender congruence generally supports mutual understandings and that gender-congruent employees are more exposed to and/or perceptive of changes in leadership behavior following leadership training. As a result, we

expect to find a greater increase in gender-congruent employees' perception of leadership following leadership training. To test this, we employ an experimental design that allows us to study how an exogenous push on leadership training through leadership behavior results in different changes in perceived leadership depending on the congruence between the manager's and the employee's gender. Among six empirical cases, we find two statistically significant results that support our hypotheses.

Although our findings do not give full support to our hypotheses, they imply that gender congruence can have some importance for leadership perceptions, particularly how leadership training results in changed perceptions of leadership depending on gender congruence. The results on gender congruence suggest that the effects is more complex than expected, as it seems to be different for female and male managers. For female managers, we find that gender congruence significantly moderates the training effect in four out of six instances and that there are strong tendencies for the same moderation in the last two instances, even though they are not statistically significant. First, we find that transformational (TFT) and combined training (CBT) have significantly larger effects on perceived transformational leadership for the gender-congruent than for the gender-incongruent employees when the manager is female. Second, we find that gender congruence moderates the effect of CBT on perceived verbal rewards. For both female and male managers, there is a tendency for gender-congruent employees to increase their perception of verbal rewards more than incongruent employees although these tendencies are not statistically significant. Third and finally, we find that gender congruence moderates the effect of transactional training (TAT) on perceived pecuniary rewards. For female managers, gender congruence moderates the effect of both TAT and CBT. In sum, at least for female managers, it seems that gender-congruent employees generally perceive a larger increase in leadership after leadership training than gender-incongruent employees.

The results are somewhat surprising as they indicate that the role of gender congruence for perceived leadership is quite complex and not a universal carrier of understanding and acceptance as formulated in the similarity/attraction (Byrne, 1971) and social identity theories (Tajfel & Turner, 1986). Although our results are somewhat consistent with the results of Grissom, Nicholson-Crotty, and Keiser (2012) where gender congruence primarily matters for female managers, as their male employees have a lower job satisfaction and higher turnover than their female employees, a well-established theoretical explanation has yet to be developed. Looking into the gender literature, women and men are considered quite different. Women are on average considered more communal and oriented towards interpersonal relations compared to men, who are generally considered more agentic and more individualistic (Eagly & Karau, 2002; Eagly & Johannesen-Schmidt, 2001). Perhaps the female gender congruence is more important because women are likely to be more socially active compared to men. This could increase the importance of being compatible and sharing a social network as well as increase the effect by spending more time together and thereby learning each other's languages even better.

Our findings contribute to transformational and transactional leadership literature in public management. Traditionally, leadership literature in public and business management regards leadership as gender-neutral until recent years. A recent study by An and Meier (2020) finds that transformational leadership training is more effective for female managers since communal and democratic characteristics of female leaders may help them understand and utilize the contents of transformational leadership training better. Our study adds to previous findings about the role of manager gender for the effects of leadership training, and stipulate that both manager and employee gender should be considered.

From a practical perspective, this study shows that managers could benefit from considering what their employees perceive if they wish for them to perceive the same amount



of leadership regardless of gender. It seems that female managers especially should consider whether they might increase their leadership more towards their female employees than their male employees following leadership training and/or whether it might be easier for their female employees to perceive their leadership behavior. Thus, especially female managers might benefit from making sure their leadership communication is coming through to their male employees.

In order to focus on an exogenous push, we concentrate on leadership training, not leadership behaviors *per se*. This makes for a hard test of the gender congruence argument since variations in leadership behaviors following from leadership training are likely to be minimal compared to the full variations in leadership behaviors more generally. Therefore, although our leadership training is successful in altering leadership behaviors, it is possible that changed leadership behavior is only a small addition to what the managers did initially. In that sense, it is remarkable that we are able to identify the importance of gender congruence for the formation of leadership perceptions. Moreover, it means that we should be aware that the importance of gender congruence for leadership perceptions is probably larger when it is added up over time and not just tied to a relatively short-term leadership program. Still, we believe that the value of this study lies in the opportunity to follow the formation of leadership perceptions. Therefore, we urge scholars to use similar research designs in the future for a better understanding of the causal mechanisms related to leadership and gender congruence.

## **Conclusion**

Our results support the claim that gender congruence matter for leadership perceptions. Particularly, they support the claim that female congruence is useful when trying to increase employees' leadership perceptions. Although male congruence to some extent also seems to

be beneficial for employees' perceptions of the transactional leadership components, the influence seems to be smaller and is not significant. The results also indicate that gender congruence is far from a complete explanation of how leadership perceptions form. There seems to be gender differences in the importance of gender congruence, and this needs further examination. We urge the field to look into this important area of research in the future. We also encourage future researchers to look into potential intersectionality issues. Although gender is a common identity that can be found in most organizations across the world, an individual is likely to have multiple identities combined with other socio demographic characteristics (e.g., age, education, race, and so forth) (Bearfield, 2009). Examining such intersectionality of individuals would greatly contribute to our understanding of the importance of identities in leadership.

The article contributes knowledge on leadership and gender literature in public management, but the evidence is far from conclusive. We suggest that future research continues to use panel data, if possible, with experimental treatments. Further studies of the seemingly complex role of gender congruence in the transmission of leadership would be very useful. Although some of the findings were expected based on our theory, we also find some peculiar results. Lastly, Denmark has a high level of gender equality (UNDP 2018). We encourage future scholars to replicate the results in different national or organizational contexts with high gender inequality since the effect size and explanatory power can be greater in such contexts. Doing so can also contribute to improving generality of gender congruence and leadership theories.

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## Appendix

### Table A1

*Operationalization of Transformational Leadership, Verbal Rewards, and Pecuniary Rewards*

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The following questions are about your direct manager's leadership style.

Among [organization type] managers, different types of leadership are used. You will thus be asked about your perception of your manager's use of multiple types of leadership.

Some questions are about the use of visions. By *vision* is meant a concrete description of which goals the employees collectively are to work toward.

Other questions are about rewards. By *rewards* is meant, for example, wage supplements, bonuses, courses, perks, and/or promotions.

*My manager...*

---

Transformational leadership	"Concretizes a clear vision for the high school's future"
	"Seeks to make employees accept common goals for the high school"
	"Strives to get the high school's employees to work together in the direction of the vision"
	"Strives to clarify for the employees how they can contribute to achieving the high school's goals"
Verbal rewards	"Gives individual employees positive feedback when they perform well"
	"Actively shows his or her appreciation of employees who do their jobs better than expected"
	"Personally compliments employees when they do outstanding work"
Pecuniary	"Rewards the employees' performance when they live up to his or her requirements"

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“Rewards the employees’ dependent on how well they perform their jobs”

“Points out what employees will receive if they do what is required”

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**Table A2***Summary Statistics*

	Obs.	Mean	S.D.	Min	Max
$\Delta$ Transformational leadership	3,890	0.31	19.91	-100	100
$\Delta$ Verbal rewards	3,868	-1.14	22.80	-100	100
$\Delta$ Pecuniary rewards	3,802	-0.08	24.11	-100	100
Transformational leadership training (TFT)	1,907	0.50	0.50	0	1
Combined leadership training (CBT)	1,969	0.51	0.50	0	1
Transactional leadership training (TAT)	1,955	0.51	0.50	0	1
Manager's gender	3,919	0.52	0.50	0	1
Employee's gender	3,919	0.74	0.44	0	1
Gender congruence	3,919	0.55	0.50	0	1
Public primary school (reference category)		0.24	0.43	0	1
Private primary school		0.04	0.19	0	1
Secondary school		0.18	0.38	0	1
Public day care area manager		0.15	0.36	0	1
Public day care department manager		0.10	0.30	0	1
Private day care		0.02	0.15	0	1
Tax offices		0.23	0.42	0	1
Banks		0.03	0.16	0	1
Size (centralized at mean)		51.83	42.32	2	432
Tenure (manager)		5.98	5.56	0	34
No leadership education (reference category)		0.21	0.41	0	1
Other leadership education		0.26	0.44	0	1
Diploma		0.44	0.49	0	1
Master		0.08	0.27	0	1

**Table A3***Correlations*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) $\Delta$ Transformational leadership	1							
(2) $\Delta$ Verbal rewards	0.329***	1						
(3) $\Delta$ Pecuniary rewards	0.158***	0.252***	1					
(4) TFT	0.129***	0.047*	0.036	1				
(5) CBT	0.114***	0.067**	0.030	N.A.	1			
(6) TAT	0.105***	0.056*	0.090***	N.A.	N.A.	1		
(7) Manager's gender	0.047**	0.018	0.013	0.099***	0.042	0.130***	1	
(8) Employee's gender	-0.014	-0.027	-0.034*	-0.042	-0.012	-0.006	0.090**	1
(9) Gender congruence	0.047**	0.021	0.016	0.043	0.012	0.065**	0.485**	-0.006

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.00$ .

## Tables

**Table 1**

*The Effects of Leadership Training on Employee-Perceived Transformational Leadership*

	DV: $\Delta$ Perceived Transformational Leadership			Split sample	
	Model 1.1	Model 1.2	Model 1.3	Female manager Model 1.4	Male manager Model 1.5
Transformational training (TFT)	5.177*** (1.271)	4.299* (1.842)	4.919** (1.866)	1.464 (2.463)	5.628* (2.234)
Combined training (CBT)	4.437*** (1.136)	3.232* (1.630)	3.230* (1.634)	1.484 (1.801)	4.023* (1.974)
Gender congruence	2.182** (0.775)	0.850 (1.518)	0.837 (1.528)	-1.835 (1.689)	2.402 (1.961)
TFT # Gender congruence		1.659 (2.009)	1.674 (2.026)	5.538* (2.393)	-1.637 (2.929)
CBT # Gender congruence		2.291 (1.925)	2.134 (1.947)	4.845* (2.031)	-0.624 (2.444)
Controls	No	No	Yes	Yes	Yes
Constant	-4.334*** (1.011)	-3.640** (1.340)	-5.515* (2.197)	-0.387 (3.159)	-7.549** (2.817)
Observations	2900	2900	2900	1451	1449
$R^2$	0.016	0.017	0.023	0.029	0.022
Adjusted $R^2$	0.015	0.015	0.018	0.018	0.010

*Note:* Standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Control variables include organization type (ref. = public primary school), size (centralized), manager's tenure, and manager's previous leadership education (ref. = no leadership education). Model 1.1 shows the impact of the different leadership training programs and gender congruence on the employee's perception of transformational leadership. Model 1.2 includes the interactions between leadership training programs and gender congruence; Model 1.3 adds the control variables. Model 1.3 is the primary model used to test the hypotheses as it shows the moderating effects of gender congruence on the relationship between leadership training and changes in employee-perceived transformational leadership behavior. Models 1.4 and 1.5 present the moderation on a split sample.

**Table 2***Effects of Leadership Training on Employee-Perceived Verbal Rewards*

DV: $\Delta$ Perceived Verbal Rewards	Split sample				
	Model 2.1	Model 2.2	Model 2.3	Female manager Model 2.4	Male manager Model 2.5
Transactional training (TAT)	2.460* (1.145)	1.291 (1.759)	1.396 (1.785)	-1.576 (2.392)	2.175 (2.220)
Combined training (CBT)	2.983* (1.332)	0.804 (1.960)	1.224 (1.843)	1.916 (3.366)	0.489 (1.960)
Gender congruence	0.641 (0.923)	-1.517 (1.736)	-1.036 (1.739)	-2.692 (2.640)	-1.438 (2.238)
TAT # Gender congruence		2.238 (2.315)	2.511 (2.313)	4.535 (2.995)	4.874 (3.615)
CBT # Gender congruence		4.139+ (2.287)	4.421* (2.204)	4.271 (3.526)	3.484 (3.009)
Controls	No	No	Yes	Yes	Yes
Constant	-3.417*** (0.974)	-2.294+ (1.341)	-2.283 (2.059)	3.143 (3.269)	-2.307 (2.723)
Observations	2926	2926	2926	1492	1434
$R^2$	0.004	0.005	0.015	0.021	0.021
Adjusted $R^2$	0.003	0.003	0.010	0.010	0.009

*Note:* Standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Control variables include organization type (ref. = public primary school), size (centralized), manager's tenure, and the manager's previous leadership education (ref. = no leadership education). Model 2.1 shows the impact of the different leadership training programs and gender congruence on the employee's perception of verbal rewards. Model 2.2 includes the interactions between leadership training programs and gender congruence, while Model 2.3 adds the control variables. Model 2.3 is the primary model used to test the hypotheses as it shows the moderating effects of gender congruence on the relationship between leadership training and changes in employee-perceived verbal rewards. Models 2.4 and 2.5 present the moderation on a split sample.

**Table 3***Effects of Leadership Training on Employee-Perceived Pecuniary Rewards*

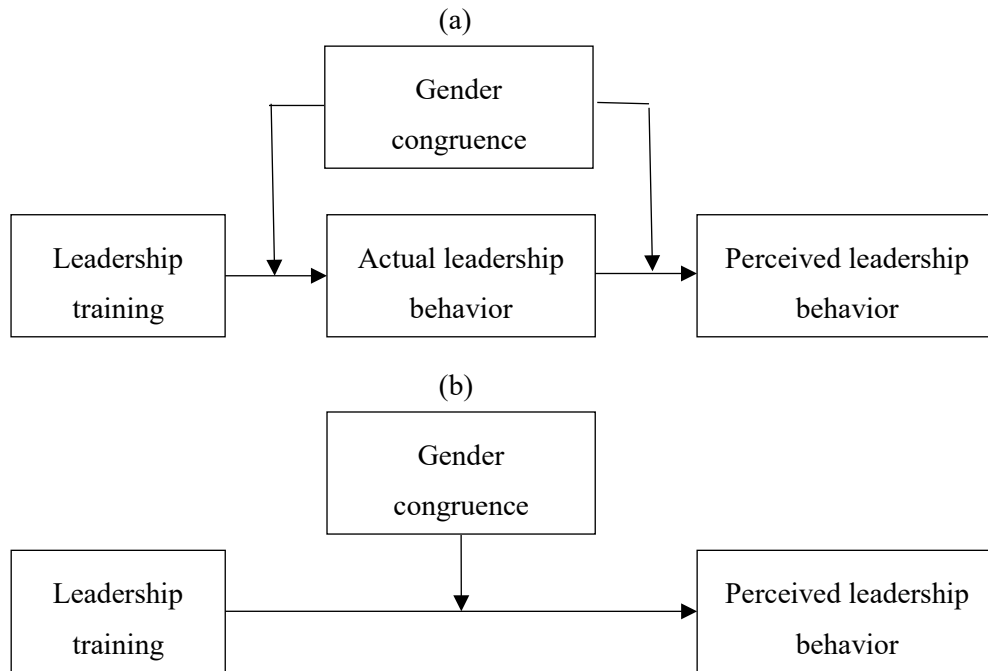
DV: $\Delta$ Perceived Pecuniary Rewards	Split sample				
	Model 3.1	Model 3.2	Model 3.3	Female manager Model 3.4	Male manager Model 3.5
Transactional training (TAT)	4.281** (1.395)	1.396 (1.927)	1.286 (1.925)	1.689 (2.854)	0.573 (2.392)
Combined training (CBT)	1.427 (1.281)	-0.0364 (1.821)	0.334 (1.802)	-5.342+ (2.869)	1.538 (2.190)
Gender congruence	0.709 (0.978)	-1.982 (1.573)	-1.819 (1.657)	-5.181* (2.187)	0.207 (2.232)
TAT # Gender congruence		5.244* (2.350)	5.563* (2.314)	6.384* (3.137)	3.450 (3.204)
CBT # Gender congruence		2.812 (2.326)	2.833 (2.280)	8.584** (3.030)	2.881 (3.371)
Controls	No	No	Yes	Yes	Yes
Constant	-2.329* (0.953)	-0.930 (1.151)	-0.521 (2.138)	0.414 (3.898)	-0.476 (2.972)
Observations	2871	2871	2871	1463	1408
$R^2$	0.006	0.008	0.015	0.036	0.014
Adjusted $R^2$	0.005	0.006	0.010	0.024	0.002

*Note:* Standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Control variables include organization type (ref. = public primary school), size (centralized), manager's tenure, and the manager's previous leadership education (ref. = no leadership education). Model 3.1 shows the impact of the different leadership training programs and gender congruence on the employee's perception of pecuniary rewards. Model 3.2 includes the interactions between leadership training programs and gender congruence, while Model 3.3 adds the control variables. Model 3.3 is the primary model used to test the hypotheses as it shows the moderating effects of gender congruence on the relationship between leadership training and changes in employee-perceived pecuniary rewards. Models 1.4 and 1.5 present the moderation on a split sample.

## Figures

**Figure 1**

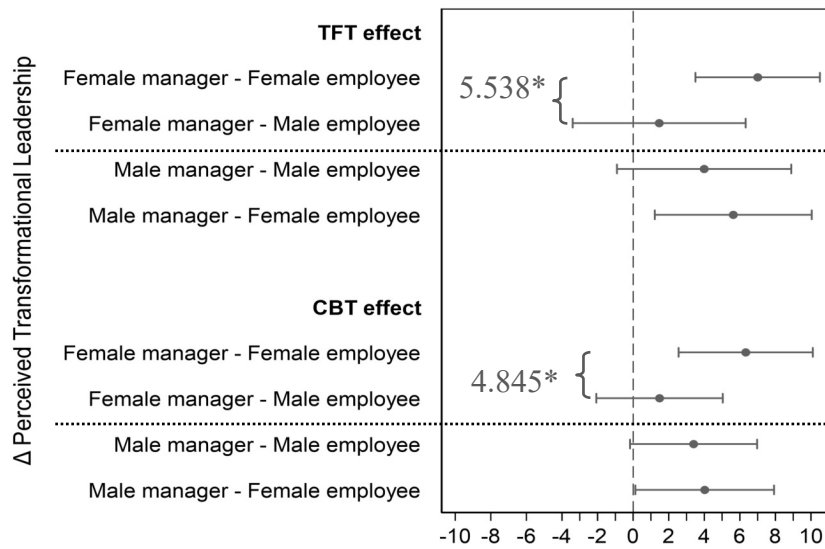
*Theoretical (a) and Operational (b) Models*





**Figure 2**

*Transformational (TFT) and Combined (CBT) Training Effects for Different Gender Combinations on Perceived Transformational Leadership*

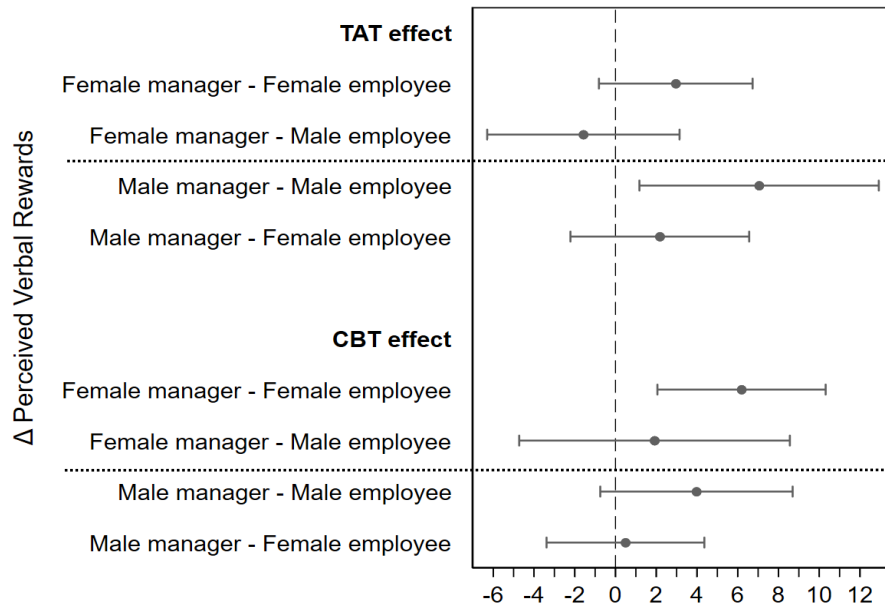


Note: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Based on Models 1.4 and 1.5.

Interpretation: The dots show the treatment effect of each gender combination, while the lines show the confidence interval of these effects. The values show the significant difference in treatment effect between two groups, i.e., the moderating effect of gender congruence.

**Figure 3**

*Transactional (TAT) and Combined (CBT) Training Effects for Different Gender Combinations on Perceived Verbal Rewards*

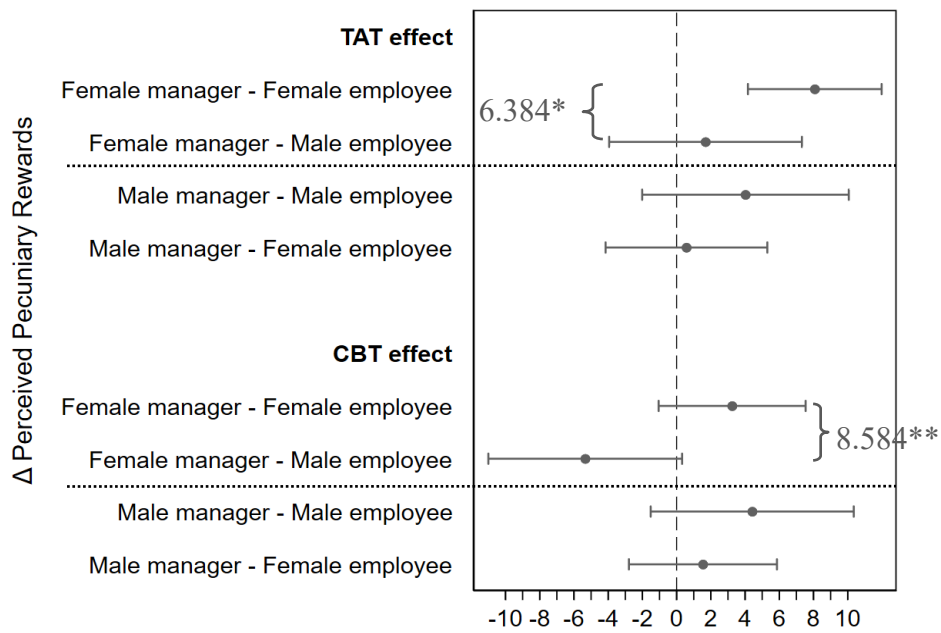


Note: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Based on Models 2.4 and 2.5.

Interpretation: The dots show the treatment effect of each gender combination, while the lines show the confidence interval of these effects.

**Figure 4**

*Transactional (TAT) and Combined (CBT) Training Effects for Different Gender Combinations on Perceived Pecuniary Rewards*



Note: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Based on Models 3.4 and 3.5.

Interpretation: The dots show the treatment effect of each gender combination, while the lines show the confidence interval of these effects. The values show the significant difference in treatment effect between two groups, i.e., the moderating effect of gender congruence.