

Optimizing Workforce Outcomes: The Interplay of Training Design, Motivation, and Job Performance

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ABSTRACT

This study investigates the mediating role of training motivation in the relationship between training design and job performance. Effective training is crucial for organizational success, yet the mechanisms through which training translates into improved performance are complex. While well-designed training programs are foundational, the motivation of trainees to learn and apply new skills significantly influences outcomes. This research hypothesizes that superior training design enhances training motivation, which, in turn, leads to higher job performance. A quantitative research approach was employed, collecting data from a diverse sample of employees who recently underwent training. Structural Equation Modeling (SEM) using Partial Least Squares (PLS) was utilized for data analysis. The findings indicate a significant positive relationship between training design and training motivation, and subsequently, between training motivation and job performance. Furthermore, training motivation was confirmed as a significant mediator in the relationship between training design and job performance. These results underscore the importance of fostering trainee motivation, not merely focusing on program content, to maximize the return on training investments. Organizations should prioritize not only the instructional quality of their training but also strategies to intrinsically and extrinsically motivate participants.

Keywords: training design, training motivation, job performance, mediating effect, human resource development.

INTRODUCTION

In today's dynamic organizational landscape, continuous employee development through training is paramount for maintaining competitiveness and achieving strategic objectives. Organizations invest substantial resources in training programs, aiming to enhance employees' knowledge, skills, and abilities (KSAs) and ultimately improve their job performance [2, 13, 20]. However, the direct link between training programs and tangible improvements in job performance is not always straightforward. A critical factor influencing the effectiveness of training is the trainees' motivation to learn and apply what they have acquired [5, 15, 23]. This study seeks to elucidate the intricate relationship between training design, training motivation, and job performance, specifically examining the mediating effect of training motivation.

Training effectiveness is often conceptualized beyond just the content and delivery of a program; it encompasses the transfer of learned skills back to the workplace [1]. The success of this transfer is heavily reliant on various factors, including individual characteristics and organizational support [2].

Supervisors' roles in training programs, for instance, have been shown to influence training transfer [3]. While the quality of training design is undeniably foundational [6], it is increasingly recognized that even the best-designed programs can falter if participants lack the motivation to engage fully [5]. Motivation to learn is a crucial determinant of what individuals attend to, process, and retain during training [5].

Previous research has explored components of effective training, such as the quality of instructors and the relevance of the syllabus [21]. However, a comprehensive understanding of how the inherent design of a training program directly influences an individual's motivation to learn, and subsequently their performance, remains an area requiring further empirical investigation. This research aims to bridge this gap by specifically examining training motivation as a critical psychological link in the training-performance continuum. By understanding this mediating mechanism, organizations can develop more holistic training strategies that not only deliver high-quality content but also actively cultivate and sustain trainee motivation.

Literature Review and Hypotheses Development

Training Design

Training design refers to the systematic process of developing a training program, including needs assessment, instructional objectives, content selection, methodology, and evaluation [6, 13]. A well-designed training program is characterized by clarity, relevance, engagement, and alignment with organizational goals and individual learning needs [2]. Key elements of effective training design include clearly defined learning objectives, appropriate instructional methods, relevant content, opportunities for practice and feedback, and a supportive learning environment [13]. For instance, the use of diverse instructional strategies and interactive exercises can enhance learning outcomes [16]. Furthermore, the perceived value and relevance of the training to an individual's current or future job roles significantly impact their engagement [15]. Research indicates that the effectiveness of instructor behaviors and their relationship to leadership also play a role in training success [22].

Training Motivation

Training motivation is defined as the direction, intensity, and persistence of effort directed towards learning in a training context [5, 15]. It encompasses an individual's desire to learn the content of a training program and apply newly acquired skills on the job [15]. Motivation to learn is influenced by various factors, including individual characteristics such as self-efficacy and goal orientation, and contextual factors like organizational support and perceived utility of the training [15]. Vroom's Expectancy Theory (1964, 1973) suggests that individuals are motivated to act when they believe their effort will lead to performance, performance will lead to desired outcomes, and these outcomes are valued. In the context of training, this means trainees are more motivated if they believe they can successfully learn (expectancy), that learning will lead to improved job performance (instrumentality), and that improved performance will be rewarded (valence) [27, 28]. Social cognitive theory also highlights the importance of self-efficacy in learning and motivation [30]. Positive attitudes toward diversity training, for example, can be influenced by the framing of the training [16].

Job Performance

Job performance refers to the demonstrated behaviors and outcomes that contribute to organizational goals [24]. It is a multi-dimensional construct often measured by task performance, contextual performance (e.g., citizenship behaviors), and counterproductive work behaviors [24]. Effective training is expected to lead to enhanced job performance by improving employees' KSAs, ultimately

making them more productive and efficient in their roles [13, 20]. The impact of training on job performance is a central concern for organizations, as it directly relates to return on investment in human capital development [8]. For instance, a leadership development program can enhance training transfer within military organizations [4], suggesting a link to improved performance.

Mediating Effect of Training Motivation

This study proposes that training motivation acts as a crucial mediator between training design and job performance. A well-designed training program, characterized by its relevance, clarity, and engaging methodologies, is likely to foster higher levels of training motivation among participants. When trainees perceive the training as valuable, well-structured, and directly applicable to their work, their motivation to engage, learn, and apply the acquired knowledge and skills increases [15]. This heightened motivation, in turn, is hypothesized to directly translate into improved job performance, as motivated individuals are more likely to expend effort in practicing new skills, overcoming challenges, and integrating new knowledge into their daily tasks [15, 23]. Conversely, a poorly designed training program might lead to decreased motivation, even if the content is theoretically important, thereby hindering its potential impact on job performance. The perceived organizational support due to training can also be assessed to understand the impact on employee commitment [19].

Therefore, we hypothesize:

- **H1:** Training design has a significant positive effect on training motivation.
- **H2:** Training motivation has a significant positive effect on job performance.
- **H3:** Training motivation mediates the relationship between training design and job performance.

METHODOLOGY

Research Design and Participants

This study employed a quantitative, cross-sectional research design to examine the relationships between training design, training motivation, and job performance. The target population comprised employees from various organizations who had recently participated in formal training programs. A convenience sampling method was used to collect data. The rationale for this approach was to obtain a diverse set of participants who had recent experience with organized training initiatives. The sample size was determined based on the requirements for Structural Equation Modeling (SEM) using Partial Least Squares (PLS), generally suggesting a minimum of 10

times the largest number of paths directed at a latent variable or 10 times the number of indicators for the most complex construct [10, 14]. For this study, a sample size exceeding 200 participants was deemed appropriate.

Measures

All constructs were measured using established scales adapted to the context of this study. A 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) was used for all items.

- **Training Design:** This construct was measured using items adapted from existing literature on training effectiveness and program design [6, 13]. Sample items included: "The training program was well-organized," "The training content was relevant to my job," and "The instructional methods used in the training were effective."
- **Training Motivation:** This was assessed using items based on the constructs of motivation to learn and perceived utility of training [15, 23]. Sample items included: "I was highly motivated to learn during the training," "I believe the skills learned in this training will be valuable for my job," and "I put a lot of effort into learning during the training."
- **Job Performance:** This was measured using self-reported items related to in-role performance and perceived effectiveness in daily tasks [24]. Sample items included: "I am more productive in my job after the training," "I am better able to complete my tasks effectively after the training," and "The training has improved my overall performance at work."

Data Collection Procedure

Data were collected through an online survey platform. Participants were provided with an informed consent form detailing the study's purpose, confidentiality, and voluntary nature of participation. Only participants who had completed a formal training program within the last six months were eligible to participate to ensure recency of experience. Confidentiality of responses was assured, and participants were informed that their anonymity would be maintained.

Data Analysis

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 2.0 M3 software [25]. PLS-SEM was chosen due to its suitability for complex models, smaller sample sizes compared to covariance-based SEM, and its ability to handle both reflective and formative constructs [10, 14]. The analysis involved a two-step approach: first, assessing the measurement model, and second, evaluating the structural model [10, 14].

Measurement Model Assessment

The measurement model was assessed for reliability and validity.

- **Individual Item Reliability:** Assessed by examining outer loadings. Loadings above 0.707 are generally preferred, indicating that the item shares more variance with its construct than with the error [14].
- **Internal Consistency Reliability:** Evaluated using Composite Reliability (CR) and Cronbach's Alpha (α). Values above 0.7 are considered acceptable [14, 26].
- **Convergent Validity:** Assessed using Average Variance Extracted (AVE). AVE values above 0.5 indicate that a latent construct explains more than half of the variance of its indicators [11, 14].
- **Discriminant Validity:** Assessed using the Fornell-Larcker criterion, which requires the square root of the AVE of each latent variable to be greater than its correlation with any other latent variable [11, 14]. Additionally, cross-loadings were examined to ensure that each item loaded more strongly on its intended construct than on any other construct [12].

Structural Model Assessment

The structural model was assessed to examine the relationships between the latent constructs and test the hypotheses.

- **Path Coefficients (β):** These indicate the strength and direction of the relationships between constructs. The significance of path coefficients was determined using bootstrapping with 5,000 resamples [14].
- **Coefficient of Determination (R^2):** This indicates the proportion of variance in the dependent variable explained by the independent variables. Values of 0.25, 0.50, and 0.75 are considered weak, moderate, and substantial, respectively [14].
- **Effect Size (f^2):** This measures the impact of an independent variable on the R^2 of a dependent variable. Values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively [14].
- **Mediating Effect:** The mediation analysis was conducted by examining the direct and indirect effects. A significant indirect effect and a non-significant direct effect (or a reduced direct effect) when the mediator is included indicate mediation [9, 14].

RESULTS

Sample Demographics

A total of 287 valid responses were collected. The sample consisted of 55% female and 45% male participants. The age range of participants was diverse, with the largest group (45%) falling between 25 and 35 years old. The participants represented various industries, including manufacturing, services, and public administration.

Measurement Model Assessment

The results of the measurement model assessment confirmed the reliability and validity of the constructs. All outer loadings were above 0.707, indicating good individual item reliability. Composite Reliability (CR) and Cronbach's Alpha (α) values for all constructs were above 0.8, exceeding the recommended threshold of 0.7, thus demonstrating strong

internal consistency. The Average Variance Extracted (AVE) values for all constructs were above 0.5, confirming convergent validity. Discriminant validity was established using the Fornell-Larcker criterion, where the square root of the AVE for each construct was greater than its correlation with any other construct. Additionally, cross-loadings indicated that each item loaded most strongly on its hypothesized construct.

Structural Model Assessment and Hypotheses Testing

The structural model analysis revealed significant relationships between the constructs, supporting the proposed hypotheses (Table 1).

Table 1: Path Coefficients and Hypothesis Testing Results

Path	Original Sample (β)	Standard Error	t-value	p-value	Decision
Training Design $\rightarrow$ Training Motivation	0.684	0.041	16.68	<0.001	Supported (H1)
Training Motivation $\rightarrow$ Job Performance	0.572	0.038	15.05	<0.001	Supported (H2)
Training Design $\rightarrow$ Job Performance (Direct Effect)	0.189	0.052	3.63	<0.001	Significant
Training Design $\rightarrow$ Training Motivation $\rightarrow$ Job Performance (Indirect Effect)	0.391	0.032	12.22	<0.001	Significant

- **H1:** Training design has a significant positive effect on training motivation. The path coefficient from Training Design to Training Motivation was $\beta = 0.684$ ($p < 0.001$), indicating a strong and highly significant positive relationship. This supports H1, suggesting that well-designed training programs significantly enhance trainee motivation.
- **H2:** Training motivation has a significant positive effect on job performance. The path coefficient from Training Motivation to Job Performance was $\beta = 0.572$ ($p < 0.001$), demonstrating a strong and highly significant positive relationship. This supports H2, indicating that higher training motivation leads to improved job performance.

Mediation Analysis (H3):

The analysis for the mediating effect of training motivation (H3) involved examining the direct and indirect effects.

- The direct effect of Training Design on Job Performance, without considering the mediator, was significant ($\beta = 0.189$, $p < 0.001$). However, when Training Motivation was introduced as a mediator, the direct effect of Training Design on Job Performance reduced to $\beta = 0.189$ ($p < 0.001$).
- The indirect effect of Training Design on Job Performance through Training Motivation was $\beta = 0.391$ ($p < 0.001$). This significant indirect effect, coupled with the reduction in the direct effect,

provides strong evidence for the mediating role of training motivation. The reduction in the direct effect, while still significant, suggests partial mediation. This implies that while training design does have some direct influence on job performance, a substantial portion of its impact is channeled through the enhancement of training motivation.

The R^2 value for Training Motivation was 0.468, indicating that 46.8% of the variance in training motivation is explained by training design. The R^2 value for Job Performance was 0.385, meaning that 38.5% of the variance in job performance is explained by training design and training motivation. The f^2 effect sizes were assessed; the effect of training design on training motivation ($f^2 = 0.880$) was large, and the effect of training motivation on job performance ($f^2 = 0.428$) was also large, further emphasizing the practical significance of these relationships.

DISCUSSION

This study aimed to investigate the mediating effect of training motivation between training design and job performance. The findings strongly support all three hypotheses, providing valuable insights for organizations seeking to optimize their training investments.

The significant positive relationship between training design and training motivation (H1) underscores the critical importance of a well-structured and relevant training program. When employees perceive training as thoughtfully planned, relevant to their roles, and delivered effectively, their intrinsic and extrinsic motivation to engage and learn increases substantially. This aligns with findings suggesting that factors like syllabus quality and instructor effectiveness influence training program outcomes [21]. A poorly designed program, regardless of its content, may disengage trainees, leading to a suboptimal learning experience and reduced motivation [16]. This reinforces the idea that organizations should not only focus on what is taught but also how it is taught and how it is presented to trainees.

Furthermore, the strong positive relationship between training motivation and job performance (H2) confirms that a motivated trainee is more likely to translate learned skills into improved on-the-job performance. Motivated individuals are more inclined to exert effort, persist through challenges, and actively apply new knowledge and skills in their daily tasks [15, 23]. This finding resonates with established theories of motivation, such as Expectancy Theory [27, 28], where an individual's belief in the value and attainability of learning outcomes drives their effort and performance. The commitment of employees due to training can also be affected by their motivation and perceived impact [8].

The most significant contribution of this study lies in confirming the mediating role of training motivation (H3). The

results demonstrate that while training design has a direct influence on job performance, a substantial portion of its impact is channeled indirectly through training motivation. This partial mediation suggests that designing excellent training is a necessary but not sufficient condition for maximizing job performance improvements. The motivational aspect of training is a crucial psychological conduit. Organizations that solely focus on the technical aspects of training design without considering how to foster and sustain trainee motivation might see limited returns on their investment. This highlights the importance of incorporating motivational strategies into training programs, such as clearly communicating the benefits of the training, providing opportunities for self-direction, and offering recognition for effort and achievement [5, 18]. For example, the awareness of leadership development programs increasing training transfer in military settings (Azman et al., 2016) implicitly suggests a motivational component tied to career progression and perceived value.

CONCLUSION AND RECOMMENDATIONS

This research provides compelling empirical evidence for the mediating role of training motivation in the relationship between training design and job performance. The findings suggest that to truly optimize workforce outcomes through training, organizations must adopt a holistic approach that prioritizes both the quality of training design and the cultivation of trainee motivation.

Based on these findings, the following recommendations are proposed:

1. **Invest in Robust Training Design:** Organizations should continue to prioritize the systematic design of training programs, ensuring that they are relevant, well-structured, engaging, and aligned with both individual and organizational needs [6, 13]. Needs assessments should be thorough, and instructional objectives should be clearly defined.
2. **Actively Foster Training Motivation:** Beyond good design, organizations should implement strategies to enhance and sustain trainee motivation. This could include:
 - **Communicating Value:** Clearly articulate the benefits of the training for individual career development and organizational success [19].
 - **Creating a Supportive Environment:** Ensure a positive learning environment where participants feel comfortable asking questions, making mistakes, and experimenting with new skills [18].

- **Providing Choice and Autonomy:** Where feasible, offer trainees some choice in training content or delivery methods to increase their sense of ownership [17].
 - **Recognizing and Rewarding Effort:** Acknowledge and reward trainees' efforts and achievements during and after the training to reinforce positive learning behaviors [29].
 - **Instructor Effectiveness:** Emphasize the role of instructors in fostering motivation through their enthusiasm, expertise, and ability to connect with learners [22].
3. **Integrate Motivational Components into Training Programs:** Training designers should explicitly consider how to build motivational elements into the curriculum, such as goal-setting exercises, opportunities for self-reflection, and feedback mechanisms that highlight progress [5].
 4. **Consider Post-Training Support:** To sustain motivation and facilitate transfer, organizations should provide ongoing support, such as opportunities to apply new skills, coaching, and reinforcement from supervisors [2]. The supervisor's role is particularly crucial in this regard [3].

Limitations and Future Research:

This study utilized a cross-sectional design, which limits the ability to infer causality definitively. Future research could employ longitudinal designs to better track the progression of training effectiveness and its impact on job performance over time. Additionally, the reliance on self-reported measures for job performance may introduce some bias; future studies could incorporate objective performance measures or supervisor ratings. Exploring specific elements of training design (e.g., instructional methods, feedback mechanisms) and their differential impact on various motivational facets would also be a valuable avenue for future research. Furthermore, investigating cultural differences in the relationships observed could provide a richer understanding of these dynamics. Finally, future research could explore the moderating effects of individual differences (e.g., learning goal orientation) on the relationships between these constructs [15].

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