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List of Abbreviations

Am	North America
As	Asia
E	Europe
MLQ	Multifactor Leadership Questionnaire
PE	psychological empowerment
SE	structural empowerment
TAL	transactional leadership
TAL+PE	transactional leadership and psychological empowerment
TAL+SE	transactional leadership and structural empowerment
TFL	transformational leadership
TFL+PE	transformational leadership and psychological empowerment
TFL+SE	transformational leadership and structural empowerment

1 Introduction

The topic of leadership has drawn the attention of researchers for some time and from a variety of perspectives. For some, leadership represents a key component of political influence (Burns 1978, 3-4). For others, it is closely connected to the results achieved by workers, whether individually or as a team. Hence, in the early twentieth century, Max Weber (1980, 124) defined three kinds of leadership: charismatic, traditional, and rational leadership. In doing so, he provided a theoretical framework for leadership in governments and organizations. Half a century later, James M. Burns (1978, 2) perceived a lack of literature regarding political leadership, inducing him to develop his theory of transactional and transforming leadership. While transactional leadership focuses on some kind of exchange (Burns 1978, 4), like effort for money, transforming leadership activates followers' potential (Burns 1978, 4) by engaging their values and beliefs in pursuit of a shared goal (Burns 1978, 19).

Using Burns' (1978) theory of leadership, Bernard M. Bass (1990) refined his definition of transactional and transforming leadership with a special focus on leadership in organizations, and started to name the latter "transformational leadership". Bass (1997) further defined four dimensions of transformational leadership, focusing on the individual worker's needs and values, as well as encouragement of critical thinking and innovative ideas. This particular focus creates a link between transformational leadership and employee empowerment (Pieterse et al. 2010).

In parallel, employee empowerment has also received an increasing amount of attention, since its influence on both strengthening motivation and enhancing innovation was shown (Lin, Wu, and Ling 2017). Furthermore, employee empowerment improves customer service (Lin, Wu, and Ling 2017). While Lin, Wu, and Ling (2017) conducted their study in the hospitality industry, other researchers, such as Afsar et al. (2017) reached similar conclusions regarding knowledge-intensive businesses, indicating the importance of employee empowerment for an organization's competitive advantage, at least for some industries. To facilitate the investigation of employee empowerment, a distinction can be made between psychological and structural empowerment (e.g. Seibert, Silver, and Randolph 2004, Tuuli et al. 2012).

Psychological empowerment is based on the individual employee's perception of his or her job in terms of a sense of meaning, competence, self-determination, and impact (Spreitzer, Kizilos, and Nason 1997). Hence, there are shared aspects of transformational leadership and psychological empowerment, raising the question whether this relationship can be shown empirically. Current literature yields a variety of studies investigating this relationship (e.g. Pieterse et al. 2010; Barroso Castro, Villegas Perinan, and Casillas Bueno 2008), so that a comprehensive meta-analysis had been be called for.

It was provided in the beginning of 2022 by Schermuly et al., who examined the impact of four different leadership styles, namely empowering leadership, transformational leadership, servant leadership, and transactional leadership, and measured their respective impact on psychological empowerment. The meta-analysis conducted by Schermuly et al. (2022) uses a final number of 83 articles with 97 stated correlations to demonstrate that transformational leadership, servant leadership, and empowering leadership have an almost equal impact on psychological empowerment. Transactional leadership, on the other hand, appears to have no correlation with psychological empowerment (Schermuly et al. 2022). Consequently, several leadership styles can be assumed to support psychological empowerment, whereas transactional leadership impedes employees' psychological empowerment (Schermuly et al. 2022).

However, the meta-analysis by Schermuly et al. (2022) ignores the structural dimensions of empowerment and their potential impact on empowering employees. Nonetheless, the structural conditions of the work environment are an important antecedent of psychological empowerment (Conger and Kanungo 1988), since the psychological evaluation of their personal structural conditions results in the individual employee's perception of empowerment (Laschinger et al. 2004). With respect to leadership style, it is counted among the structural antecedents of empowerment (Huertas-Valdivia, Gallego-Burín, and Lloréns-Montes 2019). At the same time, the leadership style influences the structural context (Spreitzer 1996). Particularly transformational leaders tend to change the organization's structural framework, whereas transactional leaders simply accept it as a given fact and operate within its boundaries (Bass 1997). Considering that these two leadership styles are often used as a theoretical basis of leadership studies, a meta-analysis like the one provided by Schermuly et al. (2022) is required, though with a focus more on structural empowerment.

Thus, this master's thesis aims to investigate the impact of transformational and transactional leadership on both structural and psychological empowerment, with particular emphasis on structural empowerment. By conducting a meta-analysis to empirically examine these relationships, the knowledge gap left by Schermuly et al. (2022) will be addressed. Despite the focus on structural empowerment, however, psychological empowerment is also included, as both dimensions of empowerment are complementary (Lin, Wu, and Ling 2017). Therefore, studies stating correlation coefficients indicating the relationship between both transactional and transformational leadership as well as both structural and psychological empowerment are accumulated and analyzed. In order to enhance the quality of the collected data, only studies published in renowned academic journals are selected to answer the question of how transformational and transactional leadership impact employee empowerment, especially structural empowerment.

To address the stated research question, the first step is to review the relevant academic literature to provide a theoretical background for the empirical analysis. Hence, the literature review describes the design of empowering organizational structures, along with how they influence

employee empowerment and leaders' contributions therein. Then, a detailed research model is presented, including a description of the featured leadership and empowerment concepts and their respective measurement constructs. Additionally, eight hypotheses are developed based on the relationships indicated by the research model. Upon this basis, chapter 4 Methodology provides details on the selected empirical measures as well as the accumulation and coding of the gathered data. Moreover, the process and the formulas used for conducting the meta-analysis are specified, before the corresponding results are presented. These are followed by a discussion of the effect of transactional and transformational leadership on empowerment, particularly structural empowerment. Ultimately, the limitations of this thesis are explained, together with a description of some implications for business leaders and/or managers and future research opportunities.

2 Literature Review

Before starting a discussion of leadership, it seems important to attempt a differentiation between leadership and management. While most researchers agree that the two concepts share common aspects, there is disagreement on the amount of similarities and dissimilarities (Yukl 1989). Simply stated, a person working in a management position does not have to be a leader (Yukl 1989). In fact, many incumbents of higher hierarchical positions lack the power to be true leaders (Kanter 1993, 165), thus remaining managers with a focus on doing things right (Bennis and Nanus 1985, 29) and on controlling complex situations and environments (Kotter 1990). Leaders, on the other hand, are described as people who focus on doing the right things (Bennis and Nanus 1985, 29) and on initiating necessary or useful changes (Kotter 1990).

In other words, leaders focus on the impact ideas or actions have on their followers, whereas managers rather concentrate on how they can make their subordinate employees do what they expect them to do (Zaleznik 1981). Hence, leaders are said to impact their subordinates' commitment to an organization or a goal, whereas managers are more concerned with task execution and completion (Yukl 1989). By contrast, it can be argued that leaders also manage tasks or people, while managers lead as well (Yukl 1989), though not as often or as intensely as true leaders. This view, assuming that leading and managing tend to complement one another, is in line with the belief that a task-oriented (transactional) leadership style and a more emotion-oriented (transformational) leadership style also enrich one another (Lowe, Kroeck, and Sivasubramaniam 1996).

2.1 Organizational Structures and Employee Empowerment

Looking at the aforementioned discussion from a more historical perspective, it may be said that, up to the 1960s, F. W. Taylor's idea of scientific management was the predominant method (Wilkinson 1998) of organizing jobs, especially in machine-based manufacturing companies (Keir 1918). The key elements of scientific management are: standardization (Keir 1918), referring to the use of standardized tools, equipment, work schedules, and instructions (Drury 1915, 69-77); exact knowledge (Keir 1918), implying that workers as well as their foremen need to be highly specialized on their particular task (Drury 1915, 84-86); functionalization (Keir 1918), meaning that all administrative tasks requiring some intellectual effort are taken away from workers and foremen and assigned to newly established functional managers (Drury 1915, 82-84); incentive (Keir 1918), representing a piece-rate payment system that grants higher piece rates for higher output (Drury 1915, 60); and selected personnel (Keir 1918), indicating that only the best-suited workers are hired to complete the defined tasks, as it facilitates increasing their pace of work without harming them (Drury 1915, 77-80).

In other words, Taylor's scientific management focuses more on optimizing productivity than on developing leaders. By breaking jobs, especially in manufacturing or production, down into very routinized, simple tasks, Taylor aims to increase workers' productivity (Wilkinson 1998). At the same time, costs can be reduced, since the tasks to be executed are simple enough to be completed by workers with low qualification, who are obviously less expensive than qualified ones (Kanter 1993, 259). While qualified workers are still necessary for more complicated tasks, the Tayloristic system limits their number, given that all simpler tasks are completed by less qualified staff. Furthermore, decision-making authority is highly centralized (Wall, Cordery, and Clegg 2002), meaning that all decisions are made at the top levels of the hierarchy (Robbins and Judge 2007, 544; Daft, Murphy, and Willmott 2020, 344). Consequently, both lower and middle managers are precisely that – managers hired to ensure a smooth operation or production (Bennis and Nanus 1985, 29). Leadership, by contrast, is reserved for the top management only, where all decisions regarding the organization's goals, strategies, and structure are made.

A similar distribution of leadership and decision-making authority is typical for bureaucratic organizations. According to Max Weber, a bureaucracy is a rational and equitable way of organizing (Daft, Murphy, and Willmott 2020, 341), relying on rules and procedures, a clearly defined hierarchy of authority, and division of labor with specialized tasks (Daft, Murphy, and Willmott 2020, 341). Again, these characteristics are similar to a Tayloristic organization. However, a bureaucracy further aims to differentiate between a given hierarchical position and the person occupying this position (Daft, Murphy, and Willmott 2020, 341). This differentiation intends to eliminate organizational members' feelings of being entitled to hold a specific position for personal reasons (Daft, Murphy, and Willmott 2020, 341). Attaching authority to the hierarchical position and subjecting all positions to clearly stated rules and regulations limits both the amount of personal favors granted and the abuse of positional power (Daft, Murphy, and Willmott 2020, 341). In addition, hiring decisions are solely based on the respective candidates' technical qualifications, not on whom the applicants might know or whom they are related to within the organization's upper management (Daft, Murphy, and Willmott 2020, 341).

Though such rules and procedures ensure a certain amount of fairness, they can also be seen as dehumanizing, given that the focus is on rational and efficient task completion, whereas emotions and interpersonal relationships are considered undesirable in work environments (Daft, Murphy, and Willmott 2020, 341). Nonetheless, it is this kind of rationality that tends to make organizations more bureaucratic as they grow (Daft, Murphy, and Willmott 2020, 342), since it enables them to be highly efficient in performing standardized tasks (Robbins and Judge 2007, 546). By grouping employees with similar tasks into functional units, economies of scale can be realized as task redundancy is minimized (Robbins and Judge 2007, 546-547). Moreover, standardized operating procedures in combination with highly formalized rules and procedures allow for the decision-making authority to be concentrated at the top of the organizational hierarchy. This reduces the need for highly qualified middle and lower managers (Robbins and Judge

2007, 547). Consequently, bureaucratic organizations – like Tayloristic ones – require managers, not leaders, for all hierarchical levels except for the top level.

However, today's organizations tend to look for leaders, requiring their managers and potential managers to have at least some leadership skills. This change is due to the growing instability of the environmental conditions faced by many organizations, especially business organizations (Daft, Murphy, and Willmott 2020, 345). Among these alterations are increasing competition resulting from globalization, more volatile markets, and the need for more flexibility to adapt to rapidly changing markets and customer demands (Daft, Murphy, and Willmott 2020, 345). Flexibility, though, is difficult to achieve in bureaucratic organizations, since highly specialized workers rely on established rules and procedures to complete their tasks successfully (Daft, Murphy, and Willmott 2020, 344).

Deviations from the norm therefore pose some challenges. When there are no standard operating procedures for an issue that arises, the problem has to be escalated to the upper management levels for a solution (Robbins and Judge 2007, 546). Once the respective solution has been finalized, it has to be communicated back to the employee, who then proceeds to implement it (Robbins and Judge 2007, 546). Obviously, this process is time-consuming and customers are likely to be frustrated when their issue cannot be resolved in a timely manner. This, in turn, may easily result in a loss of customers, especially if the same or a similar product or service is offered by other, maybe more flexible, organizations. Consequently, organizations need to adapt to their changing environmental conditions if they want to survive. Employing more leaders – or managers who lead when necessary – is just one step toward achieving this goal.

Aside from being best suited to stable environments (Daft, Murphy, and Willmott 2020, 345), bureaucratic and Tayloristic organizations also started to face human dysfunctionalities by the 1960s (Robbins and Judge 2007, 539). Having to execute the same routinized task every day caused workers to be bored, hence lowering their productivity as well as product or service quality (Robbins and Judge 2007, 539). Ultimately, both absenteeism and turnover rate increased significantly (Robbins and Judge 2007, 539). To counteract these developments, organizations and researchers tried to understand what was happening, hoping to reverse the trend and increase their team members' motivation by redesigning their work (Hackman 1980). Two prominent examples of such work redesign theories are Herzberg's Motivation-Hygiene-Theory and Hackman and Oldham's Job Characteristics Theory (Hackman 1980). Both of these theories aim to improve employees' work experience and productivity, though neither explicitly demands the latter's involvement in the organization's plan for work redesign (Hackman 1980). Consequently, initiatives to reassemble jobs that had formerly been divided into several specialized tasks can encounter an even further decreasing satisfaction among the staff, especially when pay schemes and control mechanisms are not adapted accordingly (Hackman 1980).

Based on the work redesign theories and approaches, the idea of empowerment began to prosper. By 1990, the idea of modern employee empowerment, meaning empowerment as it is known today, was born (Wilkinson 1998). It takes the basic concept of employee involvement of earlier approaches one step further, arguing that organizational structures and conditions are important determinants of employee empowerment and therefore deserve attention (Wilkinson 1998). Combined with the need for organizations to become more flexible in order to meet rapidly changing environmental conditions, authors like Kanter (1993) stress the importance of alterations in organizational design, for example decentralization, de-layered hierarchy, and reduced bureaucracy for the achievement of greater flexibility (Wilkinson 1998). Without considering these elements of organizational design, Kanter (1993, 256-257) argues, work redesign can never be truly empowering. Instead, supervisors might end up feeling even more powerless than before (Kanter 1993, 257), as some of their decision-making authority is likely moved to the responsibility of subordinate team members, thus "denuding" the supervisory jobs (Hackman 1980) by potentially leaving them without any decision-making authority.

2.2 Designing Empowering Organizational Structures

Usually, leaders of organizations focus on six structural variables when designing or redesigning their organizations: work specialization, departmentalization, chain of command, span of control, centralization/decentralization, and formalization (Robbins and Judge 2007, 538). Each of these variables describes a specific aspect of the organization's structure and can thus impact how empowering the work environment for the organization's employees will be. The degree of work specialization, for example, determines into how many different tasks a given job is split (Robbins and Judge 2007, 539). The more single tasks there are, meaning the more divided and specialized the work is, the simpler the individual tasks tend to be (Robbins and Judge 2020, 539). Since the latter are mostly assigned to different workers, the respective team members often repeat the same, single task during their entire working day (Robbins and Judge 2020, 539).

A classic example of this principle is the production belt introduced by Ford, where each worker constantly executes a single routinized task for the entire duration of his or her shift (Robbins and Judge 2020, 539). The same idea also guides Tayloristic organizations. As mentioned before, such a system can decrease personnel costs by lowering the need for qualified, well-trained staff, given that simple tasks can also be completed by employees with little or no qualification (Robbins and Judge 2007, 539). However, a production belt worker who cannot influence the pace of his or her work – as this is defined by the preset speed of the belt – is structurally not empowered and hence unlikely to perceive him- or herself as such.

When striving to change these working conditions, leaders can reduce the degree of work specialization by grouping some of the previously separated tasks back together (Hackman 1980). Such a process is referred to as "job enlargement" (Kanter 1993, 255) or "job enrichment"

(Hackman 1980). It aims to grant every team member several different tasks, so that he or she has the opportunity to use a variety of skills while executing them (Kanter 1993, 255-257). Doing so shows an organization's employees that their knowledge and skills are valued, thus enhancing their feelings of competence. In addition, job enrichment offers them the freedom to decide for themselves which task to work on first, as well as how to work on it (Hackman 1980). Ultimately, this fosters their sense of autonomy.

While triggering competence and autonomy supports the employee's perception of empowerment (Conger and Kanungo 1988), it also implies the need for better-qualified staff within the organization. As a consequence, labor costs are likely to increase, either due to the trainings offered to existing workers in order to develop their skills, or due to hiring new team members with higher qualifications that match the demands of the newly enriched jobs. Still, considering that empowering employees enhances their intrinsic motivation (Thomas and Velthouse 1990), productivity can also be expected to increase (Lin, Wu, Ling 2017), so that the organization nonetheless benefits from the investment.

Once aiming to enrich jobs, leaders also need to reconsider the span of control assigned to supervisory and management positions. Since a narrow span of control means that a supervisor or leader has only few people to direct (Robbins and Judge 2007, 542), it facilitates a closer monitoring of the subordinates along with decisions being made by the respective supervisor or leader. Enlarging the span of control therefore supports employee empowerment, as it increases the number of workers directed by one supervisor or leader (Robbins and Judge 2007, 542). Consequently, the latter cannot exercise the same tight control any longer because of arising time and capability constraints. Based on the same constraints, supervisors and leaders are no longer able to make all the decisions themselves, so that some decision-making authority has to be delegated to their subordinates.

Besides enhancing employee empowerment, a larger span of control has the potential to reduce the number of supervisors or managers (Robbins and Judge 2007, 543). The same supervisor or leader overseeing more employees now results in fewer supervisors or leaders necessary to monitor a given number of team members. This particularly applies once employees are empowered to make simple decisions related to their daily work routine by themselves. In consequence, one or two hierarchical levels might even be eliminated, which does not only save money for the organization, but also further supports empowerment by supporting decentralization (Kanter 1993, 276-277).

Decentralization describes the degree to which decision-making authority is delegated to lower levels within the organizational hierarchy (Robbins and Judge 2007, 543). In centralized organizations, decision-making authority is concentrated at one point in the hierarchy, usually at the top (Robbins and Judge 2007, 543). Thus, all decisions are made by the top management. This requires that all relevant information is communicated upward for the decision to be made.

Afterwards, the decision is communicated back down to the levels where it is executed. Obviously, this system is time-consuming and often neglects specific local knowledge present among lower-level staff (Daft, Murphy, and Willmott 2020, 380-382). Their expertise is ignored when the decision – no matter how trivial it is – is delegated to the top management.

In opposition to that, decentralization aims to have decisions made where the specific knowledge is (Daft, Murphy, and Willmott 2020, 381). In other words, the authority to make decisions, particularly those connected with day-to-day operations, remains at those hierarchical levels where the challenges occur and where the corresponding solutions need to be implemented. By relieving top managers of basic operational decisions, there is more time available to focus on strategic decisions (Daft, Murphy, and Willmott 2020, 381). Furthermore, the organization increases its flexibility, since operational issues can be addressed when and where they occur, without involving the top managers and waiting for their decision. This, in turn, enhances employees' empowerment, because they have some autonomy and decision-making authority incorporated in their job roles, which reflects the organization's trust in their competence while also adding importance to their jobs.

In order to formalize the desired degree of decentralization, leaders can incorporate it into the basic organizational structure, which is determined by the way the organization groups its jobs together (Robbins and Judge 2007, 540). This assembling of jobs and/or tasks to form departments is called "departmentalization" (Robbins and Judge 2007, 540) and often reflects the main focus of an organization. Organizations focused on economies of scale, for example, tend to use functional structures, as those facilitate cost savings by grouping similar jobs within the same department (Robbins and Judge 2007, 540). By concentrating similar expertise in the same department, leaders further create departments and/or teams whose members speak the same language and benefit from sharing their professional knowledge and skills (Robbins and Judge 2007, 546-547).

By contrast, large global organizations often use geography to group jobs, which ultimately results in having the same departments for each region (Robbins and Judge 2007, 540). Similarly, organizations offering very different products or services often organize their workforce according to product or service (Brickley, Smith, and Zimmerman 2016, 419-421), meaning that the respective product or service is assigned a marketing, an accounting, and a human resources department, for example. Since each of these organizational structures yields different strengths and weaknesses, leaders need to carefully evaluate which structure best suits their organization's requirements, or if a mixture of two or more structures might overcome some of the weaknesses attached to the pure forms of the individual structures.

Generally, structures based on region or product/service require some decentralization of decision-making power, as regional or product/service heads are usually held responsible for the performance of their area (Brickley, Smith, and Zimmerman 2016, 419-421). Along with the

accountability, those heads have the authority to make decisions concerning their geographical areas or divisions. While this enables them to react more flexibly to regional or product-related changes and allows them to use specific local knowledge, it also comprises some risks: For one, regional or product/service heads might focus exclusively on their own area of responsibility (Brickley, Smith, and Zimmerman 2016, 419-421). Secondly, they could lose sight of the organization's overall goals and performance (Brickley, Smith, and Zimmerman 2016, 419-421). To address these risks, the remuneration of regional and product/service heads can be partly based on the performance of the organization as a whole, thus encouraging them to consider the broader picture as well as their individual area of responsibility (Brickley, Smith, and Zimmerman 2016, 359). Aside from remuneration concerns, a structure based on region or product/service facilitates empowerment, since it necessarily includes the delegation of decision-making authority from the top to lower levels of the organizational hierarchy (Brickley, Smith, and Zimmerman 2016, 419-421). Still, decision-making authority is only delegated to the regional or product/service heads in a first step, so that additional effort is required to ensure that the employees working within the respective areas will also be empowered by receiving some decision-making authority.

When delegating or re-distributing decision-making authority, the line of authority running from the lowest to the highest level of the organizational hierarchy (Robbins and Judge 2007, 541) may be interrupted. This chain of command defines which team member reports to which superior, ultimately establishing an unbroken line of communicating information from the bottom of the organization to its top management (Robbins and Judge 2007, 541). Orders and/or instructions follow the same lines, though in the opposite direction: They originate from the top management and are communicated down to the hierarchal level where they are to be executed. However, once employees are empowered, meaning that they are assuming some of the decisions that were formerly made by supervisors and/or managers (Robbins and Judge 2007, 52), the chain of command can be disrupted. While this likely requires leaders and managers to re-evaluate their own decision-making authority to adapt to the new circumstances, it does not necessarily harm the organization. Firstly, empowering employees is meant to comprise the delegation of authority (Wall, Cordery, and Clegg 2002), which implies breaking up existing decision-making structures. Secondly, the increasing use of information technology with all the organization's computers having access to the internal network ensures that information is shared and/or provided without the use of formal communication channels along the organizational hierarchy (Robbins and Judge 2007, 542).

Nonetheless, once old structures are broken up, new ones need to be established. This includes some degree of formalization with respect to the newly enriched jobs, like updating job descriptions as well as changing policies and procedures to reflect the re-organized distribution of decision-making authority (Daft, Murphy, and Willmott 2020, 342). Still, organizations with empowered employees usually place less emphasis on formalization (Robbins and Judge 2007, 591), and often use a strong organizational culture (Robbins and Judge 2007, 577) to substitute

for the rigid formal standardization of the jobs within the organization (Robbins and Judge 2007, 545). Commonly, high formalization indicates that team members are expected to conduct their work according to precise policies and procedures, based on job descriptions that leave them little flexibility or autonomy (Robbins and Judge 2007, 545), which negates employee empowerment. For empowered staff, on the other hand, job descriptions are broader and more focused on listing tasks and responsibilities than on detailing how these have to be fulfilled (Robbins and Judge 2007, 545). Thus, employees have more freedom regarding the way they execute their tasks.

2.3 Implications of Empowering Organizational Structures

Similar to job descriptions, remuneration or reward systems may have to be adapted when decision-making authority is reassigned, jobs are redesigned, and workers are empowered (Wilkinson 1998). The most straightforward form of remuneration, namely the monthly salary or wage employees receive, usually remains unchanged, even if newly enriched jobs require them to do more or different tasks than before (Seibert, Wang, and Courtright 2011). Consequently, team members often fear an increase in work intensity without an adequate pay rise when organizations announce structural changes (Daft, Murphy, and Willmott 2020, 96). This likely induces some employees to disapprove of intended changes, causing them to resist the introduction of the latter (Huertas-Valdivia, Gallego-Burín, and Lloréns-Montes 2019). Still, others will perceive the changes as beneficial and advantageous for their job satisfaction and intrinsic motivation (Seibert, Wang, and Courtright 2011). This boost in motivation and job satisfaction might even substitute a pay raise for the latter type of employee (Wilkinson 1998), thus saving the organization both trouble and money.

Nonetheless, organizations need to adjust salaries and wages, as the enriched jobs of the empowered staff often require more qualifications or additional skills. Moreover, the more skilled an employee is, the higher is the remuneration he or she expects in return. In addition to paying higher salaries or wages to newly hired team members, organizations need to invest in training their existing employees in order to ensure that they are prepared to fulfill their new tasks successfully (Wilkinson 198). Though offering trainings is often costly for the organization (Daft, Murphy, and Willmott 2020, 366), it provides the employees with opportunities to learn and develop their personal skills and knowledge. This, in turn, fosters perceived competence among the workforce, triggering intrinsic motivation and increasing productivity (Lin, Wu, Ling 2017). Ultimately, the organization's investment in training its members will therefore be beneficial for the organization.

Besides fixed remunerations, such as salaries or wages, organizations also have to consider how variable incentives might be adapted to enriched jobs and delegated decision-making authority (Brickley, Smith, and Zimmerman 2016, 359). Bearing in mind that the principal-agent model

assumes that the agent requires an incentive to act in the principal's best interest instead of his or her own, the same principle is applied here: Employees who receive decision-making authority also demand an incentive to make their decisions in the organization's best interest, not their own (Brickley, Smith, and Zimmerman 2016, 357-359). Upon this basis, Bowen and Lawler (1992) argue that for empowered employees, at least part of the remuneration should be based on the overall organization's performance, in order to stress the importance of the respective jobs for their incumbents. Although this encourages team members to ponder the implications for the whole organization in the decision-making process, they are also held accountable for the organization's performance, regardless of how much impact their decisions have thereon.

A secretary's decision to answer emails before reading letters, for example, has no significant influence on the organization's performance. Still, when a part of this secretary's remuneration is linked to the organization's performance, the secretary is given some responsibility for the latter (Kanter 1979). According to Pfeiffer (2021), this violates the principle of controllability, stating that an employee's remuneration should only be based on factors that are within the respective employee's control. Nevertheless, the aforementioned secretary would likely accept such a remuneration as long as the organization's performance is good and the resulting incentive positive. However, an unsuccessful business year for the organization, leading to little or no incentive, is less likely to be accepted. Since the weak performance of the organization cannot be directly attributed to the secretary's efforts, he or she is likely to perceive the lack of incentive as punishment for something which is out of his or her control. This feeling of being treated unfairly negates empowerment, promotes a loss in motivation, and furthers dissatisfaction (Kanter 1979), all of which are undesirable consequences for the organization.

Aside from incentives to promote decisions made in line with the organization's interests and goals (Brickley, Smith, and Zimmerman 2016, 359), employees also need information when being entitled to make decisions. While all workers require at least the necessary information to complete their tasks successfully, empowered ones who are expected to make decisions obviously have to be more informed. In addition to immediate task-related information, decision-making team members have to be familiar with the organization's goals, vision, and performance, so that their decision can be made within the broader organizational context and in accordance with organizational interests (Wilkinson 1998). Consequently, organizations aiming to empower their staff are obliged to examine their information flows to ensure the delegation of decision-making authority to lower organizational levels is accompanied by the corresponding access to information (Kanter 1993, 279).

This particular challenge is facilitated by information technology (Robbins and Judge 2007, 542), as internal networks and mailing lists support an organizations' leaders in distributing information quickly and easily throughout the organization. Additionally, by using such technologies, information about the organization as a whole becomes available to all team members (Kanter 1993,

279), who are then enabled to see and understand how their individual jobs impact the organization altogether (Wilkinson 1998). As this enhances the perception of being able to influence the final outcomes, besides fostering the meaningfulness employees attach to their jobs, the availability of information also encourages the feeling of being empowered (Seibert, Wang, and Courtright 2011).

Similar to information being available, empowered employees also need access to the other resources they require to accomplish their tasks, whether these are working time (Laschinger et al. 2001), office space (Spreitzer 1996), funds (Spreitzer 1996) or materials (Echebiri, Amundsen, and Engen 2020). While the ability to use such resources upon personal discretion is crucial, access to resources further implies that empowered workers are entitled to direct and command resources when necessary (Robbins and Judge 2007, 590-591). These can comprise additional funds, a new software, or support from another department to solve a specific issue in time. In other words, a hotel employee who is officially entitled to handle guest complaints, but does not have the automatic approval for giving the guest a small amenity or discount is not empowered, since he or she lacks the access to the required resources. Upon this basis, the respective team member is unlikely to consider him- or herself empowered, which effectively reduces his or her intrinsic motivation and productivity. Consequently, supervisors and leaders are obliged to delegate some of the power inherent to their positions (Daft, Murphy, and Willmott 2020, 497), namely control over organizational resources, to their subordinates when aiming to achieve actual employee empowerment (Kanter 1979).

2.4 Leadership and Empowering Organizational Structures

As demonstrated by the previous sections, leaders have a significant impact on organizational design and structures (Daft, Murphy, and Willmott 2020, 94). Still, different leaders favor different organizational structures, depending on their respective leadership style and the organizational environment (Daft, Murphy, and Willmott 2020, 94-98). While highly bureaucratic and formalized organizations are best suited to stable environments with low uncertainty (Daft, Murphy, and Willmott 2020, 344), decentralization increases organizational flexibility when faced with uncertain, unstable environments (Daft, Murphy, and Willmott 2020, 380-381). Despite such environmental constraints, though, leaders are unlikely to adopt structural changes that negate their personal leadership styles (Robbins and Judge 2007, 537-538). Consequently, an authoritative leader who is convinced that he or she is the only person capable of making important decisions does not foster decentralization, no matter the organizational requirements. On the other hand, organizations tend to hire leaders suited to their current situation and challenges (Robbins and Judge 2007, 401, 429), so that the selection effect is expected to mediate discrepancies between leadership style and organizational requirements to some extent. Nonetheless, leadership style remains a crucial impacting factor for organizational structure and design (Sun et al. 2012), justifying a closer look at some common leadership styles.

Focusing on leaders' characteristics and leadership theory in a political context, James M. Burns (1978) conceptualized the idea of transactional and transforming leadership. Since then, his theory has been applied to other contexts, like organizations, by many different authors investigating leadership. Drawing on Burns' (1978) transforming leadership, Bernard M. Bass (1985) developed his idea of transformational leadership in organizations, focusing on the effect of leaders on their respective followers. As indicated by the term "transformational", these leaders transform their followers from purely self-centered individuals into people striving for a higher goal, using shared values to motivate the latter to invest more of their resources and/or work harder in order to achieve the transformational leader's stated "higher goal" (Bass 1999). By contrast, transactional leadership is focused on specific exchanges (Burns 1978, 19-20), like effort for money.

While the transformational and the transactional approach to leadership can be seen as separate concepts, they can also be viewed as two ends of a leadership continuum (Judge and Piccolo 2004), in which a leader's personal style of leadership is derived from the style he or she displays most often (Bass 1999). Despite the popular impression that transformational leadership is superior to transactional leadership (Burns 1978, 4), the opposite can also be true in certain situations (Bass 1990). In other words, some situations call for transformational leadership, while transactional leadership is more successful in others (Bass 1990). Therefore, Bass (1999) is convinced that being the best possible leader requires being both transactional and transformational, depending on the respective situation. Generally, aspects of transformational leadership are considered to enhance a transactional leader's effectiveness (Bass 1999). Still, it remains impossible to effectively substitute a transformational leader for a transactional leader (Bass 1999), as the transactional aspects remain important for ensuring performance on a day-to-day basis (Bass 1990).

Until the beginning of the 2000s, these transactional and transformational leadership concepts dominated leadership research (Anderson and Sun 2017). Since then, several new leadership styles – charismatic leadership, ethical leadership, or servant leadership, to name a few – have been introduced, with the aim to include aspects neglected by the transactional/transformational approach (Anderson and Sun 2017). However, a closer look at the respective aspects often shows that the differences between the new approaches and the established transactional/ transformational approach are small. Charismatic leadership, for example, describes leaders who create inspiring visions of future goals and motivate followers to commit themselves to these goals (Anderson and Sun 2017). The same aspects are covered by the "inspirational motivation" dimension of Bass' (1997) transformational leadership. Therefore, charismatic leadership and transformational leadership are similar enough to omit any differentiation between the two leadership styles (Anderson and Sun 2017).

Ethical leadership focuses on moral conduct, decision-making, and interaction (Anderson and Sun 2017). Thus, the leader is expected to act as a role model for his or her values, especially

honesty, fairness, and ethical decision-making principles (Anderson and Sun 2017). While these values are not explicitly stated as part of transformational leadership, they are nonetheless included in the dimensions “individualized consideration”, which focuses on the individual employee with his or her personal needs (Bass 1990), and “inspirational motivation”, which centers on attractive leader behavior (Judge and Piccolo 2004). Furthermore, transformational leaders also act as role models, since they intend to strengthen their subordinates’ intrinsic motivation by linking work-related activities to their individual values and beliefs (Burns 1978, 19). Moreover, ethical leaders encourage moral behavior among employees by giving rewards for ethical conduct (Anderson and Sun 2017), which reminds of the exchange at the basis of transactional leadership (Burns 1978, 19-20). Although this transactional approach differentiates ethical from transformational leadership, the differences between transformational and ethical leadership are significantly smaller than the similarities (Anderson and Sun 2017).

When investigating servant leadership, the situation is similar. Servant leadership strongly focuses on “serving” followers, meaning that the leader combines directing employees with actively fostering their personal development (Anderson and Sun 2017). To do so, the leader is altruistic, encouraging new ideas to address old problems, forgiving, humble, authentic, and behaving ethically, just to mention some of the twelve characteristics of servant leaders listed by Anderson and Sun (2017). Interestingly, many of these characteristics are also comprised in the four dimensions of transformational leadership, like fostering innovation or treating subordinates as human beings deserving of respect (Bass 1990). Therefore, once again, the similarities between the two leadership concepts seem to be more prominent than the differences (Anderson and Sun 2017).

Considering that Anderson and Sun (2017) reach the same conclusion regarding pragmatic leadership and authentic leadership, focusing any additional research, especially meta-analytic research, on transactional and transformational leadership seems appropriate. Since these two leadership styles comprise most of the characteristics and dimensions highlighted by the more recently developed leadership styles (Anderson and Sun 2017), transactional and transformational leadership retain their relevance and remain at the forefront of leadership research.

3 Development of the Research Model

Based on the literature discussed in the previous chapter, a research model was developed to summarize the ideas guiding this master's thesis. As indicated by Figure 1, leadership is basically argued to impact both structural and psychological empowerment. Leaders address the former by changing the assignment of decision-making authority (Bowen and Lawler 1992), for example, or by reorganizing the company's task distribution (Hackman 1980). Psychological empowerment, on the other hand, is facilitated by offering employees more autonomy in their job roles (Seibert, Wang, and Courtright 2011), or providing them with a broader range of information about their team or department (Bowen and Lawler 1992), thus fostering their understanding of the importance of their jobs (Spreitzer, Kizilos, and Nason 1997) for their teams or departments. This, in turn, supports the belief of having a meaningful job, which enhances the perception of being empowered (Spreitzer, Kizilos, and Nason 1997).

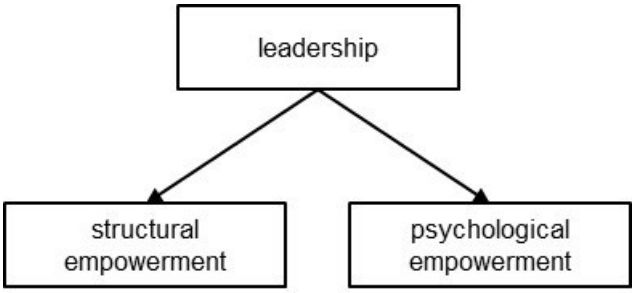

Figure 1 Basic Research Model
Source: own representation

To graphically illustrate these arguments, Figure 2 presents a more detailed version of the research model. It features all the dimensions on which the measurement constructs for transactional and transformational leadership are based. Likewise, the aspects comprised in the measurement constructs for structural and psychological empowerment are indicated. Hence, Figure 2 not only details the factors that are necessary to develop empowerment, but also the potential starting points for leaders who aim to foster their subordinates' empowerment.

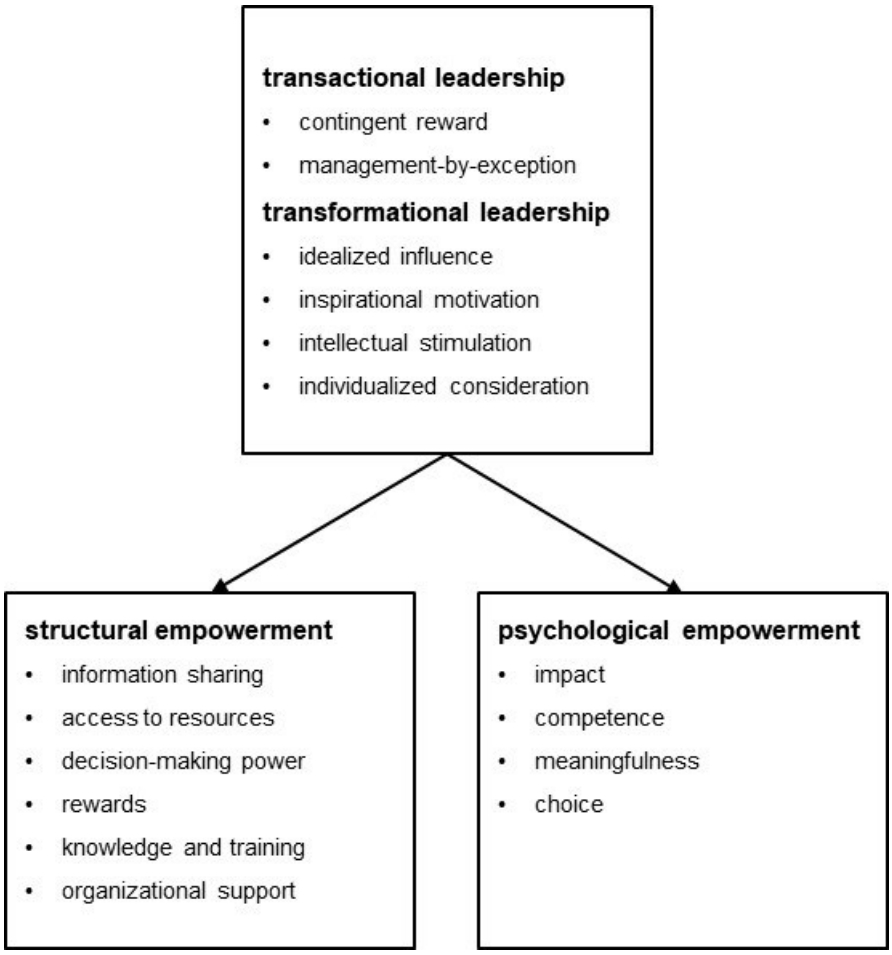

Figure 2 Detailed Research Model

Source: own representation based on Bass (1997), Thomas and Velthouse (1990), Spreitzer (1996), Bowen and Lawler (1992), and Laschinger et al. (2001)

In the subsequent sections, each of the dimensions displayed in Figure 2 is explained in detail, so that the measurement constructs for all of the aforementioned concepts are clearly defined. These distinct construct definitions establish the foundation for determining the boundaries of selecting papers for the following meta-analysis. Ultimately, only studies investigating precisely those concepts – ideally with the same measurement constructs – are included in order to avoid what Hunter and Schmidt (1990, 516) call the comparison of apples and oranges.

3.1 Leadership Concepts

For the leadership concepts underlying this meta-analysis, all dimensions of transactional and transformational leadership with their corresponding measurement constructs are used. In more specific terms, the dimensions comprised in these constructs are contingent reward, active management-by-exception, and passive management-by-exception for transactional leadership as well as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration for transformational leadership (Bass 1997). The following paragraphs define each

of these dimensions, starting with transactional leadership, then continuing with transformational leadership.

3.1.1 Transactional Leadership

The first dimension of transactional leadership, contingent reward, implies a pre-defined reward that will be obtained once a specific task is complete or a set performance goal has been achieved (Young et al. 2021). However, this reward is paired with the threat of a specific punishment when failing to complete the task or to achieve the performance goal (Young et al. 2021). Hence, the transaction is enforced by both the positive opportunity to attain a reward and the negative possibility to incur a penalty. In most organizational settings, the contingent reward means a wage or salary that employees receive on a regular basis, though it can be combined with a bonus system allocating additional rewards for clearly stated achievements. Consequently, employees know exactly what they are supposed to do in order to obtain their reward and avoid retribution. This establishes a bureaucratic framework intended to reduce uncertainty (Kanter 1993, 48), while facilitating the task of directing team members toward a specific outcome at the same time, as their individual reward depends on this particular outcome (Bass 1999). Thus, providing a contingent reward appeals to the employees' self-interest as a motivational source (Bass 1999). Furthermore, it implies maintaining the status quo, as workers are not encouraged to question or criticize the status quo and develop innovative ideas (Afsar et al. 2017).

The second dimension of transactional leadership, management-by-exception (Bass 1997), adds an aspect of control to the aforementioned contingent reward. The conceptual difference between active and passive management-by-exception is based on the way leaders monitor their subordinates' performance and take corrective action in case of problems (Judge and Piccolo 2004). Active management-by-exception involves a constant control of employees' performance by the leader, so that indications of problems are perceived in advance (Judge and Piccolo 2004). This enables the leader to take corrective action before noticeable damages arise or the production process is seriously disrupted (Young et al. 2021). By contrast, passive leaders do not monitor their subordinate team members as closely (Young et al. 2021). Unconcerned with noticing potential problems in time, these leaders act only once a problem has already manifested itself (Young et al. 2021). As a result, they tend to incur damages or disruptions of the production process more often than their actively monitoring colleagues.

3.1.2 Transformational Leadership

Contrasting with the transactional exchanges explained so far, transformational leaders aim to elicit a change in their employees, drawing on their values and stimulating their desire to achieve higher goals (Judge and Piccolo 2004). While the transactional exchange is based on self-centered employees pursuing their own personal interests (Bass 1999), transformational leaders teach their employees to broaden their horizons and consider the bigger picture (Bass 1990).

Thus, employees start appreciating the value of a goal in itself, for the benefit it yields for the team or the organization as a whole, not just for the personal reward – and punishment avoidance – it promises them individually. Based on this idea, Bass (1997) specified the aforementioned four dimensions of transformational leadership that represent the underlying concepts measured for the purpose of this meta-analysis.

The first of these dimensions, idealized influence, is also called charisma (Bass 1997). It refers to the leader's personal attributes and behavior, describing his or her ability to elate followers (Judge and Piccolo 2004). Charismatic leaders are admired by their followers, who identify with them (Judge and Piccolo 2004), turning the leader's goals into their own. By acting as a role model, transformational leaders further show their subordinates that goals above and beyond the daily business are worth striving for (Shamir, House, and Arthur 1993). Upon this basis, employees surpass their focus on a transactional exchange by experiencing the intrinsic reward of acting on their values and beliefs (Bass 1997). Additionally, charisma is considered crucial to enhancing team members' emotional relationship to their leader, marking it as a necessary prerequisite for transformational leadership (Bass 1990). On the downside, being charismatic may cause transformational leaders to misjudge their competence in influencing others and become over-confident, especially if they have personalities with narcissist tendencies (Ma and Jiang 2018).

Inspirational motivation, the second dimension of transformational leadership (Bass 1997), indicates the leaders' ability to create an appealing vision of the future or a goal, thus inspiring employees to embrace this vision and to work hard toward its completion (Judge and Piccolo 2004). Although this goal is usually extensive and hard to measure (Shamir, House, and Arthur 1993), transformational leaders convince their followers to share their goals or visions, resulting in every achievement being turned into a shared success (Burns 1978, 19). Furthermore, as the leader's articulated vision touches on employees' values and beliefs, it also serves to raise their intrinsic motivation (Burns 1978, 19) and to reduce the need for leaders to closely monitor their subordinates' task performance (Schermuly et al. 2022). In other words, team members become convinced that by reaching the leader's stated goal, they will achieve an inherently rewarding outcome (Bass 1997). Therefore, the employees' reward for performance exceeds a transactional exchange, since they do not only receive a measurable financial compensation in form of a wage or salary, but also feel the indeterminate intrinsic satisfaction of having made a valuable contribution to their team and/or organization (Barroso Castro, Villegas Perinan, and Casillas Bueno 2008).

The third dimension of transformational leadership listed by Bass (1997), namely intellectual stimulation, refers to the way the leader challenges the status quo (Bass 1990), including assumptions, policies, and procedures detailing how things are supposed to be done in a specific organization. In addition, intellectually stimulating leaders are interested in their subordinate employees'

thoughts and opinions, encouraging them to voice these (Judge and Piccolo 2004). When implementing new ideas, leaders are willing to take risks (Judge and Piccolo 2004), which entails accepting that every change potentially yields unforeseen challenges. However, these challenges are not necessarily considered failures, but rather additional opportunities for innovative solutions or further improvement. Hence, intellectual stimulation fosters creativity and innovation among employees (Bass 1999).

Individualized consideration represents the last dimension of transformational leadership (Bass 1997) and describes the leader's focus on the individual follower's needs (Bass 1999). Besides listening attentively to their workers' concerns, the leader also determines their individual development needs (Bass 1999). Upon this basis, the leader offers his or her subordinates mentoring or coaching to ensure their personal growth (Judge and Piccolo 2004). This educational process often includes delegating tasks to team members as a learning experience (Bass 1999). By providing such opportunities to develop competences and to enhance personal skills, leaders ultimately turn their employees into leaders as well (Burns 1978, 34), though on a smaller scale. Moreover, assuming that employees tend to model their own behavior on their leader's behavior (Bass 1990), transformational leaders are likely to raise new transformational leaders in their teams.

In sum, all papers investigating leadership by using contingent reward, active management-by-exception, passive management-by-exception, idealized influence/charisma, inspirational motivation, intellectual stimulation, and individualized consideration (Bass 1997) are conceptually suited to be included in the meta-analysis, as they measure the same underlying constructs. In other words, all studies based on the full range of leadership theory with its respective measurement constructs (Antonakis, Avolio, and Sivasubramaniam 2003) are eligible to be a part of the meta-analysis. Yet, as previously mentioned, publications applying the same constructs with other measures will also be used, as long as they adhere to the concepts of the full range of leadership theory.

3.2 Empowerment Concepts

When discussing employee empowerment concepts, a distinction has to be made between psychological and structural empowerment. Psychological empowerment concentrates on motivational (Thomas and Velthouse 1990) and cognitive (Spreitzer, Kizilos, and Nason 1997) processes related to and taking place within the individual employee's mind. Structural empowerment, on the other hand, focuses on organizational factors (Seibert, Wang, and Courtright 2011) and workplace atmosphere (Tuuli et al. 2012), both of which are external to and independent from the individual employee (Seibert, Wang, and Courtright 2011). Nonetheless, both psychological and structural aspects are important for employees to perceive themselves as empowered, since

employee empowerment basically implies an increase in motivation or personal competence as well as a transfer of authority (Thomas and Velthouse 1990).

3.2.1 Psychological Empowerment

Focusing on psychological empowerment, there are four dimensions commonly used to measure this concept, namely impact, competence, meaningfulness, and choice (Thomas and Velthouse 1990). The first of these, impact, indicates whether an employee can make a valuable contribution by completing his or her task (Thomas and Velthouse 1990) or the degree to which he or she is able to influence the final outcome (Lin, Wu, and Ling 2017). Spreitzer, Kizilos, and Nason (1997) use a similar definition, stating that the individual perception of making a difference on work outcomes by adapting the underlying strategic, administrative, or operational processes is essential to team members feeling empowered. Without the belief that their work impacts their team and/or organization positively, employees will be unable to consider themselves empowered, which tends to result in lower intrinsic motivation. To support workers' perceived impact on outcomes, leaders can grant them a higher amount of autonomy and adopt a more participative leadership style (Seibert, Wang, and Courtright 2011).

The second dimension of psychological empowerment, competence, refers to the amount of personal ability and the skills an employee can use to work on a given task (Thomas and Velthouse 1990). Refining this definition by stressing the individual aspect, Spreitzer, Kizilos, and Nason (1997) note that the perception of personal competence is based on the employee's self-confidence, which refers to team members being convinced that they are knowledgeable and in possession of the necessary skills to complete a given task. Workers lacking such self-confidence with respect to their own competence usually see themselves as incapable and falling short of their employer's expectations, which effectively lowers their feeling of empowerment (Spreitzer, Kizilos, and Nason 1997). Leaders can enhance their subordinates' perceived competence by providing constructive feedback, mentoring, and coaching (Seibert, Wang, and Courtright 2011) as well as by proving their trust in their employees' skills, for example by delegating authority or having them participate in setting goals (Huertas-Valdivia, Llorens-Montes, and Riuz-Moreno 2018).

Meaningfulness reflects how much an employee cares for a given task, which, in turn, depends on how well the task is aligned with the respective person's intrinsic values and beliefs (Thomas and Velthouse 1990). Similarly, the sense of meaning included in the model presented by Spreitzer, Kizilos, and Nason (1997) describes the overlap of the employee's role at work with his or her personal values and beliefs. A high overlap allows the team member to behave "in character", thus fostering intrinsic motivation and satisfaction, whereas little congruence can cause staff to experience strain (Spreitzer, Kizilos, and Nason 1997). In order to enhance the meaning employees attach to their work roles, leaders can share information, not only pertaining to the immediate work roles, but also to the underlying strategy and long-term goals (Seibert, Wang,

and Courtright 2011). Once the former know what their organization aims to achieve, they are better able to see the value they contribute by executing their respective tasks and roles.

The last of the psychological factors, choice, assigns accountability to the worker (Thomas and Velthouse 1990), meaning that he or she is held responsible for the actions resulting from his or her choices. Consequently, a leader-follower relationship based on trust, along with the leader's support for the employee and encouragement of the latter's ideas, fosters the employee's feeling of being in control of his or her actions (Seibert, Wang, and Courtright 2011). This belief of being the initiator of one's actions is also called "self-determination" (Spreitzer, Kizilos, and Nason 1997), which emphasizes the importance of employees' perceived autonomy in the organizational setting. Team members who constantly believe that they are simply performing according to orders from hierarchically superior managers or leaders will never consider themselves empowered (Spreitzer, Kizilos, and Nason 1997).

3.2.2 Structural Empowerment

Turning to the concepts of structural empowerment, six dimensions are used to measure structural empowerment: information sharing (Bowen and Lawler 1992), access to required resources (Spreitzer 1996), decision-making power, rewards, professional knowledge combined with corresponding trainings (Bowen and Lawler 1992), and organizational support (Laschinger et al. 2001). Given that there are different questionnaires and scales for measuring these aspects, they are also labelled differently, though the underlying conceptual differences are often negligible. Thus, for the purpose of this meta-analysis, conceptually similar factors are summed up and referred to under the same label to avoid confusion.

The first of the dimensions listed above is information sharing (e.g. Bowen and Lawler 1992; Spreitzer 1996; Seibert, Silver, and Randolph 2004). Sharing relevant information refers to the organization providing its members with all the information they need to successfully fulfill their tasks (Bowen and Lawler 1992), along with information relating to the organization as a whole, like organizational performance and strategic goals (Seibert, Wang, and Courtright 2011). On the basis of shared information, team members are better capable of evaluating the importance of their individual jobs for the organization as a whole, thus enhancing their perception of empowerment (Seibert, Wang, and Courtright 2011). Furthermore, having access to sensitive information indicates the organization's trust in its employees, showing them that they are valued members of the organization.

In addition to information, structurally empowered employees also have access to the resources they require in order to execute their job-related tasks and to achieve the goals set for them. This implies, for example, that workers who have the freedom to organize the project they are working on by themselves, also have the right to request support from colleagues when necessary, even if the respective colleagues work for a different department. If this is not possible, employees are

unlikely to consider themselves structurally empowered. Besides working time – which needs to be sufficient for the completion of all assigned tasks (Laschinger et al. 2001) – access to resources also comprises materials (Echebiri, Amundsen, and Engen 2020), funds, and space in which to work (Spreitzer 1996).

The third dimension of structural empowerment is the delegation of decision-making power from upper to lower hierarchical levels (Bowen and Lawler 1992), though not necessarily to the very bottom of the hierarchy (Reitzig 2022, 136). At some point, further downward delegation of a specific decision could become counterproductive (Reitzig 2022, 136). Nonetheless, the delegation of authority is reflected by organizational structures, policies, and guidelines. This structural foundation signifies a notable difference from the psychological factor "choice", which represents how individual employees perceive their autonomy in making decisions, independent from structural conditions. While this appears straightforward, it cannot be assumed that officially granting employees the right to make specific decisions will truly empower them to do so.

Considering that "power is the ability to get things done" (Kanter 1993, 166), truly powerful individuals possess the ability use both the formal authority inherent in their positions and the support from their informal social network (Kanter 1993, 164), which usually comprises same-level colleagues, subordinates, superiors, and external stakeholders like customers or suppliers (Spreitzer 1996). Whereas employees with a larger social network tend to receive more support and therefore have more informal power, powerless individuals lack either of the aforementioned sources of power (Kanter 1993, 196-197). A department head who cannot convince his superior to provide him or her with additional manpower to complete a specific project in time will be considered powerless, as will a supervisor who is not allowed to reward or discipline a subordinate based on the latter's behavior or performance (Kanter 1993, 186-187). Hence, only employees possessing access to both power sources are properly equipped to truly execute the decision-making power delegated by upper hierarchical levels.

The next dimension applied to measure structural empowerment, rewards, refers to what employees receive in return for their effort or performance. Bowen and Lawler (1992) state that rewards should be linked to the organization's performance, which stresses the importance of the individual employee's job for the organization in its entirety. Seibert, Silver, and Randolph (2004), on the other hand, argue that linking rewards to employees' individual performance fosters their individual accountability for their respective results. Either way, rewards based on specific performance goals increase the attraction of actively pursuing those goals for employees, as their self-interest encourages them to obtain the reward.

Furthermore, the presence of necessary professional knowledge and corresponding trainings to enhance this knowledge indicates structural empowerment. Team members need to be equipped with the knowledge they require to complete their tasks efficiently and successfully (Bowen and Lawler 1992). Moreover, by offering challenging work as well as opportunities to learn and acquire

new knowledge or skills (Laschinger et al. 2001), organizations foster structural empowerment while enhancing their employees' personal development and growth (Spreitzer, Kizilos, and Nason 1997).

Last but not least, Laschinger et al. (2001) also mention support provided by the organization as indicative of structural empowerment. This support entails lauding the individual employee regarding things he or she does well and explaining things that could be improved on (Laschinger et al. 2001). In addition to the provision of constructive feedback (Monje Amor, Xanthopoulou, and Calvo 2021), organizational support implies offering team members helpful hints and advice on solving problems (Echebiri, Amundsen, and Engen 2020) instead of taking the problem away from them. Besides, subordinates receive active help from their superiors when attempting to resolve issues by themselves (Laschinger et al. 2001). For example, a supervisor demonstrates a front-line employee how to cope with a specific issue, which enables the latter to handle similar situations on his or her own in the future. This, in turn, emphasizes structural empowerment by empowering employees to act autonomously.

Ultimately, measuring the conceptual dimensions of structural empowerment is more complicated than measuring those indicating psychological empowerment. Not only are the concepts underlying the respective measurement constructs more uniform for psychological empowerment, but also the questionnaires used to gather data are usually the same. For structural empowerment, by contrast, the concepts show more variety, though the latter often remains small. Nonetheless, differing concepts and measurement constructs cause differences in the questionnaires used for data collection, so that the coding of the data according to the aforementioned conceptual factors will be more challenging and complicated for structural empowerment than for psychological empowerment.

3.3 Hypotheses

Drawing on the details of transactional and transformational leadership as well as structural and psychological empowerment presented in the previous sections, eight hypotheses are derived. The latter summarize the basic expectations regarding the correlations between leadership and empowerment that are investigated by this meta-analysis.

Pertaining to transactional leadership, only one of its dimensions can be interpreted as somewhat supporting of empowerment: contingent reward. The clearly stated connection between rewards and performance (Judge and Piccolo 2004) potentially links the employee's individual performance to the organization's goals, which is a dimension of structural empowerment (Bowen and Lawler 1992). By contrast, the delegation of decision-making authority is unlikely to happen with a transactional leader (Young et al. 2021), so that this dimension of structural empowerment is hindered rather than supported. Moreover, transactional leaders usually tend to accept their structural conditions without being interested in major changes (Afsar et al. 2017), which makes

them unlikely to establish new, more empowering organizational structures. Likewise, both active and passive management-by-exception hinder structural empowerment rather than facilitate it, as the leader retains his or her decision-making power (Young et al. 2021). Nonetheless, given that all dimensions of transactional leadership comprise a direct performance – reward link (Bass 1997), transactional leadership is assumed to have a slight positive impact on structural empowerment.

H1: Transactional leadership positively correlates with structural empowerment.

Regarding psychological empowerment, contingent rewards can facilitate the perception of competence (Spreitzer, Kizilos, and Nason 1997) when employees succeed at completing their tasks. Furthermore, passive management-by-exception possibly provides employees with additional self-determination (Spreitzer, Kizilos, and Nason 1997), since the leader does not constantly monitor his or her subordinates' performance (Judge and Piccolo 2004). However, this autonomy is limited, as leaders retain their power to make decisions and to allocate resources (Kanter 1993, 165), so that the effect on psychological empowerment remains small. Therefore, transactional leadership is presumed to have only a small impact on psychological empowerment.

H2: Transactional leadership positively correlates with psychological empowerment.

Based on the arguments mentioned above, transactional leadership is assumed to have a limited effect on psychological empowerment by fostering perceptions of competence (Spreitzer, Kizilos, and Nason 1997) and choice (Thomas and Velthouse 1990). Though leaders usually do this unconsciously, given that they concentrate on the exchange of effort for pay (Burns 1978, 19-20), their impact on structural empowerment is even less. Only contingent reward leadership relates to a dimension of structural empowerment, namely rewards (Bowen and Lawler 1992). Additionally, transactional leaders tend to avoid changing their work environments (Afsar et al. 2017), rendering them unlikely to purposely focus on one of structural empowerment's other dimensions, like access to information (Bowen and Lawler 1992) or organizational support (Laschinger et al. 2001). Thus, transactional leadership's correlation with structural empowerment is argued to be weaker than the one with psychological empowerment.

H3: Transactional leadership correlates stronger with psychological empowerment than with structural empowerment.

Unlike their transactional colleagues, transformational leaders are likely to induce and embrace changes (Burns 1978, 251-254). Mostly, they exert only a limited amount of supervision (Afsar et al. 2017) and voluntarily delegate some of their decision-making authority to their team members (Lin, Wu, and Ling 2017), both of which support structural empowerment. Furthermore, transformational leaders inform their subordinates not only about the specific tasks they are expected to perform, but also about the performance and the strategic goals of the organization as a whole

(Bowen and Lawler 1992). Combining the communication of extensive information with non-routine tasks that encourage personal growth (Spreitzer, Kizilos, and Nason 1997), transformational leaders positively influence several dimensions of structural empowerment, e.g. information sharing and professional knowledge (Bowen and Lawler 1992).

H4: Transformational leadership positively correlates with structural empowerment.

Besides facilitating structural empowerment, transformational leaders encourage their subordinates to think critically about their structural environment and develop ideas for improvement (Bass 1999). By doing so, they strengthen their team members' belief of being competent (Thomas and Velthouse 1990) and having an impact on the final outcome (Lin, Wu, and Ling 2017), thus addressing two dimensions of psychological empowerment. Since transformational leaders also tend to favor large spans of control (Afsar et al. 2017), employees have some autonomy to choose what task to work on and how to execute it (Seibert, Wang, and Courtright 2011). This further promotes their perception of being empowered. Hence, it is argued that transformational leaders encourage their subordinates' psychological empowerment.

H5: Transformational leadership positively correlates with psychological empowerment.

Though transformational leaders enhance both structural and psychological empowerment, it is expected that their active support of change (Burns 1978, 251-254) facilitates structural empowerment more than psychological empowerment. Essentially, transformational leaders modifying the work conditions usually address all six dimensions of structural empowerment, from supplying information exceeding the immediate task requirements to delegating decision-making authority (Bowen and Lawler 1992) and providing organizational support (Laschinger et al. 2001). Besides, such structural changes are formalized by the establishment of corresponding policies and procedures (Judge and Piccolo 2004), so that they are objectively existing and available to all workers they concern. By contrast, psychological empowerment happens inside the individual employee's mind (Lin, Wu, and Ling 2017). Consequently, leaders have a limited impact on how team members perceive their work conditions and evaluate their empowerment, as the former cannot force the latter to reach the conclusion they aim for. In other words, despite transformational leaders supporting empowerment cognitions, they lack the ultimate power to ensure their desired perceptions and beliefs are the same as the ones held by their staff. Hence, the impact of transformational leadership on structural empowerment is assumed to be more pronounced than on psychological empowerment.

H6: Transformational leadership correlates stronger with structural empowerment than with psychological empowerment.

Last but not least, considering the arguments sustaining hypothesis H1 through hypothesis H6, transformational leadership is expected to be more influential in establishing both structural and psychological empowerment.

H7: The correlation of transformational leadership and structural empowerment is stronger than the correlation of transactional leadership and structural empowerment.

H8: The correlation of transformational leadership and psychological empowerment is stronger than the correlation of transactional leadership and psychological empowerment.

4 Methodology

In general terms, a meta-analysis aims to combine the results of individual studies across the same concepts for a broader and more reliable analysis of these results (Hunter and Schmidt 1990, 13). By doing so, a meta-analysis can uncover similarities among results, even when they seem to differ at first glance, since it reveals and corrects man-made errors, which are often responsible for seemingly conflicting results presented in different papers (Hunter and Schmidt 1990, 29). Hence, a meta-analysis can statistically demonstrate whether the variability of the individual study results is based on differences in the underlying population values (Hunter and Schmidt 1990, 13-14). Alternatively, the analyzed variability might occur due to measurement errors (Hunter and Schmidt 1990, 13-14). Therefore, meta-analyses are a more powerful tool to generate a complete picture of the interactions between specific variables than individual studies investigating the same variables (Hunter and Schmidt 1990, 35-37). By combining the numerous individual results like jigsaw pieces, a clearer and broader picture can be created, integrating different results and aspects into a few generalizable insights (Hunter and Schmidt 1990, 38).

Bearing in mind that meta-analyses are based on the results of published – and sometimes unpublished – studies (Hunter and Schmidt 1990, 506-509), the process of searching for data to be included in the meta-analysis needs to be designed carefully. Similarly, the criteria to include or exclude any particular paper from the analysis have to be determined with caution, as they should reflect the main concepts under analysis without excluding too many of them. Once the studies have been selected, the collected data needs to be coded. The aim here is to have the same pieces of information from all individual studies included in the analysis, so that they can be accumulated and analyzed without comparing and/or mixing fundamentally different concepts or scales. The subsequent step of a meta-analysis, in line with the methods presented by Hunter and Schmidt (1990), is the correction of the original study results for the most common errors, e.g. error of measurement and sampling error, before finally cumulating the corrected results across the individual studies for the actual analysis.

4.1 Accumulating Data

For the accumulation of the papers for the meta-analysis, the Web of Science and the Scopus databases with their collection of scientific publications are used. To conduct the search, the titles, abstracts, and keywords of the publications are searched for the keywords “transactional leadership” and “transformational leadership”, in combination with “structural empowerment”, “psychological empowerment”, “employee empowerment”, “follower empowerment”, “empowerment climate” and “work environment”, respectively.

keyword combination	initial search results	
	Web of Science	Scopus
transactional leadership AND structural empowerment	91	27
transactional leadership AND employee empowerment	167	58
transactional leadership AND follower empowerment	80	33
transactional leadership AND empowerment climate	34	8
transactional leadership AND work environment	70	41
transactional leadership AND psychological empowerment	137	46
transformational leadership AND structural empowerment	364	28
transformational leadership AND employee empowerment	720	26
transformational leadership AND follower empowerment	218	115
transformational leadership AND empowerment climate	156	6
transformational leadership AND work environment	348	154
transformational leadership AND psychological empowerment	593	185

Table 1 Keyword Combinations and Initial Search Results
Source: own representation

As indicated by Table 1, this yields a total of twelve keyword combinations used to search the publications within both databases, generating 3,705 initial search results. To reduce this large number of results, only studies published within academic journals achieving a rank of two or above according to the Academic Journal Guide 2021 (CABS 2021) are considered appropriate for further consideration in order to ensure a suitable quality of the papers being analyzed. Applying this restriction reduces the number of search results to 1,242, with 1,075 papers originating from the Web of Science and another 167 from Scopus. Next, all papers written in a language other than English are excluded, causing another 66 studies to be deleted, 41 from the Web of Science results and 25 from the Scopus ones. As the remaining 1,176 results still include duplicates, meaning papers that have been found with several different keyword combinations, these 721 publications are eliminated, leaving 455 studies to be meticulously evaluated regarding their suitability for inclusion in the subsequent meta-analysis. To do so, those papers are examined for their compliance with additional inclusion criteria.

The first among these inclusion criteria is the provision of empirical data, since they are essential for a meta-analysis. Thus, all papers not containing quantitative data are defined as incompatible with the requirements of this meta-analysis, causing them to be omitted from further consideration. In numerical terms, this concerns 29 literature reviews along with eleven interview-based studies and case studies that are excluded, so that 415 studies remain to be evaluated. In the

next step, all other meta-analyses are removed from the pool of potentially useful papers.[1] The reason behind this step is that a meta-analysis presents data that has already been accumulated from a range of individual studies, whereas this thesis needs the individual studies' stated effect sizes for conducting its own meta-analysis. Hence, another 15 papers are rejected, leaving 400 for the evaluation of the comprised concepts and measurement constructs.

Given that 206 of those studies investigate concepts other than leadership and empowerment, the number shrinks to 194 potentially suitable papers. From those 194 papers, 25 focus on leadership styles other than transactional and transformational leadership, while another 22 do not feature a leadership measurement construct corresponding to section 3.1 Leadership Concepts, causing them to be excluded. Afterwards, 147 studies remain, 98 of which have to be disregarded due to the application of an empowerment measurement construct deviating from section 3.2 Empowerment Concepts. Including these papers despite the differing measurement constructs would cause the meta-analysis to compare "apples and oranges" (Hunter and Schmidt 1990, 516) and compromise its validity. Finally, another four papers have to be rejected because they are examining the organizational or group level correlation of leadership and empowerment instead of the individual level required for this meta-analysis.

A graphical overview over the search results and the process of applying all exclusion criteria is depicted in Figure 3. Ultimately, the initial search results are narrowed down to 45 studies that qualified for entering the coding process. This number of suitable papers is comparable to what other researchers have used for similar meta-analyses. For example, Schermuly et al. (2022) included 48 studies describing the correlation between transactional and transformational leadership and psychological empowerment, with seven values for the former and 41 values for the latter correlation. Likewise, Young et al. (2021) based their meta-analysis of the relationship between psychological empowerment and transactional leadership on a total of ten individual studies.

[1] In terms of topic, the excluded meta-analyses vary significantly. One paper investigates the effect of transformational leadership on creativity and innovation (Lee et al. 2020), another focuses on the impact of transactional leadership on follower performance (Young et al. 2021). Moreover, several other leadership styles and their implications are being analyzed, for example the consequences of servant leadership (Zhang et al. 2021), the impact of ambidextrous leadership on innovation (Rosing, Frese, and Bausch 2011), or the influence of empowering leadership on the behavior displayed by team members at work (Lee, Willis, and Tian 2018). By contrast, Martin et al. (2016) focus on how the leader-member exchange contributes to employee performance and organizational citizenship behavior. In sum, none of these meta-analyses explore the relationship between leadership and empowerment. The only meta-analysis covering a similar topic is the one published by Schermuly et al. (2022), which quantifies the correlation of empowering leadership, servant leadership, transactional leadership, and transformational leadership with psychological empowerment. Further details are presented in section 6.4 Comparing the Presented Results with Those of Schermuly et al. (2022).

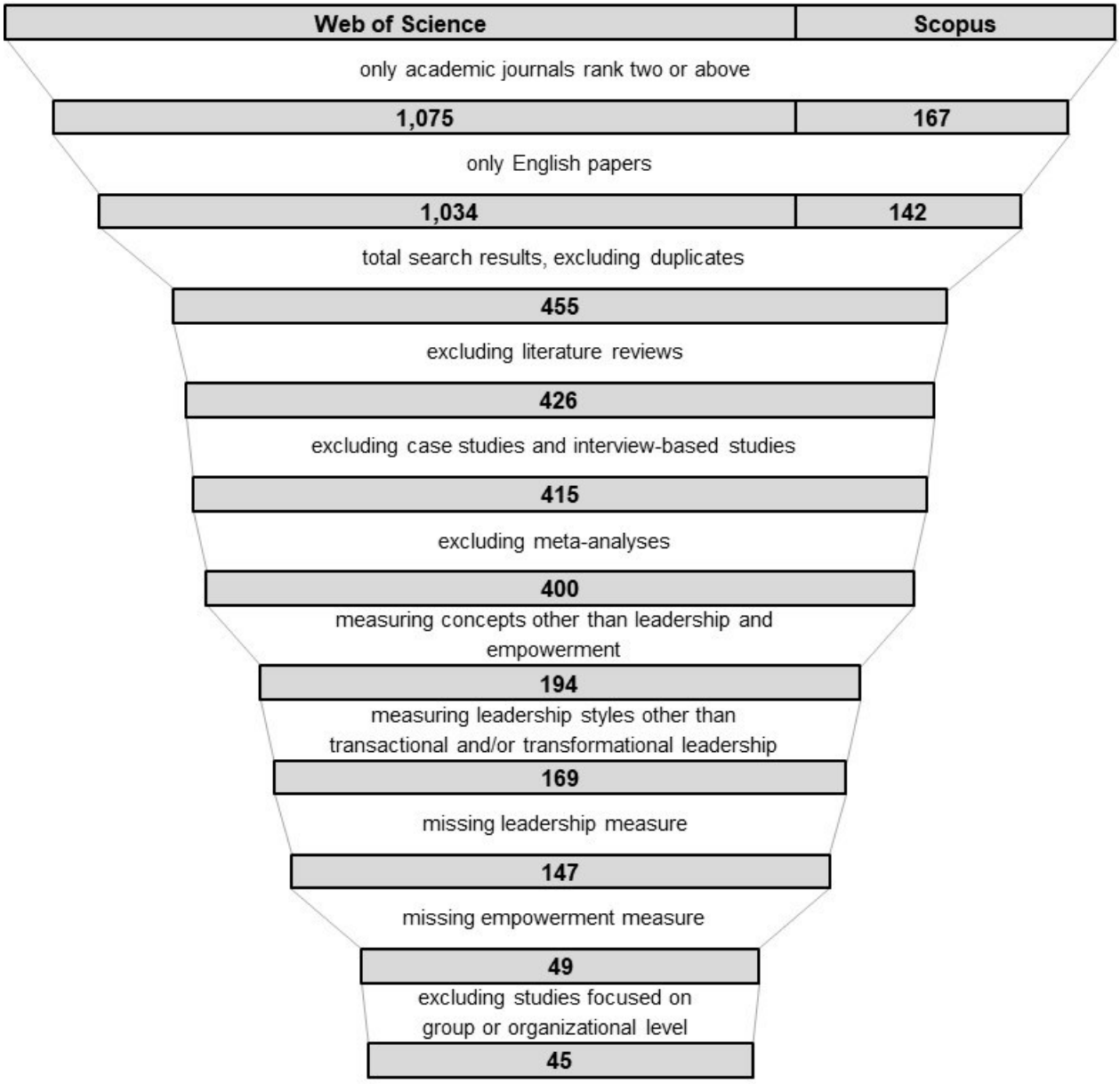

Figure 3 Literature Search and Exclusion Criteria
Source: own representation

After the process of sorting and evaluating the publications is completed, two crucial decisions have to be made before the data can be coded and analyzed. Firstly, it needs to be decided whether a fixed-effects model or a random-effects model is used (Field and Gillett 2010). Secondly, an appropriate meta-analytic method has to be selected, supporting the choice of model. For the model, a random-effects model is chosen, since it assumes that the results from the individual studies should be heterogeneous, as they are derived from populations with differing average effect sizes (Field and Gillett 2010). By contrast, the fixed-effects model assumes that the average effect size of the studies included in the meta-analysis is fixed, so that it could be predicted based on a few selected variables (Hunter and Schmidt 1990, 405-407).

A first perusal of the studies comprised in the sample for this meta-analysis indicates that they are heterogeneous: The respective data has been collected in various countries, like the USA (e.g. DeCelles, Tesluk, and Taxman 2013), Turkey (e.g. Aksoy and Bayazit 2022), China (e.g. Afsar et al. 2017) or Germany (e.g. Creon and Schermuly 2022). Besides spanning a variety of countries and their corresponding cultures, the data also originates from different industries, for example from the care sector (e.g. Avolio et al. 2004), the IT sector (e.g. Mittal 2016), or the tourism industry (e.g. Monje Amor, Abeal Vázquez, and Faína 2020). Additionally, the size of the companies where the individual studies' survey participants work varies, along with the age and gender distributions. Hence, the sample is considered heterogeneous, causing the random-effects model to be preferred over the fixed-effects model. Furthermore, this model allows for the generalization of the meta-analytic results, while also being the favorite one for meta-analyses in social sciences (Field and Gillett 2010), which includes the area of research covered by this thesis.

The second choice to be made, regarding the method to be used when conducting the meta-analysis, is directly linked to the random-effects model which has been selected. Following this decision, all methods based on fixed-effects models, like the one developed by Rosenthal and Rubin (Field and Gillett 2010), cannot be used. Nonetheless, the random-effects model still offers two alternative methods, one promoted by Hunter and Schmidt, the other by Hedges and Olkin (Field and Gillett 2010). Considering that several extensive Monte Carlo simulations conducted by different researchers showed that the Hunter-Schmidt method is more accurate (Field and Gillett 2010), it can be argued to be preferable to the Hedges-Olkin method. Moreover, the Hunter-Schmidt method is the most commonly used meta-analytic method when analyzing papers from leadership or psychology literature (Lowe, Kroeck, and Sivasubramaniam 1996), so that it was decided to adhere to this standard and apply the Hunter-Schmidt method for this thesis as well.

4.2 Selecting Measures for the Leadership and Empowerment Concepts

In order to empirically measure the concepts presented in chapter 3 Development of the Research Model, researchers can basically choose between conducting surveys, experiments, and observations. For experiments, a further distinction has to be made between laboratory experiments and field experiments. This stems from laboratory experiments providing the researcher with much more control over the settings and conditions of the experiments, as well as the participants, than field experiments (Levy Paluck and Cialdini 2014). In the latter type of experiment, the researcher has to adapt the experiment to the given settings, as not all factors can be adjusted to suit the respective research project (Smith 2014). Similarly, participants tend to be people who are present in the chosen setting, so that the researcher has less impact on the selection of his or her participants (Levy Paluck and Cialdini 2014). Consequently, these two types of experiments

cannot be compared for the purpose of a meta-analysis, meaning that their results need to be analyzed separately (Eagly and Johnson 1990). However, none of the studies selected for this meta-analysis are experiments, so that the implications of experiments are irrelevant for conducting it.

Nonetheless, further distinctions have to be made regarding the aforementioned experiments, observational studies, and survey studies (Levy Paluck and Cialdini 2014). Unlike experiments, researchers conducting non-participant observations simply note and examine what they observe in a given setting (Tharenou, Donohue, and Cooper 2007, 24), without actively impacting any aspect of either the setting or the participants. Survey studies, on the other hand, ask for participants opinions on and evaluations of the topic of interest (Tharenou, Donohue, and Cooper 2007, 21). Thus, the data collected by observational studies has to be analyzed separately from the data collected by questionnaires. Further consideration of this issue is unnecessary, though, because the data used for this meta-analysis does not contain any observational studies. In fact, all individual studies included in this meta-analysis gather data by surveying participants.

Pertaining to those surveys, especially the questionnaires measuring transactional and transformational leadership, measurement is mostly straightforward. Ever since Bass and Avolio first published their questionnaire to empirically measure their full range of leadership model in 1991, the use of the Multifactor Leadership Questionnaire (MLQ) has become more and more common in leadership research (Antonakis, Avolio, and Sivasubramaniam 2003). Today, most survey studies aiming to investigate one or more dimensions of transactional and/or transformational leadership use the MLQ or its shorter version, the MLQ (5X) (Lowe, Kroeck, and Sivasubramaniam 1996). While the MLQ is applicable for both self-rating and other-rating surveys, this meta-analysis focuses on the results of the latter, where followers evaluate their leaders, as no self-rating ones met the inclusion criteria discussed in the previous section. Therefore, all studies applying the MLQ or the MLQ (5X) are based on the same core constructs, which facilitates the coding of the information for meta-analytic purposes. Nonetheless, there are differing survey studies on transactional and transformational leadership and their respective dimensions. For those surveys, questionnaires other than the MLQ are used to compile data. In order to include them in the meta-analysis, their compliance with the measurement constructs underlying the MLQ needs to be evaluated carefully.

With respect to surveys on psychological empowerment, the situation is similar. Most studies investigating these aspects of empowerment rely on the dimensions developed by Thomas and Velthouse (1990) and Spreitzer (1995). Furthermore, Spreitzer (1995) designed a questionnaire consisting of twelve items to empirically measure her four cognitions of psychological empowerment. This questionnaire has been widely used by a variety of researchers since then. Although the use of a rather common questionnaire reduces the number of different questionnaires used to measure the same constructs for psychological empowerment, there are still studies applying

other questionnaires (e.g. Avolio et al. 2004). For those, the measured factors and constructs have to be consistent with the definitions presented in chapter 3 Development of the Research Model. All studies that do not focus on precisely those measurement constructs are excluded from this meta-analysis.

Regarding structural empowerment, the surveys and questionnaires vary significantly. There is no consensus on the use of a specific questionnaire for measuring structural empowerment, resulting in different researchers using different questionnaires to collect data on this particular variable (e.g. Richardson and Vandenberg 2005; Si and Wei 2012). Therefore, data based on a variety of questionnaires has to be examined, provided that the same constructs are measured. However, Laschinger et al. (2001) developed the "Conditions of Work Effectiveness Questionnaire II", which has already been applied by multiple studies on structural empowerment (e.g. Monje Amor, Abeal Vázquez, and Faína 2020), thus slightly reducing the variability of the data collection methods. Nonetheless, it remains larger for the dimensions of structural empowerment than for either psychological empowerment or leadership constructs, effectively rendering the coding of the respective information more complicated.

4.3 Coding and Analyzing Data

In general terms, "coding information" refers to the process of transcribing the results from the original studies as well as the required additional information, e.g. the variables' standard deviations and reliabilities or the sample size (Hunter and Schmidt 1990, 43), for meta-analytic use. Depending on the individual papers, this process varies from looking up the values among the studies' results to calculating them oneself (Field and Gillett 2010). As this meta-analysis investigates the impact of transactional and transformational leadership on structural and psychological empowerment, using a correlation coefficient as the metric to be analyzed is a straightforward decision. Given that both leadership and empowerment are continuous variables, the Pearson Correlation Coefficient is the most appropriate metric to describe the relationship between the two variables (Salkind 2008, 89). Hence, the Pearson Correlation Coefficient, *r*, is selected as the metric of interest for this meta-analysis.

Upon this basis, the coding process aims to derive at least one Pearson Correlation Coefficient indicating the relationship between leadership style and empowerment from each individual study. If the studies included in the analysis directly state such a correlation coefficient, for example as part of a zero-order correlation matrix showing the correlations between all study variables (Hunter and Schmidt 1990, 500), no further calculations are necessary. If there is no correlation coefficient presented, it needs to be determined whether the former can be estimated based on the information included in the study. In case it is impossible to estimate a correlation coefficient, the study is excluded from further analysis, since it does not provide the required data.

For the purpose of this meta-analysis, 45 papers comply with all inclusion criteria so far. However, five of them do not state a Pearson Correlation Coefficient indicating the relationship between leadership style and empowerment. Hoping to obtain the desired correlation coefficients nonetheless, the authors of these papers were contacted via email, asking them if they could possibly provide either the correlation coefficient or the data necessary to calculate it. Unfortunately, this endeavor was unsuccessful. One author's email address was no longer valid, leaving no option to obtain the required zero-order correlation matrix, so that the study was deleted from the sample. The second author was on academic leave and therefore unavailable. However, the paper contains a zero-order correlation matrix indicating the correlations of leadership style with the individual dimensions of structural empowerment. Hence, it is possible to estimate the overall correlation coefficient for leadership and empowerment by applying a confirmatory factors analysis (Hunter and Schmidt 1990, 455-456).

The same principle was employed with respect to the three remaining papers, whose authors never replied to the respective emails. The first of these studies also contains a zero-order correlation matrix that allows for the application of a confirmatory factor analysis (Hunter and Schmidt 1990, 455-456) to estimate the correlation between transformational leadership and psychological empowerment. For the other two studies whose authors did not reply, there is no zero-order correlation matrix available among the results presented in the paper. Consequently, it is impossible to approximate the required correlation coefficient, so that these studies are eliminated from the sample. Hence, the final sample comprises 42 studies.

Once all correlation coefficients are collected, the issue of errors contained in the individual study values is addressed. Basically, study results may contain a variety of errors (Hunter and Schmidt 1990, 43). While some of these cannot be corrected for, others can (Hunter and Schmidt 1990, 43). For the latter category, Hunter and Schmidt (1990, 45) present a list of potentially correctible errors, for example sampling error, dichotomization, and error of measurement. Each of these impacts the outcome of the original study as well as any meta-analysis including the respective study. Aiming to reduce or eliminate the effect these errors have on the results, meta-analysts apply correction procedures (Hunter and Schmidt 1990, 44-72). However, in order to be able to correct for the errors made by the researchers compiling the studies, some additional information needs to be published along with the study's results (Hunter and Schmidt, 1990, 43), e.g. a zero-order correlation matrix for all variables (Hunter and Schmidt 1990, 500) or reliability indicators for the measurement constructs of the variables (Hunter and Schmidt 1990, 44-46). In case this additional information is present, the results of a given study can be corrected accordingly before the final meta-analytic calculations are performed (Hunter and Schmidt 1990, 93).

Unfortunately, though, not all studies published contain the information required to correct for the aforementioned errors (Hunter and Schmidt 1990, 499). This forces meta-analysts to use approximations for the meta-analysis (Hunter and Schmidt 1990, 500), for example based on the

distribution of the error values collected from all those studies which do provide information on this particular error (Hunter and Schmidt 1990, 158). While these estimates tend to produce reliable results (Hunter and Schmidt 1990, 158-198), they remain estimates, which makes this distribution-based correction less precise than the individual correction. Nonetheless, either correction method increases the reliability of the meta-analytic results, since every amount of error that is corrected for reduces the results' deviation from the true population values (Hunter and Schmidt 1990, 198). Despite the multitude of options to correct for various errors, this meta-analysis only corrects for sampling error and error of measurement. The third error mentioned before, dichotomization, is not an issue in the present analysis, because both the dependent and the independent variables are continuous (Hunter and Schmidt 1990, 45).

After the corrections have been applied, a "bare bones meta-analysis" according to the methods promoted by Hunter and Schmidt (1990, 100-117) is conducted. Basically, this implies the "quantitative cumulation and analysis of effect sizes and other descriptive statistics across studies" (Hunter and Schmidt 1990, 479). Hence, aside from calculating the overall population effect size, some further analyses, like moderator or subgroup analysis, might provide additional insight. However, both of these are only conducted in case the data allow for it. For a moderator analysis, this means that the corrected standard deviation of the population correlations needs to show significant variation in the effect sizes across the sample studies (Hunter and Schmidt 1990, 112). Thus, if the corrected standard deviation is close to zero, a moderator analysis is unlikely to generate meaningful results.

Likewise, a comparative subgroup analysis is only suitable if there is enough information available in the individual papers to sort the coded data into meaningful subgroups allowing for comparative analysis (Hunter and Schmidt 1990, 463-467). These subgroups could be based on geographic region, industry sector, or hierarchical level, for example. Still, a subgroup containing just one or two individual effect sizes does not yield reliable results (Rosenthal 1995). In other words, a comparison between industry sectors, like service and manufacturing, might be interesting with respect to the research question, but not offering dependable results if both groups include only one or two individual effect sizes. Therefore, the basic meta-analysis needs to be completed before it can be evaluated whether more in-depth analyses are suitable.

4.4 Outlier Search, Confidence and Credibility Intervals

According to Hunter and Schmidt (1990, 68), most meta-analytic samples contain some "bad data", meaning correlations that are fraud with error. Most of these data are outliers, which can be identified by their extreme deviation from the sample mean (Hunter and Schmidt 1990, 68). As such outliers are likely to distort the variance by significantly increasing it, they should be eliminated from the sample (Hunter and Schmidt 1990, 68). Thus, it is essential to test the data for outliers before proceeding to analyze it. However, the recommendations of what should be

considered as an outlier differ. Some researchers delete 10% of the values in their sample, namely the top and bottom 5%, prior to analysis, whereas others claim that deleting the top and bottom 2% should be sufficient (Hunter and Schmidt 1990, 207). Given that this meta-analysis uses the Hunter-Schmidt method, it was decided to follow their preference regarding outliers as well. Thus, the top and bottom 2% (Hunter and Schmidt 1990, 207) of the correlation coefficients are omitted from the calculations.

Regarding the indication of statistical significance of obtained results and the generalization of their validity (Schmidt and Hunter 1999), most researchers use confidence intervals. These are based on the on the desired level of confidence combined with the standard deviation of the sampling error, or – in other words – the square root of the sampling error variance (Hunter and Schmidt 1990, 122). However, the standard deviation of the sampling error varies according to the number of studies included in the meta-analysis and the sample sizes of the respective individual studies, even though neither of these parameters have an impact on the actual population correlation and its validity (Schmidt and Hunter 1999). Assuming that researchers are less interested in the variability caused by sampling error than the variability in actual population correlations (Schmidt and Hunter 1999), Hunter and Schmidt (1990) recommend the use of credibility intervals. These are derived from the desired level of credibility in combination with the variability of the population correlation: the standard deviation of the population correlation corrected for sampling error (Schmidt and Hunter 1999). Since this thesis uses the Hunter-Schmidt method of meta-analysis, the respective credibility intervals are provided together with the obtained results in all summary tables. Nonetheless, given the widespread use of confidence intervals, it is preferred to use these to statistically validate the presented results, hoping to make them more comprehensible.

4.5 Conducting the Meta-Analysis

Before beginning the meta-analytic calculations, the respective Pearson Correlation Coefficients and all additional information from the individual papers, for example the sample size and the stated reliability of the variables, are entered into an Excel file. Then, based on the variables' reliability indicated by Cronbach's Alpha (Hunter and Schmidt 1990, 123-125), the correlations derived from the individual studies are corrected for error of measurement. For all those papers which do not list Cronbach's Alpha for their variables, an average attenuation factor is computed based on the values provided in the other studies (Hunter and Schmidt 1990, 144). This average attenuation factor is then used to correct the remaining correlations for error of measurement. Afterwards, the first step in conducting the so-called "bare bones meta-analysis" (Hunter and Schmidt 1990, 100) is calculating the population correlation $\bar{r}$. This is done by determining the weighted average of the individual study correlations according to Equation 1.

$$\bar{r} = \frac{\sum(N_i r_i)}{\sum N_i}$$

Equation 1 Population Correlation
Source: Hunter and Schmidt (1990, 100)

In applying Equation 1, N_i represents the number of participants in study i, and r_i indicates the corresponding correlation coefficient (Hunter and Schmidt 1990, 100). Since Hunter and Schmidt (1990, 101) are convinced that the weighted average is superior to the simple average, this is what their meta-analytic method features.

Based on the population correlation, Equation 2 computes the variance across studies.

$$\sigma_r^2 = \frac{\sum\left[N_i(r_i - \bar{r})^2\right]}{\sum N_i}$$

Equation 2 Variance Across Studies
Source: Hunter and Schmidt (1990, 100)

As visible in Equation 2, Hunter and Schmidt (1990, 100) prefer to use the frequency weighted average squared error instead of the commonly used sample variance, because it facilitates the correction for sampling error. This correction is necessary due to the fact that the variance across the individual studies included in the meta-analysis comprises both the variance of the population correlations (σ_ρ^2) underlying the individual studies' correlations and the variance caused by the sampling error (σ_e^2) contained in the individual studies (Hunter and Schmidt 1990, 102).

Equation 3 represents this assumption in mathematical terms.

$$\sigma_r^2 = \sigma_\rho^2 - \sigma_e^2$$

Equation 3 Relationship of Variance Across Studies, Variance of Population Correlations, and Sampling Error Variance
Source: Hunter and Schmidt (1990, 106)

Consequently, the variance of population correlations can be determined by subtracting the sampling error variance (σ_e^2) from the variance across studies (σ_r^2), as indicated by Equation 4.

$$\sigma_\rho^2 = \sigma_r^2 - \sigma_e^2 = \frac{\sum\left[N_i(r_i - \bar{r})^2\right]}{\sum N_i} - \frac{\left(1 - \bar{r}^2\right)^2}{\left(\overline{N} - 1\right)}$$

Equation 4 Variance of Population Correlations
Source: Hunter and Schmidt (1990, 106)

Given that Equation 4 is a subtraction, the resulting population variance can become negative (Hunter and Schmidt 1990, 109). Though this appears impossible, since a variance cannot be

negative in reality, it remains a mathematically correct result. In order to resolve this dilemma, Hunter and Schmidt (1990, 109) recommend to assume a variance of zero in these cases.

Prior to applying Equation 4, the sampling error variance (σ_e^2) has to be determined. It represents the variance among the individual study effect sizes that can be attributed to sampling error (Hunter and Schmidt 1990, 102). Hence, the logical next step is to calculate the sampling error variance according to Equation 5.

$$\sigma_e^2 = \frac{\left(1 - \bar{r}^2\right)^2}{\left(\bar{N} - 1\right)}$$

Equation 5 Sampling Error Variance
Source: Hunter and Schmidt (1990, 107)

In Equation 5, $\bar{N}$ denotes the average sample size. The corresponding mathematical definition is represented by Equation 6.

$$\overline{N} = \frac{\sum N_i}{K}$$

Equation 6 Average Sample Size
Source: Hunter and Schmidt (1990, 107-108)

K, in this case, indicates the number of studies included in the meta-analysis (Hunter and Schmidt 1990, 107-108).

Once the values for the variance across studies (σ_r^2) and the sampling error variance (σ_e^2) have been computed, Equation 4 is applied to determine the actual variance in population correlations (σ_ρ^2). In some cases, this yields a variance of population correlations that equals zero, thereby demonstrating that the differences among the individual study results are all caused by sampling error (Hunter and Schmidt 1990, 109-110). In other words, seemingly varying study effect sizes can be very similar once sampling error is removed.

Based on the variance of population correlations, the corresponding standard deviation can be calculated. According to definition, the standard deviation is the square root of the variance (Salkind 2008, 42-43), mathematically presented in Equation 7.

$$\sigma_\rho = \sqrt{\sigma_\rho^2}$$

Equation 7 Standard Deviation
Source: own representation based on Salkind (2008, 42-43)

Further consideration of Equation 7 reveals its likeliness to cause challenges in case the variance of population correlations is negative. However, similar to the approach for handling a negative

variance of population correlations resulting from Equation 4, Hunter and Schmidt (1990, 109-110) state that instead of calculating the respective standard deviation in this particular case, it can be assumed to equal zero.

Having completed the basic meta-analysis, the final step is to evaluate whether a moderator analysis is applicable. Generally, a moderator variable is responsible for the differences in the correlation between two variables other than the moderator variable (Hunter and Schmidt 1990, 112). Thus, in order to conduct a moderator analysis, there has to be sufficient variance among population correlations that is not due to sampling error (Hunter and Schmidt 1990, 112), meaning that there still is significant variance in population correlations after the correction for variance due to sampling error. This indication is further supported by the corrected standard deviation (Hunter and Schmidt 1990, 112), namely the standard deviation (σ_ρ) derived from the variance of population correlations (σ_ρ^2). In case indications for the existence of a moderator variable are identified, potential moderators are defined based on the literature and corresponding theoretical assumptions. These are afterwards tested by conducting the aforementioned basic meta-analysis with the respective data subsets (Hunter and Schmidt 1990, 112). A true moderator variable then manifests itself by both producing different population correlations for each subset and yielding a variance of population correlations lower than the one for the entire data set (Hunter and Schmidt 1990, 112).

While the moderator analysis aims to detect variables that cause differences in population correlations, subgroup analysis aims for a more detailed description of the data by comparing different subsets. For example, sorting the data by geographic region allows for comparing the strength of the correlations across the different regions. However, such a subgroup analysis does not assume that geographic region moderates the relationship between leadership style and empowerment. Instead, the purpose is to derive additional insights from a comparison of two or more data subsets.

5 Results

From the 45 papers which had met all inclusion criteria and had therefore entered the coding process, three were eliminated during the coding process, because they neither provided enough information to estimate a correlation coefficient nor did the authors react to the attempt to contact them.

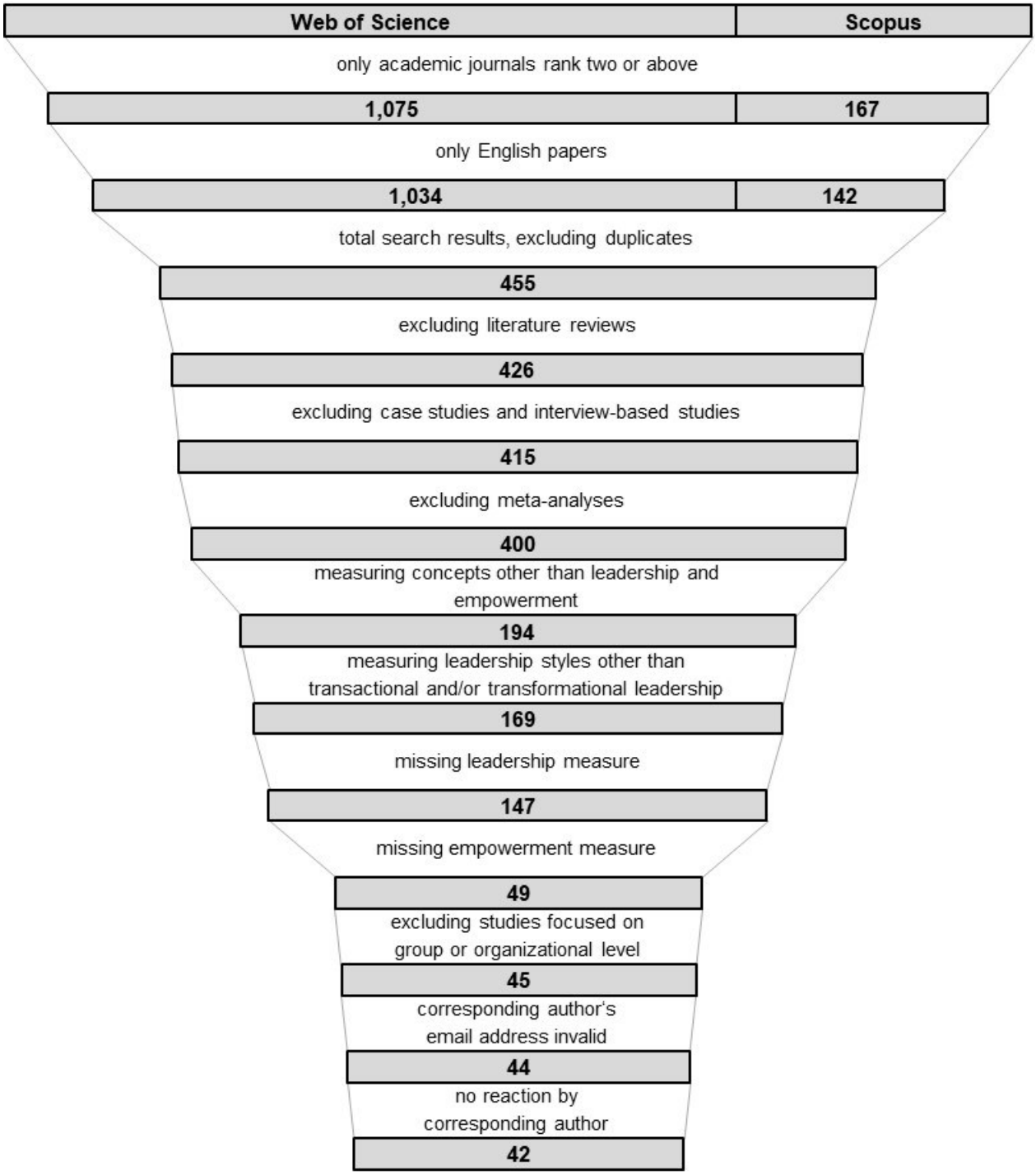

Figure 4 Extended Literature Search and Exclusion Criteria
Source: own representation

As indicated by Figure 4, one paper is deleted since the corresponding author's email address is no longer valid, making it impossible to contact him. For the other two papers, no reply was received from the respective authors. Thus, the final sample comprises 42 individual studies, from which 54 Pearson Correlation Coefficients are derived. The majority of the latter, namely 41, describe the relationship between transformational leadership and psychological empowerment (TFL+PE). For the relationship between transformational leadership and structural empowerment (TFL+SE), the data set includes six correlation coefficients, the same number as for the relationship between transactional leadership and psychological empowerment (TAL+PE). Regarding the correlation between transactional leadership and structural empowerment (TAL+SE), the data set offers only a single correlation coefficient. Summarizing this information, Figure 5 provides a graphical overview of the distribution of the correlation coefficients that are included in the meta-analysis.

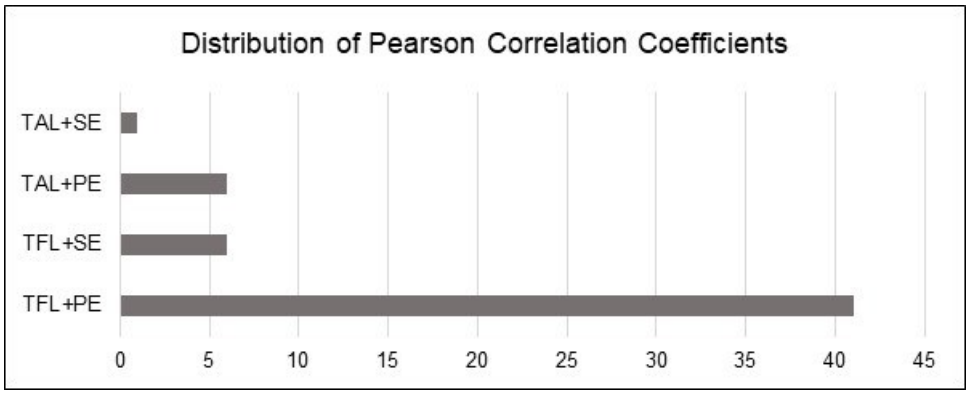

Figure 5 Distribution of the Pearson Correlation Coefficients Included in the Meta-Analysis
Source: own representation

In order to provide more details regarding the papers contained in this meta-analysis, Table 2 through Table 5 list them according to the leadership-empowerment combination they belong to. Additionally, the corresponding Pearson Correlation Coefficients and sample sizes that have been derived from the respective studies are presented.

study by	Pearson's r	sample size
Si and Wei (2012)	-0.31	465

Table 2 Studies Included in the Meta-Analysis for TAL+SE
Source: own representation

study by	Pearson's r	sample size
Afsar et al. (2017)	0.23	557
Huang, Liu, and Huang (2021)	0.23	1,278
Jong and Faerman (2021)	0.41	824
Ma and Jiang (2018)	0.39	260
Pieterse et al. (2010)	0.17	230
Tung (2016)	0.35	427

Table 3 Studies Included in the Meta-Analysis for TAL+PE

Source: own representation

study by	Pearson's r	sample size
Monje Amor, Abeal Vázquez, and Faína (2020)	0.56	240
Richardson and Vandenberg (2005)	0.63	167
Si and Wei (2012)	0.68	465
Simonet et al. (2019)	0.73	171
Sun et al. (2012)	0.55	385
Zheng (2022)	0.31	331

Table 4 Studies Included in the Meta-Analysis for TFL+SE

Source: own representation

study by	Pearson's r	sample size
Afsar, Badir, and Bin Saeed (2014)	0.43	726
Afsar et al. (2017)	0.38	557
Aksoy and Bayazit (2022)	0.49	297
Avolio et al. (2004)	0.15	502
Aydogmus et al. (2018)	0.24	348
Barroso Castro, Villegas Perinan, and Casillas Bueno (2008)	0.73	249
Bendermacher et al. (2019)	-0.05	89
Creon and Schermuly (2022)	0.47	373
DeCelles, Tesluk, and Taxman (2013)	0.42	687
Dust, Resick, and Bardes Mawritz (2014)	0.44	153
Gao, Murphy, and Anderson (2020)	0.77	313
Gillet, Morin, and Blais (2022)	0.49	13,088
Grant (2012)	0.54	329

study by	Pearson's r	sample size
Guerrero et al. (2018)	0.23	178
Gumusluoglu and Ilsev (2009)	0.27	163
Han et al. (2016)	0.40	426
Hepworth and Towler (2004)	0.37	213
Huang, Liu, and Huang (2021)	0.26	1,278
Jauhari, Singh, and Kumar (2017)	0.48	225
Jong and Faerman (2021)	0.45	824
Kim et al. (2022)	0.36	151
Kim and Shin (2017)	0.35	339
Kim and Shin (2019)	0.30	491
Knezović and Drkić (2021)	0.62	371
Ma and Jiang (2018)	0.21	260
Martin and Bush (2006)	0.79	313
Minai et al. (2020)	0.49	335
Mittal (2016)	0.48	420
Nguyen et al. (2022)	0.45	420
Pieterse et al. (2010)	0.33	230
Pradhan, Panda, and Jena (2017)	0.52	310
Schermuly and Meyer (2020)	0.38	280
	0.32	588
Simonet et al. (2019)	0.20	229
	0.49	171
	0.45	386
Sosik, Chun, and Zhu (2014)	0.37	667
Sun et al. (2012)	0.63	385
Tung (2016)	0.44	427
Walsh, Dupré, and Arnold (2014)	0.29	254
Wang and Howell (2012)	0.17	200

Table 5 Studies Included in the Meta-Analysis for TFL+PE

Source: own representation

As can be seen from both Figure 5 and Table 2 through Table 5, the sample offers only a single correlation coefficient describing the relationship between transactional leadership and structural empowerment. Since this is not enough data to conduct a meta-analysis (Rosenthal 1995), the TAL+SE correlation is excluded from all subsequent analyses. Unfortunately, this also implies

that hypothesis H1, which states that transactional leadership positively correlates with structural empowerment, can be neither accepted nor rejected. The same applies to hypothesis H3. It claims that the TAL+PE correlation is stronger than the one of TAL+SE. Furthermore, hypothesis H7, which assumes a stronger correlation for TFL+SE than for TAL+SE, cannot be evaluated either. In both cases, there is insufficient data for a comparison of the respective correlations.

Before any population correlations are estimated for TAL+PE, TFL+SE, and TFL+PE, the sample data is tested for outliers that should be excluded from the meta-analysis in order to prevent the distortion of its results by extreme values (Hunter and Schmidt 1990, 68). Following the recommendation of Hunter and Schmidt (1990, 207), the top and bottom 2% of the accumulated correlation coefficients for each leadership – empowerment combination are deemed outliers, causing them to be omitted from further calculations. In numbers, this means that for both TAL+PE and TFL+SE, no correlation coefficient is deleted, as 2% of the six values contained in these sub-samples are too close to zero to justify a classification of any value as outliers. For TFL+PE, the sub-sample comprises 41 correlation coefficients, so that the lowest and the highest one are identified as outliers and therefore eliminated. Hence, the paper by Bendermacher et al. (2019) is removed, as it supplies the only negative – and therefore lowest – correlation coefficient. Likewise, the study by Martin and Bush (2006) is excluded from further analyses, as it provides the highest correlation coefficient within the respective sub-sample.

Aside from the outliers identified so far, the sample contains another two studies that could be considered outliers due to their sample size: Gillet, Morin, and Blais (2022) surveyed 13,088 participants, Huang, Liu, and Huang (2021) 1,278. Both of these samples are significantly larger than the average individual sample size of 654 participants. However, these large samples emphasize the respective studies' power to quantitatively evaluate the leadership – empowerment correlation they investigate (Tharenou, Donohue, and Cooper 2007, 56-57). Thus, omitting these two papers based on their sample size is no reasonable option. Nonetheless, given that this meta-analysis uses formulas based on averages weighted by sample size to estimate the population correlations as well as the variance across studies (Hunter and Schmidt 1990, 100), the previously mentioned samples are expected to distort these averages. To resolve this issue, it was decided to allocate a specific weight to each study, which is then used to calculate the weighted averages. More explicitly, one half of each study's weight is determined by its sample size in proportion to the total number of participants within the respective sub-sample. The other half assigns an equal weight to all studies within a sub-sample, as it is calculated by dividing one by the total number of studies included in the sub-sample. This principle is separately applied to all three sub-samples, namely TAL+PE, TFL+SE, and TFL+PE, since the total sample size and the total number of studies vary by sub-samples.

As detailed in Table 6 through Table 8, this principle of weighting the individual studies continues to assign a higher weight to studies with larger samples, though their weight is reduced in comparison to weighting by sample size only. Consequently, studies with particularly high explanatory power (Tharenou, Donohue, and Cooper 2007, 56-57) retain their higher impact on the estimated population correlations, but their distorting effect is reduced.

study by	Pearson's r	sample size	weight
Afsar et al. (2017)	0.23	557	16.12%
Huang, Liu, and Huang (2021)	0.23	1,278	26.20%
Jong and Faerman (2021)	0.41	824	19.85%
Ma and Jiang (2018)	0.39	260	11.97%
Pieterse et al. (2010)	0.17	230	11.55%
Tung (2016)	0.35	427	14.30%
sum			100.00%

Table 6 Study Weights for the Basic Meta-Analysis, TAL+PE sub-sample
Source: own representation

study by	Pearson's r	sample size	weight
Monje Amor, Abeal Vázquez, and José A. Faína (2020)	0.56	240	15.16%
Richardson and Vandenberg (2005)	0.63	167	13.08%
Si and Wei (2012)	0.68	465	21.55%
Simonet et al. (2019)	0.73	171	13.19%
Sun et al. (2012)	0.55	385	19.28%
Zheng (2022)	0.31	331	17.74%
sum			100.00%

Table 7 Study Weights for the Basic Meta-Analysis, TFL+SE sub-sample
Source: own representation

study by	Pearson's r	sample size	weight
Afsar, Badir, and Bin Saeed (2014)	0.43	726	2.59%
Afsar et al. (2017)	0.38	557	2.28%
Aksoy and Bayazit (2022)	0.49	297	1.82%
Avolio et al. (2004)	0.15	502	2.18%
Aydogmus et al. (2018)	0.24	348	1.91%

study by	Pearson's r	sample size	weight
Barroso Castro, Villegas Perinan, and Casillas Bueno (2008)	0.73	249	1.73%
Creon and Schermuly (2022)	0.47	373	1.95%
DeCelles, Tesluk, and Taxman (2013)	0.42	687	2.52%
Dust, Resick, and Bardes Mawritz (2014)	0.44	153	1.56%
Gao, Murphy, and Anderson (2020)	0.77	313	1.84%
Gillet, Morin, and Blais (2022)	0.49	13,088	24.79%
Grant (2012)	0.54	329	1.87%
Guerrero et al. (2018)	0.23	178	1.60%
Gumusluoglu and Ilsev (2009)	0.27	163	1.57%
Han et al. (2016)	0.40	426	2.05%
Hepworth and Towler (2004)	0,37	213	1.66%
Huang, Liu, and Huang (2021)	0.26	1,278	3.58%
Jauhari, Singh, and Kumar (2017)	0.48	225	1.69%
Jong and Faerman (2021)	0.45	824	2.76%
Kim et al. (2022)	0.36	151	1.55%
Kim and Shin (2017)	0.35	339	1.89%
Kim and Shin (2019)	0.30	491	2.16%
Knezović and Drkić (2021)	0.62	371	1.95%
Ma and Jiang (2018)	0.21	260	1.75%
Minai et al. (2020)	0.49	335	1.88%
Mittal (2016)	0.48	420	2.04%
Nguyen et al. (2022)	0.45	420	2.04%
Pieterse et al. (2010)	0.33	230	1.70%
Pradhan, Panda, and Jena (2017)	0.52	310	1.84%
Schermuly and Meyer (2020)	0.38	280	1.78%
	0.32	588	2.34%
Simonet et al. (2019)	0.20	229	1.69%
	0.49	171	1.59%
	0.45	386	1.98%
Sosik, Chun, and Zhu (2014)	0.37	667	2.48%
Sun et al. (2012)	0.63	385	1.97%

study by	Pearson's r	sample size	weight
Tung (2016)	0.44	427	2.05%
Walsh, Dupré, and Arnold (2014)	0.29	254	1.74%
Wang and Howell (2012)	0.17	200	1.64%
sum			100.00%

Table 8 Study Weights for the Basic Meta-Analysis, TFL+PE sub-sample
Source: own representation

5.1 Basic Meta-Analytic Results

As mentioned before, the overall data set is analyzed based on four combinations of leadership style and empowerment: TAL+SE, TAL+PE, TFL+SE, and TFL+PE. The first of these combinations, TAL+SE, unfortunately does not yield any meta-analytic results, as there is only one correlation coefficient available from the individual studies. For the remaining three combinations, sufficient correlation coefficients are derived from the studies comprised in the sample to allow for a meta-analysis (Rosenthal 1995). Table 9 lists the respective estimated population correlations, along with the corresponding variances, standard deviations, and credibility as well as confidence intervals.

leadership – empowerment combination	correlation coefficient	variance	standard deviation	95% credibility interval	95% confidence interval
TAL+PE	0.348	0.009	0.095	[0.161, 0.535]	[0.277, 0.419]
TFL+SE	0.630	0.020	0.141	[0.355, 0.906]	[0.560, 0.701]
TFL+PE	0.474	0.039	0.198	[0.086, 0.862]	[0.417, 0.531]

Table 9 Results of the Basic Meta-Analysis
Source: own representation

Basically, both leadership styles possess a positive effect on employee empowerment, with transactional leadership ($\bar{r}_{TAL+PE}$ = 0.348, 95% confidence interval [0.277, 0.419]) being less influential than transformational leadership ($\bar{r}_{TFL+PE}$ = 0.474, 95% confidence interval [0.417, 0.531]) with respect to psychological empowerment. The TAL+PE correlation can be classified as moderate (Cohen 2013, 80) and confirms hypothesis H2, which states that transactional leadership positively impacts psychological empowerment. Pertaining to the TFL+PE correlation, it is moderate (Cohen 2013, 80) as well. Hence, hypothesis H5 is accepted, since it assumes a positive correlation. Last but not least, comparing the values for TFL+PE and TAL+PE verifies hypothesis H8, because the estimated population correlation for TFL+PE is stronger than for TAL+PE.

When looking at TFL+SE ($\bar{r}_{TFL+SE}$ = 0.630, 95% confidence interval [0.560, 0.701]), the correlation is a strong one (Cohen 2013, 80), besides being the most pronounced of the investigated population correlations. Therefore, hypothesis H4 is accepted, as the results confirm the expectation that transformational leaders have a powerful impact on organizational structures and design (Daft, Murphy, and Willmott 2020, 94). This impact is further shown to be stronger for TFL+SE than for TFL+PE, supporting hypothesis H6, which claims that the TFL+SE correlation's value exceeds the value of the TFL+PE correlation.

5.2 Subgroup Analysis: Geographic Region

Considering the postulation that leadership, especially transformational leadership, is universally effective, independent from national culture (Spreitzer, Hopkins Perttula, and Xin 2005), encourages an analysis of the comparative effect of leadership on empowerment in various geographic regions. The current sample permits such a comparison, since it contains data from countries located on three continents: Europe, America, and Asia. Spreitzer, Hopkins Perttula, and Xin (2005) further maintain that the effectiveness of transformational leadership, despite being omnipresent, varies across cultures, as their focus on task-orientation versus relationship-orientation differs. This, in turn, causes the respective cultures to prefer specific leadership behaviors over others (Spreitzer, Hopkins Perttula, and Xin 2005). For example, collectivist cultures tend to place higher importance on behaviors fostering a harmonious workplace atmosphere, whereas individualistic cultures are more concerned with the individual and his or her performance (Hofstede 1984). Upon this theoretical basis, the data is divided into three sub-samples: Europe (E), North America (Am), and Asia (As), with Europe and North America being more individualistic and Asia more collectivist (Hofstede, n.d.).

However, it is not possible to establish suitable sub-samples large enough to support proper meta-analysis (Rosenthal 1995) for all three regions for TFL+SE and TAL+PE, so that it was decided to combine the European and North American data for these leadership – empowerment combinations. This decision follows the reasoning of Spreitzer, Hopkins Perttula, and Xin (2005), who state that transformational leadership has evolved in the cultural context of Western countries, where a shared focus on individualism emphasizes the importance of considering the individual team member's needs for leadership to be effective. For this reason, the cultural differences between European and North American countries – in the present occasion including only Canada and the USA – are assumed to be negligible for the purpose of the subgroup analysis, as both regions are part of the Western culture and its focus on individualism (Hofstede, n.d.).

A closer look at the TFL+PE correlations in the sample, for which a separation into European ($\bar{r}_{E,\ TFL+PE}$ = 0.522, 95% confidence interval [0.445, 0.598]) and North American data ($\bar{r}_{Am,\ TFL+PE}$ = 0.500 95% confidence interval [0.460, 0.540]) is feasible, confirms that transformational leadership is similarly effective in fostering empowerment in both regions. Since the

confidence intervals of the TFL+PE correlations for Europe and North America overlap, and the credibility intervals ($\bar{r}_{E,\ TFL+PE}$ 95% credibility interval [0.198, 0.845], $\bar{r}_{Am,\ TFL+PE}$ 95% credibility interval [0.231, 0.769]) do so as well, it can be concluded that neither the population variance nor the sampling error variance (Schmidt and Hunter 1999) differ enough to render the combination of European and North American countries for analytic purposes invalid.

Hence, combining the data for Europe and North America for TFL+PE results in $\bar{r}_{E+Am,\ TFL+PE} = 0.509$ (95% confidence interval [0.464, 0.555]), which is close to the values computed for Europe and North America individually. Moreover, both the credibility ($\bar{r}_{E+Am,\ TFL+PE}$ 95% credibility interval [0.162, 0.856]) and the confidence intervals for the individual and the combined correlation do overlap, further supporting the conclusion that regional – and thus cultural – differences between Europe and North America are negligible for the purpose of this meta-analysis. Therefore, similar to Spreitzer, Hopkins Perttula, and Xin (2005), who use data from the USA and Taiwan to evaluate the different effects of Western and Asian cultural values on the effectiveness of transformational leadership, this analysis compares Western and Asian sub-samples with respect to the impact leadership has on empowerment.

Nonetheless, detailed interpretations of the effect of cultural aspects on the relationship between leadership and empowerment are not part of this thesis. Instead, they are left for studies focusing explicitly on the impact of culture on leadership, because such studies are designed to account for cultural differences among the various countries belonging to each geographic region (Hofstede, n.d.).

leadership – empowerment combination	Europe + North America	Asia
TAL+PE	$\bar{r}_{E+Am,\ TAL+PE} = 0.398$ 95% credibility interval [0.166, 0.631] 95% confidence interval [0.326, 0.470]	$\bar{r}_{As,\ TAL+PE} = 0.324$ 95% credibility interval [0.189, 0.458] 95% confidence interval [0.254, 0.394]
TFL+SE	$\bar{r}_{E+Am,\ TFL+SE} = 0.705$ 95% credibility interval [0.641, 0.768] 95% confidence interval [0.633, 0.776]	$\bar{r}_{As,\ TFL+SE} = 0.566$ 95% credibility interval [0.256, 0.876] 95% confidence interval [0.499, 0.633]
TFL+PE	$\bar{r}_{E+Am,\ TFL+PE} = 0.509$ 95% credibility interval [0.162, 0.856] 95% confidence interval [0.464, 0.555]	$\bar{r}_{As,\ TFL+PE} = 0.399$ 95% credibility interval [0.138, 0.660] 95% confidence interval [0.319, 0.479]

Table 10 Estimated Population Correlations by Geographic Region
Source: own representation

As indicated by Table 10, the correlation coefficients are positive and at least moderate (Cohen 2013, 80) for all three leadership – empowerment combinations in both geographic regions, upholding Spreitzer, Hopkins Perttula, and Xin's (2005) claim that transformational leadership is

effective across cultures, though the effect varies. This variation is also reflected by the results in Table 10, which demonstrate that leaders in Western countries have a higher impact on their employees' empowerment than leaders in Asian countries. A comparison of the TFL+PE correlation for the Western ($\bar{r}_{E+Am,\ TFL+PE}$ = 0.509, 95% confidence interval [0.464, 0.555]) and the Asian subset ($\bar{r}_{As,\ TFL+PE}$ = 0.399, 95% confidence interval [0.319, 0.479]) confirms hypothesis H2 and hypothesis H5, because the correlation coefficients are positive for both subsets. Besides, the TFL+PE correlation for Europe and North America is strong (Cohen 2013, 80), while the Asian one is moderate (Cohen 2013, 80). Thus, the comparison clearly demonstrates that transformational leadership is more powerful in Western countries. Moreover, the relationship for the Western subset is stronger than for the complete data set ($\bar{r}_{TFL+PE}$ = 0.474, 95% confidence interval [0.417, 0.531]). For Asia, the opposite is true, since the correlation weakens in comparison to the whole data set.

In line with hypothesis H2, Ma and Jiang (2018) argue that Chinese employees are able to derive psychological empowerment from fulfilling tasks assigned by their leaders without making mistakes. This argument encourages the assumption that transactional leaders have a stronger impact on psychological empowerment in Asian countries than in Western ones. However, when comparing the respective correlation coefficients, the results indicate the exact opposite: The impact of transactional leadership on psychological empowerment is stronger for Western ($\bar{r}_{E+Am,\ TAL+PE}$ = 0.398, 95% confidence interval [0.326, 0.470]) than for Asian countries ($\bar{r}_{As,\ TAL+PE}$ = 0.324, 95% confidence interval [0.254, 0.394]). Nonetheless, Ma and Jiang's (2018) postulation that Chinese employees feel competent and believe to do meaningful work when completing tasks error-free is supported by the moderate (Cohen 2013, 80) correlation for TAL+PE in Asia. Likewise, hypothesis H8 is confirmed for the Asian subset, as the estimated population correlation for TFL+PE is stronger than for TAL+PE.

Looking at the structural dimensions of empowerment, no inferences can be made regarding the impact of transactional leadership, since there is insufficient data available. For transformational leadership, on the other hand, the strong (Cohen 2013, 80) estimated population correlation for Western countries ($\bar{r}_{E+Am,\ TFL+SE}$ = 0.705, 95% confidence interval [0.633, 0.776]) demonstrates the powerful impact this leadership style has on subordinates' structural empowerment. This confirms the positive TFL+SE correlation inferred by hypothesis H4. Furthermore, comparing the TFL+SE and the TFL+PE correlation for the Western subset, hypothesis H6 is also accepted, since transformational leaders are more influential regarding structural than psychological empowerment. In relation to the complete data set ($\bar{r}_{TFL+SE}$ = 0.630, 95% confidence interval [0.560, 0.701]), the TFL+SE correlation for Europe and North America is more pronounced, emphasizing the significance of transformational leadership in these regions. Additionally, the standard deviation for the Western data subset ($\sigma_{E+Am,\ TFL+SE}$ = 0.033) is not only notably lower than for the entire data set (σ_{TFL+SE} = 0.141), but its being close to zero also emphasizes that there is almost no data variation within this particular subset. In other words, nearly all of the

differences between the individual studies' effect sizes for European and North American countries are caused by sampling error (Hunter and Schmidt 1990, 114).

Turning to Asian countries, the TFL+SE correlation ($\bar{r}_{As,\ TFL+SE}$ = 0.566, 95% confidence interval [0.499, 0.633]) is strong (Cohen 2013, 80) as well, so that hypothesis H4 is supported for this subset. Even though the correlation remains a strong (Cohen 2013, 80) one, it is lower than for the complete data set ($\bar{r}_{TFL+SE}$ = 0.630, 95% confidence interval [0.560, 0.701]). Hence, transformational leaders in Asian countries are less influential in establishing empowering organizational structures. However, the TFL+SE correlation is still notably stronger than the TFL+PE one ($\bar{r}_{As,\ TFL+PE}$ = 0.399, 95% confidence interval [0.319, 0.479]), which confirms hypothesis H6. Once again, this emphasizes that transformational leaders are more effective in fostering structural than psychological empowerment. Nevertheless, the impact is less pronounced for Asian than for Western countries, similar to the relationship between leadership and psychological empowerment. Hence, geographic region – along with the corresponding culture – does not only affect the influence transactional and transformational leaders have on their team members' empowerment, but also the strength of this influence.

6 Discussion

Generally, the results of this meta-analysis show a moderate to strong correlation of the investigated leadership styles with empowerment, which supports the assumption that leadership is an integral part of an organization's empowering structure (Spreitzer 1996). However, leadership is not simply a component, but also an antecedent of empowerment, especially of structural empowerment (Monje Amor, Abeal Vázquez, and Faína 2020). This is indicated by the strong (Cohen 2013, 80) correlation of transformational leadership and structural empowerment that is uncovered for the entire data set as well as its Western and Asian subsets. Transformational leaders change the work environment to support their subordinate employees' empowerment along with the latter's perception thereof (Thomas and Velthouse 1990).

Furthermore, the results confirm that transformational leaders have a higher impact on psychological empowerment than their transactional colleagues, since they actively foster it (e.g. Boonyarit, Chomphupart, and Arin 2010; Schermuly et al. 2022). Nonetheless, the TFL+PE correlation is moderate (Cohen 2013, 80), whereas the TFL+SE correlation is strong (Cohen 2013, 80), which emphasizes that it is easier for transformational leaders to establish empowering structures than to influence their team members' empowerment cognitions. While structural conditions are objectively observable and equal for all workers in a specific team or department (Tuuli et al. 2012), cognitions represent individual evaluations happening within the employee's mind (Lin, Wu, and Ling 2017). In other words, the perception of empowerment is derived from the individual team member's assessment of his or her work conditions and environment, independent of the objectivity of this assessment (Spreitzer 1996). Consequently, leaders are more successful in encouraging objectively empowering structures than subjectively empowering perceptions.

6.1 Transactional Leadership and Psychological Empowerment

Based on chapter 5 Results, transactional leadership can only be discussed in relation to psychological empowerment, since there is insufficient data available (Rosenthal 1995) to provide results for the TAL+SE correlation. Consequently, the assumption that contingent reward leadership facilitates structural empowerment by linking performance and reward (Judge and Piccolo 2004), can neither be confirmed nor denied based on the meta-analytic results. By contrast, the results demonstrate that transactional leadership has a moderate (Cohen 2013, 80) correlation with psychological empowerment, supporting the hypothesized encouragement of feelings of competence, which employees gain from the error-free completion of their tasks (Ma and Jiang 2018). Besides, transactional leaders provide a safe, stable work environment with low uncertainty for their staff (Ma and Jiang 2018), thus reducing role ambiguity (Spreitzer 1996). Moreover, the clearly defined expectations that characterize the transactional exchange (Burns 1978, 4) strengthen employees' knowledge of their roles within the organization. Once these roles are

understood, team members tend to derive some meaningfulness from their respective jobs and tasks (Spreitzer 1996), which fosters their psychological empowerment.

Though this effect is visible for both the overall data set and the Western and Asian subsets, it is lowest for the Asian subset. The limited influence of transactional leaders on psychological empowerment in Asia emphasizes that the focus on the individual employee and his or her personal needs is less pronounced in Asian organizations (Ma and Jiang 2018). In many Asian countries, for example in China, organizations prefer workers to simply complete their tasks, discouraging them from voicing criticisms, challenging the status quo, suggesting ideas for improvement, and demanding more influence on work-related outcomes or even the freedom to make at least some decisions themselves (Ma and Jiang 2018). As a consequence, leaders are dissuaded from acting overly transformational (Ma and Jiang 2018), and subordinates' perceptions of being empowered are restricted.

Looking at the Western subset, which features the strongest TAL+PE correlation, the idea of psychologically empowering employees with its implications of increased intrinsic motivation (Thomas and Velthouse 1990), less need for supervision, and a wider span of control (Spreitzer 1996) seems to be more prominent. Although transactional leaders are more focused on their subordinates' performance than their individual needs and perceptions (Judge and Piccolo 2004), there is some overlap of contingent reward and individualized consideration (Bass 1997). Both aim to fulfill the workers' needs, with the former using direct, often monetary, rewards and the latter offering recognition and opportunities for personal growth (Bass 1997). Once the transactional leader starts combining the monetary rewards with some praise for a well-done job, though, he or she consciously triggers the competence and meaningfulness dimensions of psychological empowerment (Spreitzer, Kizilos, and Nason 1997).

Aside from contingent reward, passive management-by-exception offers the potential to contribute to psychologically empowering staff. With the leader being absent most of the time and only acting once a problem has manifested itself (Judge and Piccolo 2004), subordinates receive some degree of choice in what task they work on first and how they do so (Spreitzer, Kizilos, and Nason 1997). Hence, this situation can promote team members' impression of being self-determined and encourage them to feel empowered. However, the leader retains his or her decision-making power (Kanter 1993, 165), which limits the amount of self-determination objectively available to the respective staff. Moreover, employees are still required to execute specific tasks and achieve pre-defined goals (Bass 1990), so that their jobs continue to be governed by routine, which further restricts their workplace autonomy (Spreitzer, Kizilos, and Nason 1997). Ultimately, constraints like these explain why the TAL+PE correlation is weaker than the TFL+PE correlation, or, in other words, why transactional leaders are less supportive of empowerment than their transformational colleagues.

6.2 Transformational Leadership and Structural Empowerment

For transformational leaders, actively supporting changes and encouraging subordinates to voice criticisms and suggestions for improvement (Bass 1999) is an integral part of being a leader (Bass 1990). This dedication to adapting and/or improving work conditions is reflected by the strong (Cohen 2013, 80) TFL+SE correlation, which highlights the powerful impact transformational leaders have on structural empowerment. Besides actively delegating decision-making authority (Bowen and Lawler 1992), transformational leaders grant their team members access to the resources they require to complete their tasks successfully (Monje Amor, Abeal Vázquez, and Faína 2020). Moreover, close supervision is not a part of transformational leadership (Afsar et al. 2017), which results in leaders enlarging their span of control (Spreitzer, De Janasz, and Quinn 1999) along with the delegation of decisions and the right to assign resources.

Additionally, transformational leaders ensure that all important information is shared with their teams, knowing that being well-informed facilitates their teams' empowerment. Consequently, both formal and informal communication channels (Lundin et al. 2022) are employed to distribute not only task-related information (Bowen and Lawler 1992), but also insights into the organization's performance, challenges, and strategies for future success (Lin, Wu, and Ling 2017). Examples for formal communications channels are emails, blackboard notices, or announcements during team briefings (Lundin et al. 2022). By contrast, informal communication can happen everywhere, e.g. a chat over lunch or an encounter at the copying machine. However, no matter the number of channels used to convey the information, all of them provide employees with additional knowledge regarding the scope and the importance of their jobs (Bowen and Lawler 1992).

Besides sharing information, transformational leaders aim for trainings to be offered to their employees, wanting them to have a chance to broaden their professional knowledge and acquire new or refine current skills (Bowen and Lawler 1992). To extend these development opportunities for the staff beyond explicit training sessions, leaders provide constructive feedback to their team members (Monje Amor, Xanthopoulou, and Calvo 2021). In other words, they laude what workers do well and explain what could be improved (Laschinger et al. 2001). In addition, learning opportunities are provided (Judge and Piccolo 2004) whenever possible during day-to-day operations. Furthermore, as such learning opportunities require organizational support (Laschinger et al. 2001), transformational leaders ensure that their team members receive all the hints and the advice they request when working on a specific problem (Echebiri, Amundsen, and Engen 2020). Alternatively, leaders actively support their subordinates when the latter attempt to resolve the issue themselves (Laschinger et al. 2001). Taking the respective problem away from an employee, though, is not an option the leader considers.

Finally, rewards are the last of the six dimensions of structural empowerment transformational leaders can utilize to exert the influence represented by the strong (Cohen 22013, 80) TFL+SE correlation. While Bowen and Lawler (1992) argue that at least some part of the salary or wage should be linked to the performance of the organization as a whole, Seibert, Silver, and Randolph (2004) favor the opposite, stating that being paid according to the organization's performance holds staff accountable for results they can neither impact nor control. Either way, rewards based on specific performance goals increase the attraction of actively pursuing those goals for employees. Still, a reward does not necessarily have to be monetary; being praised by the leader for an innovative solution to a problem during a team meeting, for example, conveys performance-based appreciation without involving money.

6.3 Transformational Leadership and Psychological Empowerment

Despite the fact that the TFL+PE correlation is weaker than the TFL+SE correlation, transformational leadership still remains more influential than transactional leadership regarding psychological empowerment. This indicates that employees who exceed their individual self-interest in pursuit of their transformational leader's higher goal (Bass 1997) tend to believe that their jobs are meaningful. Besides, they perceive themselves as competent, self-determined and influential regarding the final outcomes of their work (Thomas and Velthouse 1990). However, psychological empowerment is described as the employees' reaction to their work environment (Laschinger et al. 2004), which renders it more difficult for transformational leaders to exert their influence, as reflected by the moderate (Cohen 2013, 80) TFL+PE correlation compared to the strong (Cohen 2013, 80) TFL+SE correlation. Nonetheless, the stated TFL+PE correlation merits a more detailed discussion of the aforementioned dimensions of psychological empowerment.

To start with, transformational leaders foster their team members perception of competence by actively encouraging them to present suggestions to improve the work conditions, policies and procedures guiding their daily work (Judge and Piccolo 2004). Once employees present some ideas, leaders do not recoil from conflicts or discussions, but instead recognize and even embrace these as a natural part of leading and an opportunity to explain and/or improve their own views and decisions (Burns 1978, 39). By taking the time to negotiate consensus, leaders further demonstrate their subordinates that their contributions are appreciated and valued (Judge and Piccolo 2004). Likewise, offering trainings and learning opportunities – as mentioned in the previous section – is not only essential in establishing structural empowerment (García-Juan, Escrig-Tena, and Roca-Puig 2020), but also strengthens employees' competence along with their perception thereof (Spreitzer, Kizilos, and Nason 1997).

To further facilitate team members' perception of competence (Thomas and Velthouse 1990) and self-determination (Spreitzer, Kizilos, and Nason 1997), leaders benefit from the lack of close supervision inherent in transformational leadership (Afsar et al. 2017). It fosters the delegation of

decision-making authority (Bowen and Lawler 1992), which increases the amount of choice team members have regarding the execution of their tasks (Thomas and Velthouse 1990). Besides demonstrating trust in workers' competence, this also offers them the opportunity to exert additional impact on the final outcomes, all of which increase their intrinsic motivation (Thomas and Velthouse 1990). Consequently, they continue to work hard, but effectively require less supervision (Thomas and Velthouse 1990), justifying the wider span of control favored by transformational leaders (Afsar et al. 2017). Nevertheless, granting staff more autonomy entails their having access to the necessary resources to complete their tasks successfully (Spreitzer 1996). Otherwise, team members are unable to benefit from their empowerment.

Last but not least, team members require information, not only to enable them to succeed in their respective jobs (Spreitzer, Kizilos, and Nason 1997), but also to attach meaning to the latter. By explaining to their teams how important their results are for their colleagues in another department or the successful performance of the organization as a whole, transformational leaders support the formers' understanding of the importance and meaningfulness (Thomas and Velthouse 1990) of the tasks they accomplish. Nonetheless, leaders have limited impact on how employees process the provided information, because an employee's perception of his or her individual psychological empowerment represents what is going on inside this person's mind (Seibert, Wang, and Courtright 2011). Consequently, the responses are subjected to variations due to the individual's frame of mind, mood, and circumstances. Furthermore, each individual employee likely reaches a slightly different conclusion, rendering it very difficult for leaders to achieve a common perception of empowerment within their team or department. Ultimately, these difficulties are reflected by the fact that the calculated TFL+PE correlation is merely moderate (Cohen 2013, 80), even though transformational leaders usually address all four dimensions of psychological empowerment.

6.4 Comparing the Presented Results with Those of Schermuly et al. (2022)

As mentioned several times already, Schermuly et al. (2022) published a meta-analysis which investigates the impact of various leadership styles on psychological empowerment. Among these leadership styles are transactional and transformational leadership, so that a more detailed comparison of the respective correlation coefficients derived by Schermuly et al. (2022) with the ones obtained by this thesis seems appropriate. To start with, the process of accumulating data differs. Whereas this thesis uses a total of six keyword combinations, Schermuly et al. (2022) apply only one. Additionally, they do not employ any quality criterion and include unpublished data as well. In total, Schermuly et al.'s (2022) sample comprises 41 papers detailing the TFL+PE correlation, and seven studies representing the TAL+PE correlation. Despite the differing approaches to data collection, the final sample sizes are almost identical, as this thesis includes 41 papers describing the TFL+PE correlation and six indicating the TAL+PE correlation.

Nonetheless, a closer look at the respective studies reveals significant differences. The TAL+PE sub-sample used by Schermuly et al. (2022) contains only one study that is featured in this thesis as well: the one published by Tung (2016). From the remaining six papers, five are from journals with a rank lower than two according to the Academic Journal Guide 2021 (CABS 2021), and the sixth one is an unpublished source (Schermuly et al. 2022). Hence, neither of them meets the inclusion criteria of this meta-analysis. Even more interesting, though, is the fact that the correlation coefficient derived from the paper by Tung (2016) differs. Schermuly et al. (2022) use r = -0.34 to represent the TAL+PE correlation, whereas this thesis obtains a value of r = 0.345 to describe the same correlation[2]. When contacted regarding this discrepancy, Prof. Schermuly explained that he and his team of researchers had concerns about this value as well, but decided to use a negative sign based on the information Tung (2016) provides while describing the results in the text. By contrast, this thesis choses to accept the correlation coefficient listed in the zero-order correlation matrix.

In the end, Schermuly et al. (2022) determine a value of $\bar{r}$ = 0.08 (95% confidence interval [-0.16, 0.32]) to indicate the overall TAL+PE correlation, whereas this thesis calculates $\bar{r}_{TAL+PE}$ = 0.348 (95% confidence interval [0.277, 0.419]) to represent the same correlation. Still, the 95% confidence intervals of both meta-analyses overlap, which supports the conclusion that both results might not represent the real population correlation. Instead, the latter is probably somewhere in between the values presented by the two meta-analyses, likely within the range where the confidence intervals do overlap. Moreover, given that the papers included in the respective samples vary considerably, it can be assumed that this differing sample composition causes the inconsistent results, particularly since both meta-analyses use the Hunter-Schmidt method.

Comparing results for the TFL+PE correlation provides a completely different picture. 17 of the papers included in Schermuly et al.'s (2022) sub-sample are also used for this analysis. The remaining 24 studies comprised in Schermuly et al.'s (2022) sample are omitted from this thesis due to the quality criterion, because they are either doctoral dissertations – both published and unpublished – or papers published in a journal ranking lower than two in the Academic Journal Guide 2021 (CABS 2021). Interestingly, though, the estimated population correlations are similar: $\bar{r}$ = 0.40 (95% confidence interval [0.35, 0.45]) for Schermuly et al. (2022), and $\bar{r}_{TFL+PE}$ = 0.474 (95% confidence interval [0.417, 0.531]) for this thesis. However, considering the overlapping 95% confidence intervals, the differing values for the respective correlation coefficients can be attributed to the divergent data used to calculate them.

6.5 Implications for Business Leaders and Managers

Based on the discussion of the meta-analytic results presented so far, it is obvious that business leaders and/or managers are more successful in establishing empowering structures than in

[2] The respective zero-order correlation matrix presented by Tung (2016) does not contain any negative values.

achieving the perception of being empowered among their subordinate employees. Still, as psychological empowerment is the result of an empowering work environment (Spreitzer 1996), structural empowerment is a solid starting point for leaders and/or managers who strive for increased empowerment in their teams, departments, or companies. Prior to introducing any changes, though, leaders and/or managers should accurately assess the status quo, followed by the development of a detailed plan specifying the particular work conditions to be addressed along with the proposed modifications and the objectives the leader and/or manager intends to realize by implementing the respective alterations. Without sufficient preparation, changes might cause unnecessary uncertainty and upheaval among the staff (Spreitzer 1996), especially if leaders and/or managers face an unexpected or unforeseen challenge or consequence during the transformation process.

Before considering major structural changes, e.g. the establishment of a more decentralized hierarchy, leaders and/or managers should consider smaller steps that are easier to accomplish in the course of daily business operations. For example, sharing additional information with their team members. Aside from using formal communication channels (Lundin et al. 2022), leaders and/or managers could search for more informal opportunities to talk to their subordinates. A break – no matter whether it is a lunch break, a coffee break, or a cigarette break – is an opportunity to informally share information with the team, both from leader to subordinate employee and from colleague to colleague (Lundin et al. 2022). Moreover, places frequented by employees from all departments and hierarchical levels, like the canteen, the coffee machine, or even the restrooms, may be considered as socializing platforms, offering a variety of information from various sources. Additionally, talking to colleagues from other teams or departments is a chance for the individual to build a social network within the company, thus providing him- or herself with access to informal power, which, in turn, contributes to decision-making power, a dimension of structural empowerment (Kanter 1993, 164).

Next to the effects of information on both structural and psychological empowerment discussed so far, informal communications are occasions for transformational leaders and/or managers to develop trusting relationships with their employees (Bass 1999). These enhance the latter's perception of being empowered, as their leaders and/or managers tend to provide trusted workers with learning opportunities (Judge and Piccolo 2004) as well as organizational support (Laschinger et al. 2001). Furthermore, leaders and/or managers likely feel more comfortable delegating decisions to employees they value and trust, which encourages the latter to feel competent and influential regarding the performance of the team or department (Thomas and Velthouse 1990).

Eventually, leaders and/or managers have a variety of opportunities to foster their teams' empowerment, both structurally and psychologically, while completing their usual daily work. In order to benefit from these chances, though, leaders and/or managers have to perceive them as such

and then act accordingly. Nonetheless, despite the leader's and/or manager's best effort to facilitate empowerment, they are unable to monitor the way their employees ultimately evaluate these efforts (Lin, Wu, and Ling 2017). However, as long as they follow their transformational intuition and consider their subordinates as individuals (Bass 1990) who deserve respect, they have a solid basis to encourage their team members' empowerment.

6.6 Limitations

The first limitation of this thesis is the fact that the meta-analysis only corrected for sampling error and error of measurement, while other artifacts, e.g. range restriction (Hunter and Schmidt 1990, 43), remain uncorrected. Therefore, the population correlations are estimated based on the observed correlations rather than the underlying true effect sizes, since several biases based on imperfect study designs and limited resources (Hunter and Schmidt 1990, 156) are ignored. Hence, "the mean correlation of a "bare bones" meta-analysis is a biased estimate of the desired mean correlation" (Hunter and Schmidt 1990, 156-157), with a similarly biased variance (Hunter and Schmidt 1990, 157). Consequently, the application of further corrections to address additional artifacts would significantly improve the validity of the meta-analytic results, though it was beyond the scope of this thesis.

Another limitation to be considered is publication bias. It refers to the fact that academic journals are said to prefer publishing studies with significant results while tending to reject those with non-significant findings (Field and Gillett 2010). Since this meta-analysis was conducted with published studies only, it risks to overestimate the population correlations (Field and Gillett 2010). To quantify publication bias, Field and Gillett (2010) recommend to use Rosenthal's fail-safe N, a method presented in 1979. It calculates the number of studies with effect sizes equaling zero that would have to be included in the meta-analysis in order to reach the desired significance level (Hunter and Schmidt 1990, 472). However, this number tends to be very large, easily amounting to several thousand studies, which is why Hunter and Schmidt (1990, 472) consider it highly unlikely that such a number of unpublished studies exists on any topic.

Following the same argumentation, Hunter and Schmidt (1990, 507-509) further state that they conducted a variety of meta-analyses with both published and unpublished data without detecting significant differences in their meta-analytic results. Given that many variations in research findings can be attributed to sampling error or other artifacts, a meta-analysis that corrects for these artifacts can be seen as solving the issue of publication bias (Hunter and Schmidt 1990, 507). Consequently, Hunter and Schmidt (1990, 507-509) do not consider publication bias as a serious concern in meta-analyses, which is why this thesis did not apply any methods to quantify it.

6.7 Future Research Opportunities

So far, many researchers have focused their efforts on investigating psychological empowerment (e.g. Spreitzer, Kizilos, and Nason 1997; Monje Amor, Xanthopulou, and Calvo 2021; Schermuly et al. 2022) and its implications for factors like job satisfaction (e.g. Seibert, Wang, and Courtright 2011), performance (e.g. Seibert, Silver, and Randolph 2004), or strain (e.g. Spreitzer, Kizilos, and Nason 1997). Considerably less research has been published with respect to structural empowerment (Seibert, Silver, and Randolph 2004), even though it can prevent burnout (Monje Amor, Xanthopoulou, and Calvo 2021), besides enhancing an organization's ability to adapt quickly and flexibly to changing conditions in its environment (García-Juan, Escrig-Tena, and Roca-Puig 2020). Moreover, the connection between structural and psychological aspects of empowerment has not received explicit attention yet. Despite being considered complementary (Lin, Wu, and Ling 2017), with structural empowerment deemed an antecedent of psychological empowerment (Spreitzer 1996), the question whether it is also a necessary prerequisite for psychological empowerment hitherto remains answered.

Likewise, though psychological empowerment is described as an employee's reaction to his or her structural environment (Laschinger at al. 2004), the issue whether employees are able to perceive themselves as structurally empowered without their organization's extending any effort towards psychological empowerment has been neglected. Consequently, a more detailed investigation of the relationship between structural and psychological empowerment would provide the information required to answer these questions. In addition, such information could potentially change the dominating perspective regarding empowerment, which causes researchers to focus on either. As a result, psychological empowerment currently receives significantly more attention than structural empowerment. In case of structural and psychological empowerment proving to be dependent on one another, though, a more inclusive focus would have to be adopted, addressing both simultaneously.

Reflecting the currently dominating focus on psychological empowerment, studies examining the relationship between leadership styles, like transformational and transactional leadership, and psychological empowerment (e.g. Boonyarit, Chomphupart, and Arin 2010; Schermuly et al. 2022) are manifold. By contrast, the academic literature offers a less complete picture regarding the impact of the aforementioned leadership styles on structural empowerment (e.g. Sun et al. 2012; Monje Amor, Abeal Vázquez, and Faína 2020). However, as leaders are the ones to bring empowering policies and practices to life (Huertas-Valdivia, Gallego-Burín, and Lloréns-Montes 2019), additional attention on how leadership styles facilitate – or hinder – structural empowerment seems merited. This could comprise further studies focusing on the correlation of transactional leadership and structural empowerment, for example, as this thesis encountered a decisive lack of corresponding publications when accumulating data for the meta-analysis.

Alternatively, a more detailed investigation of the relationship between transformational leadership and the various dimensions of structural empowerment would provide additional insights for researchers as well as business leaders concerning the dimension on which transformational leaders have the most powerful impact.

7 Conclusion

This thesis conducts a meta-analysis assessing the effects of transactional and transformational leadership on structural and psychological empowerment. It confirms the initial assumption that transformational leaders affect employee empowerment, whether by establishing empowering structures to foster structural empowerment or by supporting the individual's empowerment cognitions to facilitate psychological empowerment. The results also reveal that transactional leaders can induce their subordinate employees to feel psychologically empowered. Although this relationship is only moderate (Cohen 2013, 80), transactional leadership is more influential than initially assumed. Furthermore, given that a leader's influence on structural empowerment is significantly stronger than on psychological empowerment, leaders should invest additional effort in creating empowering work conditions, policies and practices. By contrast, supporting the individual perception of being empowered is more difficult, though it should not be ignored completely, since structural and psychological empowerment are considered complementary (Lin, Wu, and Ling 2017). Moreover, the results of this meta-analysis emphasize that structural empowerment is crucial when aiming for empowered employees. Consequently, both business leaders and researchers should devote more attention to the latter in the future than it has received so far.

8 References

note: studies preceded by an asterisk (*) are included in the meta-analysis

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9 Abstract

This thesis conducts a meta-analysis to test the influence of transactional and transformational leadership on employee empowerment. As empowerment comprises structural and psychological dimensions, both of these are analyzed. Still, this thesis' focus is on structural empowerment and how leaders impact the work environment with its practices and policies in order to enhance – or hinder – their team members' empowerment. Based on Pearson Correlation Coefficients indicating the correlation of transactional and/or transformational leadership and structural and/or psychological empowerment derived from 42 individual studies, the Hunter-Schmidt method is applied to estimate the population correlations for each of the respective leadership – empowerment combinations. The results demonstrate that transformational leaders have a powerful impact on establishing empowering structural conditions, whereas their impact on the perception of being empowered is less pronounced. Hence, it is easier for business leaders and/or managers to empower their employees structurally than psychologically. For transactional leadership, the data allows no inferences regarding structural empowerment, but it indicates a moderate effect on team members' psychological empowerment. Thus, there are some situations in which employees consider themselves empowered despite their transactional leaders' lack of encouragement for this belief. Ultimately, the results show that the relationship between transactional and transformational leadership and structural empowerment deserves more scientific attention than it has received so far.

10 Zusammenfassung

Diese Arbeit präsentiert eine Meta-Analyse, die den Einfluss von transaktionsorientierter und transformationsorientierter Führung auf die Bevollmächtigung der Mitarbeiter*innen untersucht. Da diese Bevollmächtigung aus zwei Komponenten, einer strukturellen und einer psychologischen, besteht, werden beide in die Analyse einbezogen. Dennoch liegt der Fokus dieser Arbeit auf den strukturellen Aspekten, darauf, wie Führungskräfte das Arbeitsumfeld sowie die dazugehörigen Richtlinien und Praktiken beeinflussen, die letztlich die Bevollmächtigung ihrer Mitarbeiter*innen fördern oder hemmen. Die Grundlage für die empirische Bestimmung der Korrelationskoeffizienten für die jeweilige Kombination aus Führungsstil und Bevollmächtigung nach der von Hunter und Schmidt propagierten Methode bilden die entsprechenden Pearson-Korrelationskoeffizienten aus 42 einzelnen Studien, die ihrerseits den Zusammenhang zwischen transaktionsorientierter und/oder transformationsorientierter Führung und struktureller und/oder psychologischer Bevollmächtigung repräsentieren. Die Ergebnisse der Analyse zeigen, dass transformationsorientierte Führung einen starken Einfluss auf die Etablierung von Strukturen hat, die die Bevollmächtigung der Mitarbeiter*innen fördern, wohingegen die Auswirkung dieses Führungsstils auf die individuelle Wahrnehmung der persönlichen Bevollmächtigung weniger ausgeprägt ist. Somit ist es für Führungskräfte einfacher, ihren Mitarbeiter*innen mehr strukturelle Bevollmächtigung zu bieten, als die individuelle Überzeugung zu stärken, bevollmächtigt zu sein. In Bezug auf transaktionsorientierte Führung ist die Datengrundlage dieser Arbeit zu dünn, um Rückschlüsse hinsichtlich des Zusammenhangs mit struktureller Bevollmächtigung zu erlauben. Dennoch lässt sich ein moderater Einfluss dieses Führungsstils auf die wahrgenommene Bevollmächtigung der Mitarbeiter*innen feststellen. Folglich existieren Situationen, in denen Mitarbeiter*innen sich als bevollmächtigt empfinden, obwohl die entsprechende Führungskraft keine Initiative zeigt, um diese Überzeugung zu ermutigen. Basierend auf den Ergebnissen dieser Arbeit wird somit deutlich, dass der Zusammenhang zwischen transaktionsorientierter und transformationsorientierter Führung und struktureller Bevollmächtigung mehr Aufmerksamkeit verdient, als ihm bisher zuteilwurde.