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## Effect of Training Activities on Training Transfer: Role of Trainee Characteristics

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**ABSTRACT-** This study examines how training activities can facilitate the transfer of training within an organization. Specifically, this research investigates the impact of pre-training, during-training, and post-training activities on the transfer of training. Additionally, this study explores whether trainee characteristics play a moderating role in this relationship. The population for this study consists of 20 banks, from which 400 employees, including managers and bank officers, are randomly selected from branches in Islamabad, Peshawar, and Malakand. Participants from both management and employees of the bank are included in the sample. Self-administered questionnaires are distributed to collect data, and correlation and regression statistical analyses are conducted. The results show a positive correlation between activities before the training, pre-training, and in-training with the transfer of training. The outcomes of our study reveal that both training interventions positively and significantly contribute to enhancing the transfer of training. However, it is noteworthy that post-training activities show no substantial influence on the transfer of training. Additionally, our findings suggest that trainee characteristics generally do not act as moderators in the relationship between pre-training, during training, and post-training activities and the transfer of training, except for the trainee's self-efficacy.

**Keywords:** HR Measurement issues, Training and development, Strategic HR, Human capital, Training, Employee Performance

### 1 Introduction

Training is widely regarded as a highly effective and efficient method for enhancing employee performance, and managers often prioritize it accordingly. This persistent emphasis on training has turned it into a lucrative industry, with billions of dollars invested yearly (Ahmed et al., 2018; Ahmed et al., 2020; Baldwin & Ford, 1988). According to a research report by Statista Research Department (2024) Organizations has invest as much as 383 billion U.S. dollar in 2023 in training, including formal and informal methods. However, the focus on training goes beyond just financial investment, and importance should be placed on the practical application of training in the actual job context (Ahmad & Sulaiman, 2022; Phillips & Phillips, 2016). Without successful transfer, resources and time spent on training can be viewed as wasted (Blume et al., 2010), and negative effects on productivity and performance can also result from this (Clark, 1989; Morrow et al., 1997). To tackle this concern, evaluating the efficacy of existing training approaches and exploring avenues for enhancing the training transfer to the job is crucial. Furthermore, applying learned content in the job setting and acquiring procedural knowledge is crucial for influencing organizational results, such as increased productivity, return on investment, waste reduction, and improved efficiency and effectiveness (Al-Zoubi et al., 2022; Alsalamah & Callinan, 2021).

Previous research has mainly focused on trainee characteristics and the interplay between trainee characteristics, training program design, and their role in transferring training and work productivity, neglecting the importance of workplace contribution to the transfer of training. For training to yield desired outcomes, the working environment must foster the transfer and implementation of the acquired content, skills, attitude, and knowledge into the practical work environment (Ochoi, 2020). Individual and environmental elements, or a combination of both, significantly contributed to transferring training to work, and all of these variables play a crucial role in enhancing performance (Subedi, 2004). Additionally, previous studies have often assumed that training has led to the transfer of learning without fully evaluating the training outcomes. Training evaluation is typically focused on the trainee's responses to the training and their learning during the training, with little attention given to actual behavior change and organizational performance (Kirkpatrick & Kirkpatrick, 2006). The central objective of this study is to bridge the existing research gaps by assessing how training influences behavior change and organizational performance and monitoring the practical implementation of learned skills, knowledge, ability, and training content in the actual job setting.

The evaluation of training programs is often limited to the initial two levels of the Kirkpatrick model (1996) Evaluation Model (Alsalamah & Callinan, 2021; Steensma & Groeneveld, 2010), which involves measuring trainee reactions and

learning outcomes. Levels three and four, which assess behavior change and organizational outcomes such as performance efficiency, waste reduction, value creation, and customer satisfaction, are less commonly evaluated. A survey by (Sugrue & Kim, 2004) found that most organizations prioritize assessing learning outcomes and trainee reactions rather than measuring the genuine change in trainees' behavior and the resultant impact on performance effectiveness and efficiency. Even though several research studies have been carried out on training evaluation, they overlook the entire range of training outcomes. (Arthur Jr et al., 2003) performed an extensive meta-analysis of more than 600 training evaluation studies conducted in the field and discovered that a mere 4% presented indication of evaluating how much training is being transferred to the workplace settings, and only a minority of them monitored practical utilization of acquired knowledge within the work environment post-training. Although the Kirkpatrick training effectiveness model is commonly employed in research, most of these studies are motivated to emphasize the initial two components of training transfer, namely learning outcomes and trainee reactions, while neglecting the crucial aspects of behavioral change and the impact on organizational performance. As (Rouiller & Goldstein, 1993) has stated, "the effective transfer of training requires that the training input facilitates the generalization and practical application of acquired knowledge and skills in the actual workplace setting." This research seeks to explore the correlation between the training activities outlined by (Saks & Belcourt, 2006) and the transfer of training. It will take into account moderating factors associated with trainee characteristics. The study's scope reaches beyond merely evaluating the influence of training on job performance; it also encompasses the practical implementation of learning from training in the workplace after the training. Currently, there exists a notable research gap concerning the association between training activities (prior to, during, and post-training) and the implementation of training outcomes in Pakistan particularly concerning these variables. This study aims to fill this gap and provide valuable insights to Pakistani managers on the significance of strategies and workplace environment for the transfer of training, as well as the importance of trainee characteristics. Based on the literature review, problem statement and local context, the following questions are designed for the study:

- To what extent do the training activities (pre, during and post) influence the transfer of training in the banking sector of Pakistan?
  - What is the impact of trainee's characteristics on the relationship between training activities (pre-training, during training, post training activities) and the transfer of training in the banking sector of Pakistan?
- The research objectives which are developed from the research question. In trying to find answers to the research questions and on the basis of the above mentioned background, discussion and research questions, the main objectives of the study are;
- To investigate the impact of pre-training, during training and post-training activities on transfer of training in the banking sector of Pakistan.
  - To study the impact of trainee's characteristic on the relationship between training activities and transfer of training in the banking sector of Pakistan.

### **Literature review and background**

Social Cognitive Theory (SCT) (Bandura, 1986) provides a basic comprehensive bases for understanding the contribution made by the training activities, coupled with individual characteristics in the effective transfer of knowledge, skills, and behaviors from the training environment to the workplace.

Social Cognitive Theory posits that training transfer is influenced by various factors, including the design and implementation of training activities as well as individual characteristics of trainees. According to SCT, pre-training, during-training, and post-training activities play distinctive roles in facilitating the transfer process (Velada et al., 2007). Pre-training activities set the stage by preparing trainees for the upcoming learning experience, fostering their readiness to acquire new knowledge and skills. During-training activities focus on the active engagement of trainees in learning tasks and the reinforcement of key concepts, thereby enhancing retention and application. Post-training activities, on the other hand, aim to sustain learning outcomes over time through reinforcement strategies and opportunities for practice and feedback.

Moreover, Social Cognitive Theory highlights the importance of individual characteristics, such as motivation, self-efficacy, and cognitive ability, in mediating the relationship between training activities and transfer outcomes (Gist, 1987). Trainees who possess higher levels of motivation and self-efficacy are more likely to effectively apply their newly acquired skills in real-world settings, whereas cognitive ability influences the depth and complexity of learning and problem-solving abilities.

### **Training transfer**

As per (Kraiger et al., 2004), training is "a systematic acquisition to affect knowledge, skills, and attitudes of individuals to improve the effectiveness of the individual, the team, and the organization." However, in designing the training program, it is essential to consider the trainees' initial reactions to the program and their ability to apply the learned content effectively in a real-world work environment (Liu et al., 2022). Kraiger et al., (2004) define the transfer of training as "the level to which the trainees acquire knowledge and skills and the level to which knowledge, skills and attitude is transferred on to the job along with a meaningful change in the behavior as a result of training." (Casey et al., 2021) developed a model of the transfer of training based on an extensive literature review, which integrates several conceptual models (i.e., (Baldwin & Ford, 1988; Holton III et al., 2000). The model emphasizes the importance of three key variables: (1) the characteristics of the training, i.e., training design, delivery method, and training environment, and (2) the characteristics such as trainee's motivation, cognitive ability, and self-efficacy, etc. and (3) the characteristics work, e.g., organization support, supervisor support, organization culture, etc. This implies that comprehending the complete application of the learning process

necessitates a thorough understanding of all the relevant factors, their roles, and how they interact at different training phases.

### **Kirkpatrick model for training evaluation**

Kirkpatrick's significant contributions to the training evaluation field commenced in 1959 when he developed a model for categorizing and identifying training outcomes. Over the years, this model evolved and was transformed into a comprehensive framework in 1975. This framework, known as the Kirkpatrick Model, evaluates training based on four key outcomes categorized into different levels.

The Kirkpatrick Model is a structured framework comprising four levels for evaluating training programs. The first level centers on trainee reactions, encompassing participants' responses to the program, engagement levels, and overall satisfaction (Grossman & Salas, 2011). Moving on to the second level, it assesses learning outcomes by measuring the level at which participants acquire essential skills, knowledge, and abilities during their training journey (Giangreco et al., 2010). Advancing to the third level, the model delves into behavior change, carefully scrutinizing how participants utilize the recently acquired skills and knowledge in their job roles. This level is pivotal in evaluating the practical application of training outcomes in the workplace and the resulting impact on participants' behavior. Finally, the fourth level is concerned with organizational performance. It assesses how the investment in training programs pays and plays its role in the organization's success and in achieving its business objectives (Praslova, 2010).

The current study utilizes the Kirkpatrick training evaluation framework to measure the transfer of training. This framework evaluates training outcomes based on five distinct categories: trainee reaction to the training, learning outcomes, behavior and affective outcomes, organizational performance, and return on investment. However, the study has excluded the return-on-investment category since it is based on factual data rather than perception of the individuals.

### **Work Environment**

While the significance of work environment factors for fostering the transfer of training is undeniable, it is the one that gets the least attention from researchers and practitioners, and therefore, the number of studies investigating its impact is limited (Baldwin & Ford, 1988; Blume et al., 2010; Grossman & Salas, 2011; Lidowski et al., 2009). Nevertheless, recent research has shifted its focus towards work-environment variables, including aspects such as organizational support, the culture of learning, and factors or limitations within a work environment, as highlighted by Colquitt et al., (2000); Islam & Hosen, (2022); Mdhloose, (2022). A work environment's attributes can substantially influence how well an individual learns, utilizes, generalizes, and maintains training content. In particular, an organization's social support can greatly influence an employee's belief in its support system and the opportunities for individuals to apply the training content in their work settings. Research conducted by Zumrah and Boyle (2015) indicates that organizational support can elevate the probability of training transfer, which pertains to the practical application of the learning gained through training, as trainees apply the learning in real organizational work.

Providing opportunities for individuals to apply the learned knowledge and skills they've gained during training is another impactful method to ensure that training is transferred to the jobs. Research conducted by (Blume et al., 2010) has found that such opportunities can significantly improve the likelihood of transfer. Additionally, a positive transfer climate created by an organization's social support systems can facilitate training transfer. This term, coined by Tracey et al., (1995), refers to the organizational conditions that facilitate the transfer of content from training to organizational life.

However, interference from the trainee's workplace can impede the transfer of training. (Ford et al., 2018) found that environmental factors such as lack of resources, time pressures, and conflicting demands can negatively affect the training transfer. Therefore, organizations should create a conducive transfer climate and allow trainees to apply their newly acquired skills in a work setting that is favorable to learning and application.

Studies have shown that transfer and performance improvement only occur when trainees modify their behavior following the training and try to implement what is learned in the training (Islam & Hosen, 2022; Rahman & Bockarie, 2023). According to recent literature, the work environment can be classified into two distinct dimensions: organizational climate and organizational culture. Both dimensions are significant in facilitating the transfer of training across different stages, such as pre-training, during training, and post-training (Velada et al., 2007). The study centers on the aspects of organizational culture and climate, as they are the key factors that play the most substantial role in influencing the transfer of the training content into the workplace. The concept of organizational climate encompasses various factors within the workplace and environment that can either facilitate or hinder the transfer of training. The organizational climate supports the context of work teams, subunits, and different levels within the organization. It encompasses various aspects, including the necessity for change, the execution of interventions, and the effective transfer of newly acquired skills (Lim & Morris, 2006; Mdhloose, 2022), while the transfer climate is a composition of situation workplace cues and consequence workplace cues. The initial group of contextual cues and workplace prompts serves as a reminder to trainees about the opportunities to apply their newly acquired knowledge upon their return to their job roles.

In contrast, the second classification of workplace cues and consequential feedback pertains to the responses trainees receive once they've implemented the knowledge, skills, and attitudes gained during their training in their work assignments (Baldwin & Ford, 1988). Research has demonstrated the pivotal role of organizational support in empowering trainees to apply their recently acquired skills and knowledge effectively. The organizational climate plays a significant part in cultivating an environment conducive to training transfer and ensuring a high level of transferability (Gyimah, 2015).

The second dimension of the work environment, as identified by (Cameron, 2008), is organizational culture. Organizational support culture within this dimension pertains to the degree of support that trainees receive from various individuals, such as peers and senior and junior management. It also encompasses the opportunities to apply their newly acquired knowledge and

skills within the work environment. This notion has been previously discussed by Lim & Morris, (2006); Meyer, (2016) and Yaghi & Bates, (2020). Various factors can contribute to creating a supportive organizational environment. These may include the external environmental culture, the organizational structure, and the level of supervision upper management provides

Recent research studies have highlighted the significance of the work climate characteristics in facilitating the transfer of training. In particular, the relationship between supervisor and co-worker support and transfer has been explored in studies conducted by Ahmed, Bambale and Muhammad, (2020); Na-Nan, K., & Sanamthong, (2020) and Rehman et al., (2019). The findings of these studies suggest that trainees in organizations with supportive supervisors and co-workers are more likely to apply their newly acquired skills and knowledge within the actual work environment. Such support can also lead to the demonstration of valuable behaviors that enhance job performance.

### **Training activities (pre, during, and post)**

Despite some progress in transfer research at the group level, most studies concentrate on individual-level transfer, with limited attention given to organizational-level transfer. The study acknowledges that transfer of training can take place at both individual and organizational levels and aims to measure transfer outcomes while considering various training activities that occur across different training periods (pre-training, during training, and post-training activities).

#### **Pre-training activities**

Numerous pre-training factors, such as contextual and individual factors, have been shown to impact training effectiveness in studies conducted by (Cannon-Bowers et al., 1995; Casey et al., 2021; Mathieu et al., 1992). Participants in training programs can contribute to the training needs assessment process and have the freedom to participate in decisions concerning delivery methods and learning content (Phillips & Phillips, 2016). In (Rowold, 2007), it is recommended that trainees be allowed to participate voluntarily in the training process, as having the option to choose can lead to a more positive attitude and higher test scores (Furnham, 2012). These individuals also demonstrate a strong commitment to every aspect of the training process (Luthans & Youssef, 2004). Providing advance communication about the training program can mentally prepare trainees and boost their self-efficacy levels (Casey et al., 2021; Phillips & Phillips, 2016) recommend various forms of preparation as pre-training activities to increase trainee self-efficacy and readiness for the scheduled training program. According to (Clark et al., 1993), managers who are supportive and emphasize the connection of training to professional performance can play a vital role in facilitating the transfer of acquired skills. Additionally, as highlighted by (Baldwin & Ford, 1988), the perception of support from managers or peers can also be a significant factor in enabling the successful application of learned content in the workplace. This underscores the importance of not only the content of training but also the social and managerial context in which it is implemented for effective skill transfer. Based on research findings, pre-training activities such as trainee involvement, supervisor support, and trainee preparation in the work environment are expected to positively impact the transfer of training. As such, it can be hypothesized that:

**H<sup>1</sup>:** Pre-training activities, including trainee involvement, supervisor support, and trainee preparation, have a positive impact on the transfer of training at the organizational level.

#### **During training activities**

Evidence suggests that when training activities are well-designed and effectively implemented, they can enhance the application of newly learned content in real-world work settings. For example, a meta-analysis conducted by (Baldwin & Ford, 1988) found that trainees who received practice and feedback during training showed higher levels of transfer to the job setting compared to those who did not receive these elements. Similarly, a study by (Tannenbaum et al., 1993) found that providing trainees with opportunities for guided practice and feedback during training led to higher levels of transfer of training to the job setting.

Additionally, research has shown that providing trainees with opportunities to engage in active learning during training, such as through simulations or role-playing exercises, can lead to higher training transfer levels (Burdbar Khan & Nisar Sheikh, 2012). This may be because such activities allow trainees to practice applying the learning in a realistic setting, making it easier to apply these skills in their jobs.

Recently, researchers have proposed that additional interventions can be incorporated during training programs to specifically enhance the transfer of training (Klingberg, 2010). Several studies have shown that interventions incorporated during training, including self-management, relapse prevention, and goal setting, can potentially enhance the transfer of acquired skills (Burke, 2001; Burke & Hutchins, 2007). Overall, the available evidence suggests that training activities, particularly those that involve practice, feedback, and active learning, can positively impact the transfer of training to the job setting. Therefore, it is hypothesized that:

**H<sup>2</sup>:** During training activities that involve practice, feedback, and active learning, as well as additional interventions such as self-management, relapse prevention, and goal setting, positively impacts the transfer of training to the job setting.

#### **Post-training activities**

Post-training programs, including coaching, mentoring, on-the-job training, and the use of job aids, have demonstrated effectiveness in enhancing the transfer of learned skills, knowledge, and attitudes to the workplace settings. These programs offer valuable opportunities for trainees to test their learning into practice while receiving feedback and support from supervisors and colleagues. This additional reinforcement and support can significantly contribute to successfully applying



training outcomes in real-world work scenarios. They can also help to reinforce the training content and sustain the learning over time, increasing the likelihood of successful transfer to the job setting. One such program is organizational support, which can be provided through policies, procedures, and practices that promote newly learned behaviors (Cromwell & Kolb, 2004; Ford et al., 2018).

Furthermore, it's important to emphasize that beyond the formal training program itself, the support and reinforcement provided by supervisors and co-workers can play a pivotal role in facilitating the successful transfer of newly acquired skills and knowledge to the workplace. This underscores the significance of a supportive work environment and the involvement of colleagues and managers in the training process to ensure its practical application and effectiveness. This can include providing feedback, encouragement, and opportunities to practice and apply what has been learned. Other post-training programs, such as booster training (short refresher courses or follow-up sessions that aim to review and reinforce the training content), Progress review sessions (periodic meetings between the trainee and their supervisor to discuss progress, identify areas for improvement, and reinforce the importance of the training) and buddy systems (pairing a newly trained employee with a more experienced colleague who can provide guidance and support as the trainee applies the new skills on the job) can help ensure that the benefits of training are sustained over time and contribute to the efficiency and effectiveness in organization performance (Baldwin & Ford, 1988). The role of supervisors in the post-training environment is crucial for the success of training programs. They are responsible for providing constructive feedback, encouragement, and support to the trainees to apply newly learned behaviors on the job. Supervisors can also facilitate the transfer of training by creating opportunities for trainees to practice and apply their new skills and knowledge. By providing a supportive work environment, supervisors can help trainees overcome any obstacles that may impede the transfer of training.

Additionally, supervisors can help trainees set realistic goals and provide them with the necessary resources to achieve those goals, which can further enhance the transfer of training (Medeiros & Griffith, 2019). Overall, the involvement of supervisors in the post-training environment is essential for ensuring the successful transfer of training to the job setting. These post-training activities can help sustain the impact of training, leading to long-term improvements in performance (Grossman & Salas, 2011; Kraiger et al., 2004). The existing literature informs the development of the third hypothesis.

**H<sup>3</sup>:** Post-training programs will enhance the transfer of newly acquired skills and knowledge to the workplace.

### **Trainee Characteristics**

Trainee characteristics, including cognitive ability, personality traits, and self-efficacy, can influence how training is successful in organizational work (Burke & Hutchins, 2007). For instance, individuals with higher cognitive abilities may grasp and apply training content more effectively, while those with greater self-efficacy tend to have increased confidence in their capacity to perform newly acquired tasks. Personality traits, such as openness to experience, can also play a role in training transfer, with more open individuals often being more receptive to novel ideas and approaches. Moreover, motivation, the perception of training utility, and commitment are additional trainee characteristics that impact training transfer (Burke & Hutchins, 2007). Motivated Trainees are more inclined to actively engage with and apply training content as they perceive its significance for their job performance. Additionally, the degree of commitment and how trainees perceive the training's relevance to their work can influence the transfer of training outcomes.

These trainee characteristics underscore the importance of considering individual differences when designing and implementing training programs to ensure their effective transfer to the job. Tailoring training approaches to accommodate these characteristics can enhance the likelihood of successful skill and knowledge application in the workplace. Characteristics of trainees that have been researched in previous studies and are known to have a significant impact on the transfer of training:

- Trainee's cognitive ability: Cognitive ability, which pertains to an individual's capacity to acquire and process information, is a significant predictor of training application (Rouiller & Goldstein, 1993).
- Trainee's motivation: The trainees' motivation to acquire and apply new skills is a pivotal factor in the successful transfer of training (Holton III et al., 2000; Noe, 1986).
- Trainee's self-efficacy: Self-efficacy encompasses an individual's confidence in their ability to effectively perform a particular task or behavior (Gil et al., 2022).

According to (Grossman & Salas, 2011), the ability of the trainee, rather than the training process, is a highly influential factor in guaranteeing that the trainee transfers the learned content to the working environment. No matter how good the training program's design and method of delivery and how favorable the working environment is for the trainee, it is the trainee's learned behavior that may act as a hurdle to the effective transfer of learning from the training environment to the work setting, as trainees may tend to replicate the specific competencies they have learned during training without modifying them to fit the specific requirements of their job. This can limit their ability to generalize the training to different contexts or situations. For example, if a trainee learns a specific process or technique during training but cannot modify it to fit a different situation or task, their capacity to apply it in a different situation may be limited. To maximize the effectiveness of training, it is crucial for trainees not only to acquire specific competencies but also to develop the ability to modify and adapt those competencies to fit the specific requirements of their jobs. This ability to generalize training to different contexts is often referred to as "transfer of training" and is a fundamental element of training effectiveness.

To facilitate the transfer of training, organizations can provide opportunities for trainees to practice the skills and knowledge they have recently gained competencies in various contexts and situations and encourage them to adapt those competencies to fit specific job requirements (Grossman & Salas, 2011). By doing so, trainees can develop the ability to apply their training flexibly and adaptively, leading to improved job performance and overall organizational effectiveness.

According to Grossman and Salas (2011), the perception of trainees that organizational support is available after training and that the trainee will receive time to apply the training on the job and modify their behavior according to the learned content will ensure the transfer of training. This study will examine three distinct characteristics of trainees, namely motivation, cognitive ability, and self-efficacy, which have consistently been found to exert the most substantial influence on the transfer according to previous research. In 1988, Baldwin and Ford introduced a model that identifies various factors influencing the transfer of training and the effectiveness of training programs. These factors encompass trainee attributes, the structure and execution of training initiatives, the circumstances under which training is provided, and the workplace context in which training is applied. Trainee attributes, including personality traits, cognitive abilities, and motivation, influence training outcomes significantly. Individuals with higher cognitive abilities and prior job knowledge often exhibit a greater capacity to grasp and retain job-related information. Employers might benefit from considering these attributes when selecting candidates for training programs. The concept of self-efficacy, which signifies an individual's confidence in their ability to execute a task successfully, emerges as a central element in the training process. Numerous studies, including those by (Ahmad & Sulaiman, 2022; Christoph et al., 1998; Morrow et al., 1997), emphasize the pivotal part of self-efficacy in influencing motivation, responses to training, and the willingness to engage with training technology. Motivation is another critical aspect of training effectiveness. As demonstrated by (Colquitt et al., 2000), the motivation of the trainee to learn significantly impacts the training program's success. Motivated trainees tend to participate in learning actively, proactively seek supplementary resources, and apply the learning from the training in their work environment. Conversely, low motivation may lead to passive learning, disengagement from training, and limited application of training outcomes. In conclusion, these findings underscore the multifaceted nature of training effectiveness. Factors such as trainee characteristics, i.e., self-efficacy, trainee cognitive ability, and motivation, must be thoughtfully addressed in the design and implementation of training programs to optimize the transfer of training to the workplace. As such, it can be hypothesized that:

- H<sup>4</sup>: Trainee characteristics positively influence the relationship between training activities and transfer of training in Pakistan's banking sector.
- H<sup>4a</sup>: Trainee motivation significantly contributes to the positive relationship between training activities and the transfer of training in Pakistan's banking sector.
- H<sup>4b</sup>: Trainee self-efficacy significantly contributes to the positive relationship between training activities and the transfer of training in Pakistan's banking sector.
- H<sup>4c</sup>: Trainee cognitive ability significantly contributes to the positive relationship between training activities and transfer of training in Pakistan's banking sector.

**Theoretical Framework**

The theoretical framework of this study is structured around three categories of variables: independent, dependent, and moderating variables. The independent variable under examination is training activities, which encompasses activities occurring before, during, and after the training program. The dependent variable in focus is the transfer of training, comprising four distinct dimensions: reaction, learning, behavior, and organizational results. Additionally, within this framework, the moderating variable is trainee characteristics, encompassing factors such as the trainee's cognitive ability, self-efficacy, and motivation. These characteristics are believed to significantly influence the connection between training activities and the transfer of training. Trainee characteristics can either facilitate or impede the successful application of newly acquired skills and knowledge in the workplace. Therefore, this theoretical framework seeks to explore the complex relationship between the independent, dependent, and moderating variables in the context of Pakistan's banking sector. By examining these variables, the study aims to provide insights into how to design effective training programs that facilitate the transfer of training.

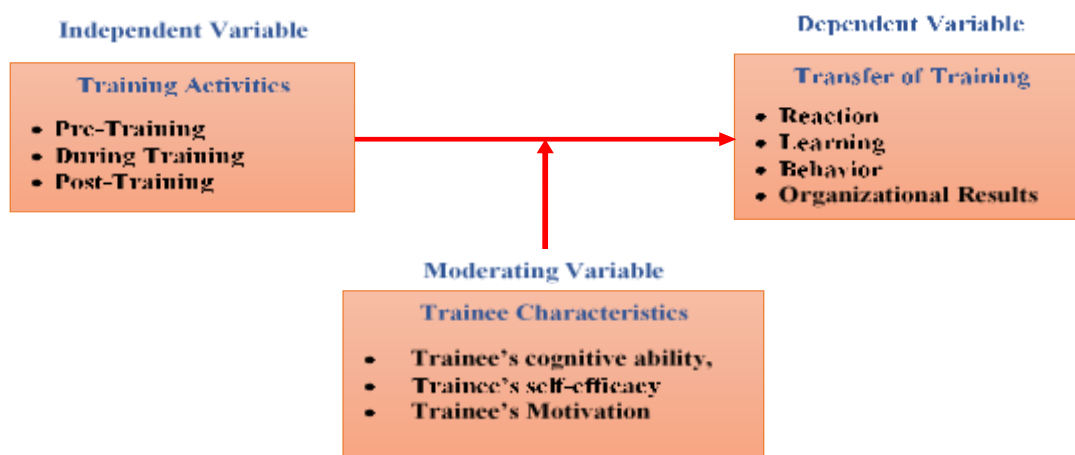


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## Methodology

Previous studies on transfer of training mostly followed the positivist philosophy and used quantitative research methods. This study will also use a quantitative approach to produce precise and generalizable statistical findings. According to Rubin and Babbie (1993), positivist researchers believe that reality is quantifiable and can be objectively measured by collecting numerical data that can be interpreted using statistical methods.

Using a quantitative research technique was considered appropriate for this study as this technique allowed for answering the research questions and acquiring generalized results (Taherdoost, 2022). Additionally, it increased objectivity and impartiality, as posited by rationalists. To make variables measurable, an inductive and deductive approach is used through a hypothetic-deductive research design (Behfar & Okhuysen, 2018). A survey approach was used to quantify the respondents' responses and gather statistical information. As Groves, (2006) remarked, "Surveys produce information that is inherently statistical in nature. Surveys are quantitative beasts" (p.389).

In this study, the variables that were analyzed were classified into three distinct categories: the first being training activities, which were identified as the predictor variable according to sources by (Groves, 2006; Saks & Belcourt, 2006); the second being trainee characteristics, which were recognized as the moderating variable based on Tziner et al. (2007); and the third being the transfer of training, which was considered the dependent variable by (Kirkpatrick, 1996) framework. To assess organizations' implementation of pre-, during, and post-training activities for facilitating the transfer, the researcher used a validated questionnaire by (Saks & Belcourt, 2006) with 13, 7, and 16 items, respectively; the questionnaire measures trainee involvement, and supervisor support, voluntary attendance, and trainee preparation using a response scale of 1 (never)-5 (always).

In Saks and Belcourt (2006) state that activities before training use four subscales activities i.e. (1) involvement of trainee in need assessment and design, (2) supervisor support and participation, (3) voluntary attendance and self selected training and (4) trainee preparation. Trainee involvement was measured by four items such as training involvement in training need assessment process and discussion; supervisor involvement will be measure by four items such as supervisor's discussion about training program with trainee and setting goals training goals with trainee. Trainee participation was measured by three items e.g. voluntary attendance and group attendance and trainee preparation was measure by two items like prior communication and pre training assignment.

During training activities consists of seven item measure (1) similarity of training environment with the actual work environment measured by identical elements, (2) stimulus variability, (3) general principles (4) positive reinforcement, (5) feedback information of trainee's performance, (6) goal setting and (7) intervention from work environment. According to (Saks & Belcourt, 2006) post training activities consists of major factors i.e. supervisor support, organization support, accountability, and evaluation and feedback. These four major factors will be further measured by 16 items such as supervisor rewarding trainee performance, providing trainee with an opportunity to practice, organization providing resources for application of new skills and knowledge, performance appraisal on the bases of training application, trainee's post training report submission and provision of feedback etc.

Trainee characteristics as a moderating variable will be measured on three employee characteristics i.e. self-efficacy, trainee's motivation personal abilities i.e. cognitive ability (Broad & Newstrom, 1992). Trainee's motivation will be measure on two bases i.e. motivation to transfer (Gegenfurtner et al., 2009) and motivation to learn (Noe, 1986). Trainee's cognitive ability will be measured through measures used by Kanfer and Ackerman's (1989) in their study i.e. easy understanding of training contents, quick learning and retaining and application of training material during and after training. Measures for Trainee's self efficacy are designed on the bases of the definition provided by (Bandura, 1991). Which suggest that trainee self efficacy is important for learning training contents as well as its transfer. Transfer of training of training was measured through designed questioner base on the modified model of the transfer of training proposed by (Kirkpatrick, 1996).

### Unit of Analysis

Research study unit of analysis can be individuals, groups or organizations. The unit of analysis specified for this particular study is the banking sector of Pakistan. Pakistani banking sector contain 40 banks, of these 40 banks 37 banks makes the population of this study the remaining 3 banks were specialized banks and were not included in the population of the study.

### Sample

The sample of the study comprised of supervisors and bank officers who receive training. The sample of the study consists of 200 bank officers as trainees and 200 managers as supervisors, selected on the basis of convenient sampling. These 400 employees were randomly selected from the random branches of the bank from Islamabad, Peshawar and Malakand. Self designed questioners were distributed among them.

## Validity and reliability

Validity of instrument is proved from various studies. Instrument regarding training activities in different time periods i.e. pre training, during training and post training is already validated in studies like (Jaidev & Chirayath, 2012; Saks & Belcourt, 2006). Dimensions of training motivation is validated by initially in a pilot studies by various researchers. Motivation to transfer is validated as a measurement in a study conducted (Johnson et al., 2020) and motivation to learn is validated in a study conducted by (Chiaburu & Tekleab, 2005).

The measure of trainee's cognitive ability is validated. And dimension of self efficacy is validated in the studies conducted by (Mathieu et al., 1992; Tannenbaum & Yukl, 1992). As a measure of internal consistency, Cronbach's Alphas for various independent variables of organizational factor were worked out by using Statistical Package for Social Sciences-19 (SPSS-19). Until now the researcher has presented introduction in the first section, literature review, problem statement, research question, research objectives and theoretical framework in the second section and methodology in the third section. The next section will discuss the data analysis techniques.

### Statistical Tools in Analysis

To test our hypothesis and find conclusive answers to the research questions the data collected regarding training transfer process were analyzed through statistical tools using Statistical Package for Social Sciences-26 (SPSS-26). Statistical tools used were:

- 1.Descriptive Statistical analyses with the help of indexed mean scores and standard deviation
- 2.Pearson's correlations were used to examine the linear correlation between the training activities (pre, during and post), trainee characteristics and transfer of training.
- 3.Partial correlations were used to examine the correlations between variables training activities (pre, during and post), trainee characteristics and transfer of training and trainee characteristics.
- 4.Linear regressions: with single components of the training activities (pre, during and post), trainee characteristics and transfer of training.
- 5.Multiple regression: with all elements the training activities (pre, during and post), trainee characteristics and transfer of training together.

## 2. Results

Out of the 400 questionnaires distributed among bank officers and management, 367 responses were received, yielding a response rate of 90%. Male respondents constituted 69% of the total, while female respondents accounted for 31%. Most female respondents were bank officers, with only a small number among the management respondents. Based on the years of experience, data showed that respondents with less than 1 year experience were 40%, 35% have experience ranging from 1 to 5 years, 20% have experience ranging from 5 to 10 years, and 5% have experience of 10 years or more. The questionnaire distribution covered 60 banks in Islamabad, Peshawar, and Malakand Agency, with 50% (30 banks) in Islamabad, 33% (20 banks) in Peshawar, and 17% (10 banks) in Malakand.

**Table 1: Frequencies distribution of the data**

|        | Pre training activities | During training activities | Post training activities | Transfer of training |
|--------|-------------------------|----------------------------|--------------------------|----------------------|
| N      | Valid                   | 183                        | 183                      | 183                  |
|        | Missing                 | 0                          | 0                        | 0                    |
| Mean   | 3.22                    | 3.08                       | 2.30                     | 3.13                 |
| Median | 3.17                    | 3.00                       | 2.19                     | 3.10                 |
| Mode   | 3                       | 3                          | 2                        | 3                    |

Table 1 shows that pre training activities has mean 3.22 and median 3.17 which means the data is normally distributed. Similarly during training activities has mean 3.08 and mode 3.00, post training activities has mean 2.30 and mode 2.19, transfer of training has mean 3.13 and mode 3.10. The above table shows that all the data regarding each variable is approximately normal and therefore these data can be used in the Parametric tests.

### 4.1 Reliability

The study evaluated the internal consistency of the variables using two reliability measures, Cronbach alpha coefficient and Guttman Split-half reliability ( $\lambda$ ). The pre-, during, and post-training activities and transfer of training had Cronbach alpha coefficients of 0.800, 0.730, 0.797, and 0.799, respectively, indicating high internal consistency. Additionally, Guttman Split-half reliability ( $\lambda$ ) was used to measure internal consistency, which yielded values of 0.792 (pre-training activities), 0.704 (during activities), 0.835 (post-training activities), and 0.736 (transfer of training). All measures the internal solid coherence among the variables. These findings are summarized in Table 2.

**Table 2: Reliability**

| S.No | Factors                         | Cronbach Alpha Value $\alpha$ | Guttman Split-half reliability $\lambda$ |
|------|---------------------------------|-------------------------------|--|
| I    | Pre-Training Activities         | 0.800                         | 0.792                                    |
| II   | During Training Activities      | 0.730                         | 0.704                                    |
| III  | Post-training Activities        | 0.797                         | 0.734                                    |
| IV   | Transfer of Training Activities | 0.799                         | 0.736                                    |

### ANOVA analysis of the items

**Table 3: ANOVA analysis of Pre-training activities**

|                    | Sum of Squares    | df      | Mean Squares | F     | Sig    |      |
|--------------------|-------------------|---------|--------------|-------|--------|------|
| Between the People | 51.610            | 14      | 3.686        |       |        |      |
| Within People      | Between the Items | 19.149  | 12           | 1.596 | 20.155 | .000 |
|                    | Residual          | 124.390 | 168          | .740  |        |      |
|                    | Total             | 143.538 | 180          | .797  |        |      |
| Total              | 195.149           | 194     | 1.006        |       |        |      |
| Grand Mean = 3.22  |                   |         |              |       |        |      |



Table 3 indicates a significant relationship ( $p=0.000$ ) between the items used to measure "pre-training activities" and the variable itself. The difference between the means "between people" (3.686) and "within people" (1.596) proved that the items have predictive power. Additionally, the F statistic (20.155) indicates that the predictors can effectively predict pre-training activities.

**Table 4: ANOVA analysis of During-training activities**

|                    | Sum of Squares    | df     | Mean Squares | F     | Sig    |      |
|--------------------|-------------------|--------|--------------|-------|--------|------|
| Between the People | 43.619            | 14     | 4.116        |       |        |      |
| Within People      | Between the Items | 16.057 | 6            | 2.176 | 11.281 | .001 |
|                    | Residual          | 52.514 | 84           | .567  |        |      |
|                    | Total             | 68.571 | 90           | .762  |        |      |
| Total              | 112.190           | 104    | 1.079        |       |        |      |
| Grand Mean = 3.08  |                   |        |              |       |        |      |

According to Table 4, a significant relationship ( $p=.001$ ) exists between the items used to measure during training activities, and the f-statistic of 11.281 shows that these items can effectively predict during training activities. Additionally, the difference between the means of "between people" (4.116) and "within people" (2.176) indicates that these items are crucial for measuring during training activities.

**Table 5: ANOVA analysis of Post-training activities**

|                    | Sum of Squares    | df     | Mean Squares | F    | Sig   |      |
|--------------------|-------------------|--------|--------------|------|-------|------|
| Between the People | 48.036            | 14     | 3.431        |      |       |      |
| Within People      | Between the Items | 7.442  | 10           | .744 | 6.492 | .000 |
|                    | Residual          | 69.830 | 140          | .499 |       |      |
|                    | Total             | 77.273 | 150          | .515 |       |      |
| Total              | 125.309           | 164    | .764         |      |       |      |
| Grand Mean = 2.30  |                   |        |              |      |       |      |

Table 5 reveals that the items used to measure post-training activities have a significant relationship ( $p=0.000$ ) with the variable. The F statistic of 6.492 indicates that these items have a significant predictive power for post-training activities. Moreover, the difference between the means of "between people" (3.779) and "within people" (2.104) highlights the importance of these items in measuring post-training activities.

**Table 6: ANOVA analysis of Transfer of training items**

|                   | Sum of Squares | df      | Mean Squares | F     | Sig   |      |
|-------------------|----------------|---------|--------------|-------|-------|------|
| Between People    | 89.314         | 14      | 6.380        |       |       |      |
| Within People     | Between Items  | 39.410  | 20           | 1.970 | 5.934 | .000 |
|                   | Residual       | 188.019 | 280          | .671  |       |      |
|                   | Total          | 227.429 | 300          | .758  |       |      |
| Total             | 316.743        | 314     | 1.009        |       |       |      |
| Grand Mean = 3.13 |                |         |              |       |       |      |

In Table 6 the findings demonstrate a significant relationship ( $p=0.000$ ) between the items used to measure post-training activities and the measured variable. The high F statistic of 6.380 suggests that these items strongly predict post-training activities. Furthermore, the observed difference between the means of "between people" (3.779) and "within people" (2.104) provides evidence for rejecting the null hypothesis, indicating that the items are effective in measuring post-training activities.2.3.

**Table 7: Descriptive statistics of training activities**

| Descriptive Statistics                            |     |         |         |      |                |
|---|-----|---------|---------|------|----------------|
|   | N   | Minimum | Maximum | Mean | Std. Deviation |
| Pre training trainee involvement                  | 183 | 1       | 5       | 3.25 | 1.054          |
| Pre training supervisor involvement               | 183 | 1       | 5       | 3.23 | .990           |
| Pre training attendance policy                    | 183 | 1       | 5       | 3.13 | .920           |
| Pre training preparation                          | 183 | 1       | 5       | 3.20 | 1.101          |
| Training environment similar to work environment  | 183 | 1       | 5       | 3.08 | 1.294          |
| Variety of training concepts and experiences      | 183 | 1       | 5       | 3.30 | 1.296          |
| Teaching general rules and theoretical principles | 183 | 1       | 5       | 3.22 | 1.057          |

|  |     |   |   |      |       |
|--|-----|---|---|------|-------|
| Feedback provided during training                    | 183 | 1 | 5 | 3.21 | 1.098 |
| Rewarded for learning and performing during training | 183 | 1 | 5 | 2.96 | 1.492 |
| Performance review on goal achieved during training  | 183 | 1 | 5 | 3.04 | 1.453 |
| Recalled for job/performing during training          | 183 | 1 | 5 | 3.07 | 1.291 |
| Supervisor support after training                    | 183 | 1 | 5 | 2.85 | 1.128 |
| Organization support after training                  | 183 | 1 | 5 | 2.79 | 1.148 |
| Trainee accountability after training                | 183 | 1 | 5 | 2.73 | 1.161 |
| Feedback and evaluation after training               | 183 | 1 | 5 | 2.51 | 1.053 |
| Pre training activities                              | 183 | 1 | 5 | 3.22 | .868  |
| During training activities                           | 183 | 1 | 5 | 3.08 | .902  |
| Post training activities                             | 183 | 1 | 5 | 2.30 | 1.029 |
| Valid N (listwise)                                   | 183 |   |   |      |       |

Descriptive statistics of the training activities show relative position of each dimension of the training activities (pre, during and post) in Table 7. Regarding pre training activities pre training trainee involvement has the highest mean (3.25) which mean the highest level of availability of the particular item while the lowest mean is (3.13) of Pre training attendance policy which shows its lowest availability. The means of the pre training activities do not show too much difference which shows that the availability of these activities is nearly similar. Last column show standard deviation of perception of respondents regarding various elements of IVs leads one to assess the variance of minimum and maximum values discussed above. Pre training attendance policy shows the least variation in the responses i.e. SD= 0.920 and Pre training preparation showed the most variation i.e. SD= 1.101 considering the pre training activities. Maximum value of 5 has been observed in all the training activities (pre, during and post). Minimum value of 1 has been reported for all the training. Considering during training activities teaching of Variety of training concepts and experiences during training has the highest mean 3.30 Rewarded for learning and performing during training has the highest variation in responses SD=1.492 and Rewarded for learning and performing during training has the lowest mean 2.96 and Teaching general rules and theoretical principles has the lowest variation SD= 1.057. Most of the responses on during training activities are between 3 and 4 which show that the responses regarding during training is slightly on positive side except Rewarded for learning and performing during training which is below 3. In post training activities Supervisor support after training has the highest mean (M=2.85) Feedback and evaluation after training has lowest mean 2.50 and variation SD=1.053 while Organization support after training has highest variation SD=1.148. Most of the means of post training activity is above 2 or near to 3 which show most of the responses are either neutral or disagree. Pre training activities has a mean M=3.22 and SD=0.0868 and during training activities has mean of M=3.02 and SD=0.0902 which means that both variables have most of the responses between neutral and positive. On the other hand post training activities has M=2.30 and SD=1.029. This means that most of the responses are negative towards post training activities.

**Table 8: Descriptive statistics of Trainee characteristics**

| Descriptive Statistics                           |     |         |         |      |                |
|--|-----|---------|---------|------|----------------|
|  | N   | Minimum | Maximum | Mean | Std. Deviation |
| Trainees motivation to learn                     | 183 | 0       | 1       | .84  | .366           |
| Trainees motivation to transfer                  | 183 | 0       | 1       | .83  | .381           |
| Self belief about acquiring skills and knowledge | 183 | 0       | 1       | .83  | .376           |
| Self belief about transfer skills and knowledge  | 183 | 0       | 1       | .88  | .326           |
| Understand complex concepts                      | 183 | 0       | 1       | .85  | .361           |
| I learn from my experiences                      | 183 | 0       | 1       | .89  | .320           |
| I have strong reasoning and analytical skills    | 183 | 0       | 1       | .86  | .350           |
| Valid N (listwise)                               | 183 |         |         |      |                |

The descriptive statistics of the trainee characteristics show that the minimum values of all the items are 0 and maximum value is 1 shown in Table 8. Examining the trainee motivation, trainees motivation to learn has the highest mean 0.84 and lowest variation SD=0.366 and trainees motivation to transfer has the lowest mean 0.83 and highest variation SD=0.381. Trainee self efficacy showed that the dimension of self belief to transfer of skills and knowledge has the highest mean 0.88 and lowest variation SD=0.326. Self belief about acquiring skills and knowledge has the lowest mean 0.83 and highest variation 0.376. Trainee cognitive ability shows that understanding of complex idea has lowest mean (M=0.85) and highest variation SD=0.361 and learning from experience has the highest mean (M=0.89) and the lowest SD=0.320. The analysis of means and variation showed that there is not marked difference between the responses.

**Table 9: Descriptive statistics Transfer of training**

| Descriptive Statistics             |     |         |         |      |                |
|------------------------------------|-----|---------|---------|------|----------------|
|                                    | N   | Minimum | Maximum | Mean | Std. Deviation |
| Reaction outcome of training       | 183 | 2       | 5       | 3.53 | .646           |
| Learning outcome of training       | 183 | 1       | 5       | 3.28 | .884           |
| Behavioral outcome of training     | 183 | 1       | 5       | 3.03 | .990           |
| Organizational outcome of training | 183 | 1       | 5       | 3.03 | .944           |

| Descriptive Statistics             |     |         |         |      |                |
|------------------------------------|-----|---------|---------|------|----------------|
|                                    | N   | Minimum | Maximum | Mean | Std. Deviation |
| Reaction outcome of training       | 183 | 2       | 5       | 3.53 | .646           |
| Learning outcome of training       | 183 | 1       | 5       | 3.28 | .884           |
| Behavioral outcome of training     | 183 | 1       | 5       | 3.03 | .990           |
| Organizational outcome of training | 183 | 1       | 5       | 3.03 | .944           |
| Valid N (listwise)                 | 183 |         |         |      |                |

Table 9 shows that Reaction outcome has the highest mean 3.53 and lowest variation in the responses SD= 0.646. Behavioral outcome and organizational outcome the lowest mean 3.03. While considering highest variation in the responses; behavioral outcome has the highest variation SD=0.990. The variation in data is nearly similar and the presence of all the means in range 3 and 4 which shows the positive responses of most of the respondents. The minimum value of reaction outcome is 2 and learning outcome, behavioral outcome and organizational outcome has minimum value of 1 while the maximum value of all the dimensions of transfer of training is 5.

**Correlation of training activities and transfer of training**

The correlation results (in

Table 10 ) suggest that activities before the commencement of training (P=0.000, R=0.700) and during-training activities (R=0.833, P=0.000) were found to have a positive correlation with the transfer of training, while post-training activities do not appear to be significantly associated with the training transfer (P=0.567, R=-0.036). The limited and statistically insignificant associations between pre-training and post-training activities (R=0.033, P=0.500) and pre-training and during-training activities (P=0.000, R=0.833), as well as between activities after training and during-training and (P=0.599, R=0.043), suggest that the timing and content of training activities might exert distinct influences on the transfer of training.

**Table 10: Correlation between (pre-, During, and Post-training activities and the transfer of training**

| Correlations               |                        | Pre-training activities | During training activities | Post training activities | Transfer of training |
|----------------------------|------------------------|-------------------------|----------------------------|--------------------------|----------------------|
| Pre-training activities    | Pearson Correlation    | 1                       | 0.166                      | 0.033                    | 0.700**              |
|                            | Significant (2-tailed) |                         | 0.201                      | 0.500                    | 0.000                |
|                            | N                      | 367                     | 367                        | 367                      | 367                  |
| During-training activities | Pearson Correlation    | 0.166                   | 1                          | 0.043                    | 0.833**              |
|                            | Significant (2-tailed) | 0.201                   |                            | 0.599                    | 0.000                |
|                            | N                      | 367                     | 367                        | 367                      | 367                  |
| Post-training activities   | Pearson Correlation    | 0.033                   | 0.043                      | 1                        | -0.036               |
|                            | Significant (2-tailed) | 0.500                   | 0.599                      |                          | 0.567                |
|                            | N                      | 367                     | 367                        | 367                      | 367                  |
| Transfer of training       | Pearson Correlation    | 0.700**                 | 0.833**                    | -0.036                   | 1                    |
|                            | Significant (2-tailed) | 0.000                   | 0.000                      | 0.567                    |                      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Regression between (pre-, During, and Post-training activities and the transfer of training**

The statistical analysis conducted in this study has revealed significant positive relationships between the independent variables and dependent variables in

Table 11. These relationships are supported by T-values of 4.111 for pre-training activities and 13.246 for during-training activities, as well as corresponding P-values of 0.002 and 0.000 and β values) of 0.183 and 0.700, respectively, shows that an increase in independent variables, i.e., (pre, During, and Post) will result in a positive growth in the dependent variable. On the other hand, the findings demonstrate that post-training activities do not exhibit a significant association with the transfer of training, as evidenced by a P=0.069. This indicates that pre-training and during-training activities are essential in facilitating learning from training, whereas activities after the training may not significantly impact this process.

**Table 11: Regression between (pre-, During, and Post-training activities and the transfer of training**

| Coefficients <sup>a</sup>  |                             |            |                           |        |       |
|----------------------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                      | Unstandardized Coefficients |            | Standardized Coefficients |        | Sig.  |
|                            | B                           | Std. Error | Beta                      | T      |       |
| 1 (Constant)               | 0.632                       | 0.122      |                           | 4.888  | 0.000 |
| Pre-training activities    | 0.183                       | 0.049      | 0.172                     | 4.111  | 0.001 |
| During training activities | 0.700                       | 0.047      | 0.739                     | 13.246 | 0.000 |
| Post-training activities   | -0.061                      | 0.030      | -0.070                    | -1.877 | 0.069 |

a. Dependent Variable: Transfer of training

**4.4 Regression between (pre-, During, and Post-training activities, trainee characteristics, and transfer of training**

Including a moderating variable, “trainee characteristics” had minimal impact on the results. The analysis indicates that the relationship between training activities and transfer of training remains significant, as evidenced by the significant P-values

( $P=0.002$  for pre-training activities,  $P=0.000$  for during training activities, and  $P=0.051$  for post-training activities) and corresponding  $T$ -values ( $T=3.428$  for pre-training activities,  $T=14.491$  for during training activities, and  $T=-1.964$  for post-training activities), as well as the regression coefficients ( $\beta=0.167$  for pre-training activities,  $\beta=0.658$  for during training activities, and  $\beta=-0.058$  for post-training activities). Furthermore, the analysis of trainee characteristics revealed that trainee motivation and trainee cognitive ability had highly insignificant impacts on the dependent variable, as indicated by non-significant  $P$ -values ( $P=0.743$  for trainee motivation and  $P=0.415$  for trainee cognitive ability) and corresponding  $T$ -values ( $T=-0.328$  for trainee motivation and  $T=-0.817$  for trainee cognitive ability), and regression coefficients ( $\beta=-0.058$  for trainee motivation and  $\beta=-0.124$  for trainee cognitive ability). Only the trainee's self-efficacy had a slightly significant influence on the training transfer, as evidenced by a significant  $P$ -value ( $P=0.026$ ),  $T$ -value ( $T=2.248$ ), and regression coefficient ( $\beta=0.279$ ). Drawing from the findings mentioned earlier, it is evident that incorporating the moderating variable of trainee self-efficacy accounts for the slight variations in the  $T$ -values,  $P$ -values, and regression coefficients. On the other hand, trainee motivation and cognitive ability do not appear to significantly influence the relationship between (pre-, During, and post-training activities and the transfer of training. These findings underscore the critical role of trainee self-efficacy in developing successful training programs.

**Table 12: Regression between (Pre, During, and Post) training activities, trainee's characteristics, and transfer of training coefficients**

| Model | Unstandardized Coefficient |               | Standardized Coefficient | t      | Sig.   |       |
|-------|----------------------------|---------------|--------------------------|--------|--------|-------|
|       | B                          | Stander Error | Beta                     |        |        |       |
| 1     | (Constant)                 | 0.632         | 0.122                    |        | 4.888  | 0.000 |
|       | Pre-training activities    | 0.183         | 0.050                    | 0.172  | 4.111  | 0.000 |
|       | During-training activities | 0.700         | 0.052                    | 0.740  | 13.246 | 0.001 |
|       | Post training activities   | -0.061        | 0.029                    | -0.069 | -1.900 | 0.070 |
| 2     | (Constant)                 | 0.624         | 0.217                    |        | 2.901  | 0.003 |
|       | Pre-training activities    | 0.170         | 0.053                    | 0.180  | 3.396  | 0.002 |
|       | During training activities | 0.649         | 0.054                    | 0.721  | 13.501 | 0.001 |
|       | Post training activities   | -0.060        | 0.029                    | -0.073 | -1.853 | 0.061 |
|       | Trainee motivation         | -0.041        | 0.123                    | -0.011 | -0.400 | 0.802 |
|       | Trainee self-efficacy      | 0.030         | 0.111                    | 0.090  | 2.357  | 0.030 |
|       | trainee cognitive ability  | -0.119        | 0.162                    | -0.029 | -0.913 | 0.513 |

a. Dependent Variable: Transfer of training

The study's findings in Table 12 show that activities before training and within training significantly positively affect the transfer of training in Pakistan's banking sector. In contrast, activities after training do not significantly impact this process. The regression coefficients for activities before and during training are significantly positive, implying that the organizations should focus on these activities to enhance the transfer. However, the coefficient for after-training activities is negative and not statistically significant, indicating that post-training activities are not a requisite in improving the transfer of training. Furthermore, Model 2 includes additional moderating variables, such as self-efficacy, trainee motivation, and cognitive ability. The results show that trainee self-efficacy has a significant positive impact on the transfer of training, while trainee motivation and cognitive ability do not have any significant impact. These findings suggest that organizations consider trainee self-efficacy essential when designing and implementing training programs to maximize training transfer.

**Level of transfer of training**

The study's findings indicate that employees working in Pakistan's banking sector have been able to transfer 63.80% of their learning from the training to the actual jobs of their training in their work environment. Moreover, when analyzing this transfer about the four fundamental training outcomes established by (Kirkpatrick, 1996), it was observed that the investment in training resulted in a 73.34% increase in employee's level of engagement and satisfaction with the training, 67.23% increase in employees' knowledge, skills, and abilities during the training, 61.33% application of knowledge and skills acquired in the training program to the actual job, and 62% organizational success and the achievement of business objectives.

**Discussion**

The study commenced by addressing a common issue where trainees struggle to apply and sustain the knowledge acquired during training in their work settings. Research indicates that the transfer of training typically ranges from 10% to 40%, which is notably low considering the substantial investments organizations make in training. This low transfer rate underscores the importance of examining factors such as training activities, trainee characteristics, and factors related to the work climate to enhance training transfer. This study primarily focused on assessing the influence of the organizational setting and characteristics of the trainee on the training process. The core objective was to investigate the relationship between activities before, during, and after training and the transfer of training within Pakistan's banking sector. Additionally, the study explored how trainee characteristics, including cognitive ability, motivation, and self-efficacy, moderate this relationship. By analyzing these factors, the study aimed to identify critical components of training that



significantly impact training transfer and provide insights into optimizing these elements for improved training outcomes. Ultimately, this research sought to add to the current knowledge base regarding training effectiveness and offer real-world references for organizations seeking to optimize the advantages gained from their programs.

According to the findings, pre-training activities significantly and positively influenced the transfer of training within Pakistan's banking sector. The measurement tool's high reliability and internal consistency  $\alpha=0.800$  affirmed the robustness of the 11 items used to gauge pre-training activities. These results align with previous studies by (Saks & Belcourt, 2006) and (Jaidev & Chirayath, 2012), which also reported high internal consistency with  $\alpha=0.75$  and  $\alpha=0.84$ , respectively. In terms of mean values, this study's dimensions of pre-training activities generally yielded positive responses from participants, in contrast to (Saks & Belcourt, 2006) findings, which indicated a negative participant response.

The study's findings underscore a strong, positive correlation between pre-training activities and the transfer of training, supported by a significant correlation coefficient ( $r=0.684$ ) and p-value of 0.000. This corroborates (Jaidev & Chirayath, 2012) results, finding a significant positive correlation ( $p=0.000$ ) between these variables. Regression analysis further confirmed this relationship, with both studies reporting statistically significant t-values ((Jaidev & Chirayath, 2012), 2012:  $t=5.116$ ; this study:  $t=3.33$ ) and positive beta coefficients (Jaidev and Chirayath, 2012:  $\beta=0.333$ ; this study:  $\beta=0.183$ ). These findings collectively indicate that pre-training activities, including trainee involvement, training attendance policy, and supervisor involvement, have a central role in improving the transfer of training.

Notably, this study's results highlight the significant impact of trainee involvement and supervisor involvement in pre-training activities on the transfer of training, which is consistent with Saks and Belcourt's (2006) findings. Specifically, trainee input and involvement exerted the utmost substantial effect on the transfer of training ( $p < 0.00$ ,  $\beta = 0.27$ ), followed by supervisor involvement ( $\beta = 0.24$ ,  $p < 0.01$ ). Nevertheless, it's worth noting that trainee preparation did not demonstrate a substantial association with training transfer ( $\beta = 0.02$ ,  $p > 0.05$ ), suggesting its limited impact. Consequently, organizations are encouraged to foster an atmosphere that nurtures active trainee contribution in pre-training activities and emphasizes supervisors' guidance and support. Such initiatives can enhance trainee learning, thereby increasing the likelihood of training transfer, ultimately resulting in improved job performance and organizational outcomes.

Moving on to during-training activities, the study revealed a substantial positive influence on the transfer of training within Pakistan's banking sector. The high Cronbach alpha coefficient for during-training activities (0.730) attested to the measurement tool's reliability and internal consistency, mirroring prior research by (Jaidev & Chirayath, 2012; Saks & Belcourt, 2006), which also reported high Cronbach alpha coefficients (0.78 and 0.68, respectively) for during-training activities. The results highlight a robust positive relationship between training activities during the training process and the transfer of training. This finding corroborates (Jaidev & Chirayath, 2012) research, which found a significant positive correlation between these variables. The strong association between training activities and the transfer of training suggests that trainees are more inclined to apply the acquired skills in their work if they notice training activities as relevant and engaging. Regression analysis reinforced this finding, highlighting the substantial impact of training activities on the transfer of training. This aligns with (Jaidev & Chirayath, 2012) results, suggesting a positive link between training activities and training transfer, albeit with a weaker effect.

Contrary to the (Saks & Belcourt, 2006) study, our findings demonstrated that pre- and during-training activities significantly impacted the transfer of training. While (Saks & Belcourt, 2006) attributed 20% of the variance in the transfer of training to during-training activities, reversing the regression revealed that pre-post-training activities explained 25% of the variance, with during-training activities contributing an additional 6%. These differing outcomes may stem from variations in specific training programs and contexts, measurement tools, and assessment methods for training transfer. Additionally, individual differences in learning and transfer could be influential factors that affect the impact of different training activities on training transfer.

Regarding post-training activities, our study presented a deviation from previous research conducted by (Jaidev & Chirayath, 2012) and (Saks & Belcourt, 2006) regarding their influence on training transfer. While prior studies found a significant positive correlation between post-training activities and the transfer of training, our study uncovered an insignificant negative correlation. Moreover, regression analysis in our study indicated that post-training activities had no significant impact on the transfer of training ( $T=-1.877$ ,  $P=0.62$ ,  $\beta=-0.061$ ), in contrast to the significant positive impact reported by (Jaidev & Chirayath, 2012) ( $T= 4.285$ ,  $P=0.000$ ,  $\beta=0.412$ ) and the strong impact found by (Saks & Belcourt, 2006).

These differences in results may be attributed to variations in the specific training programs, contexts, measurement tools, and methods used to assess training transfer. Furthermore, individual differences among trainees in learning and transfer could affect the impact of different training activities on training transfer. Therefore, it is essential for organizations to carefully consider the nature of their training programs, as well as the unique characteristics of their trainees, when designing and implementing pre-, during-, and post-training activities to optimize training transfer.

These findings suggest that organizations should prioritize pre-training and during-training activities over post-training activities to maximize the transfer of training. While post-training activities may still have some value, their impact on the transfer of training may not be significant enough to warrant significant investment. Organizations should also consider the specific context of their training programs and the characteristics of their trainees when designing and implementing training activities.

The study finds the relationship between post-training activities and transfer of training to be insignificant. This may be attributed to two main reasons. Firstly, the banking sector in Pakistan differs in its use of training activities, with some organizations focusing more on pre or during-training activities rather than post-training activities. The study also highlights that the sector in previous research studies differed from that in this study, which could affect the results due to differing respondents' perceptions. The research conducted by (Jaidev & Chirayath, 2012) and Saks and Belcourt (2006) focused on

professional training organizations and hospitals, respectively. These sectors are known to have a greater emphasis on pre and post-training activities due to in-house training programs.

In contrast, the current study focuses on the banking sector in Pakistan, which has a different approach to training activities. The study notes that some organizations in the banking sector prioritize pre or during-training activities rather than post-training activities. Furthermore, the study highlights the differences in respondent perception between the current study and (Saks & Belcourt, 2006), where the latter primarily consisted of trainers while the latter comprised bank officers as trainees. This difference in respondent type may influence the perception of the effectiveness of post-training activities. Overall, the variation in sectors and respondent types may account for the differences in the impact of post-training activities on the transfer of training observed in the different studies. Additionally, in the Pakistani banking sector, training is mostly carried out by NIBAF or IBP, making it difficult to carry out post-training activities.

Secondly, organizations tend to prioritize the design and mode of delivery of training programs rather than other aspects, such as the training environment. Literature has shown that research on training programs typically focuses on strategies and factors influencing the formal training environment, with little attention given to job factors (Holton III et al., 2000). Argue that an important aspect of training design is to incorporate various instructional methods during the training process. Similarly, (Saks & Belcourt, 2006) suggests that training activities receive more attention and implementation, as trainers can actively and effectively control them. This highlights the importance of designing and delivering training programs to achieve the desired outcomes. The study suggests that in the Pakistani banking sector, more emphasis is placed on training activities, potentially at the expense of post-training activities. This may explain the insignificant relationship found in this study between post-training activities and transfer of training. This study proposes that training activities are given more attention and implementation in the banking sector, as trainers can control them more effectively. Moreover, after training ends, trainees return to their jobs immediately, leaving little time for post-training activities to be implemented by supervisors or trainers. These reasons may explain why this study finds post-training activities to have no impact on the transfer of training. The research investigated the possible moderating influence of trainee attributes (including cognitive ability, motivation, and self-efficacy) on the connection between pre-training, during training, and post-training activities and the transfer of training. The findings unveiled that only trainee self-efficacy played a minor role in this connection, whereas trainee motivation and cognitive ability did not significantly influence it. Consequently, the study negated the hypothesis that trainee characteristics wield a substantial impact on the relationship between training activities and the transfer of training, implying that the effects of training activities on training transfer remain relatively uninfluenced by trainee motivation or cognitive ability.

The R-squared value for the independent variables and the dependent variable was  $R^2=0.752$ , indicating that these variables explain 75.2% of the variation in the transfer of training. Incorporating trainee attributes into the analysis slightly increased the R-squared value to  $R^2=0.759$ , indicating that the variation in the transfer of training due to independent variables was minimally affected by introducing these new variables.

However, the introduction of trainee characteristics reduced the prediction power of the predictors, as evidenced by the decrease in F-value from 180.56 to 92.536. This suggests that including trainee characteristics as control variables reduced the ability to predict the transfer of training based on pre-, during, and post-training activities. Overall, these findings suggest that while trainee characteristics may influence the transfer of training, the impact of training activities on the transfer of training remains significant and should not be discounted.

### 3. CONCLUSIONS

This research shed light on the challenges organizations face in achieving the desired return on their training investments, which limits their overall performance. Research shows that organizations must demonstrate a tangible link between training investments and performance outcomes (Salas & Cannon-Bowers, 2001). The present study suggests that the primary issue hindering performance improvement is the low level of transfer of training, which necessitates an enhanced comprehension of its importance and potential solutions. Considering the insights drawn from the literature review, previous research, and the outcomes of this study, it is recommended that organizations undertake a comprehensive analysis of their training transfer needs, as previously suggested by Hesketh (1997). This type of analysis will assist organizations in identifying specific training barriers, highlighting transfer challenges, and proposing strategies to address these issues effectively.

In addition to conducting a transfer training need analysis, organizations should audit their transfer process to determine which training activities are effective and which need improvement. The findings of this research suggest that during-training activities have the strongest correlation with transfer of training. This indicates that organizations should prioritize designing and implementing effective during-training activities to improve the transfer process. These initiatives should encompass participatory learning, hands-on practice, ongoing assessment, and constructive feedback mechanisms to facilitate trainees in effectively implementing freshly acquired competencies and information in their work responsibilities. By allowing trainees to apply their learning in a simulated or real work setting, organizations can increase the probability of successful transfer of learning from the training to the job environment. Such as distractions that interrupt employees' concentration during training should be minimized, as lack of concentration can affect their motivation and intentions to learn, ultimately impacting the transfer process. While pre-training activities have demonstrated a favorable influence on the transfer of training in this study, the impact is not as strong as in previous studies.

Similarly, contrary to previous findings, post-training activities were discovered to lack a correlation with the transfer of training in this study. Thus, organizations in Pakistan may need to redesign and implement activities before the initiation and conclusion of the training program in a more effective way to improve the transfer process. These activities may include pre-training assessments to identify the trainees' skill gaps, setting clear and measurable goals, providing feedback during and after the training, ensuring trainee participation, providing practice opportunities, and creating a supportive organizational climate that encourages the implementation of freshly developed skills and knowledge with the real world job settings.

Organizations may also consider involving supervisors and managers in the training process, equipping them with essential resources and support to facilitate the transfer of training. By implementing these activities, organizations in Pakistan can improve the efficiency and effectiveness of their training programs and enhance the transfer of learned skills and knowledge to the workplace.

The study suggests that organizations should create supportive working conditions that foster trainee participation in the training design and implementation process. This can be achieved by providing continuous feedback and aligning trainee performance with organizational goals. These recommendations align with earlier research work (i.e., Blume et al., 2019; Cromwell and Kolb (2004); Gil, Mataveli & Garcia-Alcaraz, 2022) that have identified several work environment factors that can promote transfer of training, including feedback, support, and alignment with organizational goals. Feedback is essential for trainees to assess their strengths and weaknesses and adapt their behaviors and skills accordingly. Supportive work environments, such as peer support, supervisory support, and a constructive organizational culture, can increase trainee motivation and engagement in the training process. Alignment with organizational goals ensures that trainees understand how their newly acquired skills and knowledge can contribute to organizational success.

By incorporating these activities into the training process, organizations can maximize the transfer of training and ultimately achieve better performance outcomes. For instance, continuous feedback can help trainees identify areas where they need to improve and adjust their behaviors, leading to better performance outcomes. Supportive work environments enhance trainee motivation and engagement, leading to higher training transfer levels. Alignment with organizational goals can help trainees understand how their newly acquired skills and knowledge can contribute to organizational success, leading to higher levels of transfer of training and better performance outcomes.

Overall, organizations that consider these factors when designing and implementing training programs can increase the effectiveness of their programs, leading to better performance outcomes and, ultimately, improved organizational success.

### 5.1 Limitations

Several limitations must be acknowledged when interpreting the findings of this study. Firstly, the data was collected from the perspectives of supervisors and trainees, which may result in a potential bias in their perceptions of the factors that influence training transfer and outcomes. Hence, the importance of considering participant perspectives cannot be underestimated. Secondly, the study's generalizability is limited due to the involvement of only a few trainee characteristics. Thirdly, the impact of environmental factors such as organizational structure, resources, and support systems on the transfer of training is well-established in the literature. These factors can either facilitate or hinder the transfer of training to the job setting. For instance, a supportive work environment that provides opportunities for trainees to apply newly acquired skills and knowledge can enhance the transfer of training.

On the other hand, a lack of resources, support, or conflicting demands on the job can impede the transfer of training. Therefore, it is important to consider the influence of environmental factors when studying the transfer of training. However, this particular study did not take these factors into account. Lastly, despite the researcher's precautionary measures, the participants' responses may still be influenced by their lowest responses to the survey.

The present study provides a foundation for future research by establishing a transfer of training scale that can be replicated in various contexts and with different populations to examine whether the results can be generalized. A longitudinal study can be conducted further to enhance the understanding of the transfer of training. In addition, variables such as perception of training utility and commitment can be used as moderating variables, or trainee characteristics can be examined as mediating variables. Utilizing these methods would offer a more holistic and thorough comprehension of the training transfer process.

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**Data Availability:** N/A

**Author contributions:**

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