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EVALUATING THE EFFECTIVENESS OF TRAINING PROGRAMS PROVIDED BY KHYBER PAKHTUNKHWA TECHNICAL EDUCATION AND VOCATIONAL TRAINING AUTHORITY: A NEW WORLD KIRKPATRICK MODEL PERSPECTIVE

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ABSTRACT

The study's objective was to look at the relationship between the integration of personal and professional attributes and the four-level New world Kirkpatrick training effectiveness model in Pakistan's vocational and training authority. The trainees in Khyber Pakhtunkhwa's department of technical education and vocational training received the questionnaires. Statistical software such as AMOS and SPSS was used to compute and analyses the data that had been gathered. To measure the outcome, use the path analysis, factor analysis, and structural equation model. The statistical result showed that there is a strong chain of relationships among the four levels of training effectiveness model and that management support and trainee learning transfer motivation are important moderators of the model. The study found that when providing training, trainers should take into account the significance of both individual and work-related factors. It was anticipated that the study's findings would make a significant contribution to both the academic research project and the Human Resource Development (HRD) experts employed in Pakistan.
Keywords: factor analysis, SEM, training effectiveness, and New world Kirkpatrick.

INTRODUCTION

Training is one of the key functions of human resource management (Armstrong & Taylor, 2023). It is the process of giving necessary skills to the personnel for doing job effectively (Itzchakov, Weinstein & Cheshin, 2022).The employee training will only be effective when training supports learning transformation (Rashidov, 2022).Training effectiveness measures the impact of training on learner's knowledge, skills, performance, and results (Jacobsen et al., 2022). Organizations often undermine the significance of measuring training effectiveness due to;(i) complexities involved in measuring learning outcomes, behavioral modifications and results (Rashidov, 2022),(ii) the huge amount of cost (Syam & Achmad, 2022). Notwithstanding this, the effectiveness of training continues to be a persistent and rising issue in workplaces across the globe. (Ali et al., 2022; Kodwani & Prashar, 2019; Rashidov, 2022; Alsalamah & Callinan, 2021). Consequently, prioritizing training evaluation is essential in order to unlock its full potential and enhance its effectiveness. (Quinton et al., 2022), There are several ways to evaluate the training effectiveness (Bergamo et al., 2022).Among them, the Kirkpatrick model is popular due to its practicality in evaluating training programs (Maudsley & Taylor, 2020).This model is based on four levels namely trainees' reactions learning, behavior, and results (Ross et al., 2022). The Kirkpatrick model, however, has faced criticism for its perceived hierarchical nature and complexity involved in measuring the trainee's behavior and results (Alsalamah & Callinan, 2021; Lantu et al., 2021; Kirkpatrick, 2022). On the contrary, Nielsen and Shepherd (2022) reported that the Kirkpatrick model is quite simple. In order to address these limitations in the Kirkpatrick Model Liao and Hsu,(2019) proposed the New World Kirkpatrick

Model (NWKM). The NWKM redefines the four levels of the Kirkpatrick model and provides new explanations (Quinton et al., 2022).Further ,the NWKM, argues that L1 (reaction) and L2 (learning) should be merged into one broader category while L3 (behavior) and L4 (result) to the other.

Problem Statement

Training effectiveness is a persistent and growing problem in working organizations everywhere (Ali et al., 2022; Kodwani & Prashar, 2019; Rashidov, 2022; Alsalamah & Callinan, 2021). Training effectiveness is often evaluated by Kirckpatrick model using only the first two levels i.e. reaction and learning, owing to the co-morbidities involved in measuring behavior and result (Abdelet al., 2018; Gandomkar, 2018). Aside from this, the organizations have ignored to compute the hierarchal order relationship among four levels of training effectiveness (Abdelhakim et al., 2018).These deficiencies in training evaluation have been overcome by the New World Kirkpatrick Model(Quinton et al., 2022).. But this model is rarely used empirically (Alsalamah & Callinan, 2021; Baluku, 2020). Moreover, the moderating effect of management support and learning transfer motivation has not been examined so far(Manzoor & Din, 2019).By ignoring these moderating variables ,the Kirkpatrick model might lead to the occurrence of greater spending, waste of time and resources and may have a harmful impact on the business overall productivity. Thus the area of training evaluation has been deficiently investigated so far and there is room for further research in this regard. The current endeavor attempts to address these problems in the area related to theory and practice of training evaluation particularly in the context of Pakistan.

Literature Review

Trainee Reaction, Learning & Behavior

Homklin (2014) discovered a strong, positive correlation between trainee' learning and their behavior on the job. According to Paull & Girardi (2016), the relationship between a trainee's response and learning is favorable. Thammachai (2018) examined a sample of law enforcement officers to assess the training's efficacy. The training involvement and transformational idea served as the research's foundation. Result shown that student learning and behavior are favorably correlated with result. Baldwin and Ford (1988), revealed the positive workplace conduct directly correlates with learning outcomes persistence.

H1: Trainee reaction has positive effect on trainee behavior.

H2: Trainee learning has positive effect on trainee behavior.

Trainee Behavior and Result

The link between behavior and the result of the Kirkpatrick model has not been the subject of many investigations. Clement (1982) makes the case there are other crucial employment-related factors that support their association. Additionally, there aren't many studies that try to quantify the link between behavior and training efficacy model outcomes. It is because training efficacy evaluation is complicated and challenging (Thammachai, 2018). Kirkpatrick also recognizes a hierarchical relationship between the four phases of training efficacy.

H3: Trainee behavior has positive effect on result.

Hierarchal Relationship among the Four Levels of Kirkpatrick Model

The hierarchal link between the four levels has only been assessed in an extremely limited amount of research (Manzoor & Din, 2019). Previous research has found a weak correlation between student reaction and student learning, but a strong correlation between student learning, student conduct, and student results (Alliger & Janak, 1989). The two levels where learning and reaction have a causal relationship, as determined by Clement (1978), are significant. Homklin (2014) also employed path analysis to support the presence of a structured connection across each stage and discovered a significant positive relationship in the four stages. Homklin (2014) further makes the case that there are additional crucial employment-related factors that influence the causal link between reaction and outcome.

H4: There exists hierarchal relationship amid NWKM.

Moderating Effect of Motivation to transfer

Thammachai (2018) argues that the incentive to transfer depends on the learner's anticipated or intentional decision to apply the abilities and expertise they have acquired during training sessions. According to Axtell et al. (1997), a trainee's willingness to use the expertise and abilities that they

have acquired during training sessions on the job serves as encouragement for transferring. Axtell et al. (1997) also discovered that trainees' perceptions of the positive transfer they felt they had achieved as a result of taking advantage of training sessions were significantly predicted by trainees' desire for transfer. In order to improve trainee behaviors related to the job and the efficiency of instruction, transferring motivation is important. As the instruction is to be transferred, trainee drive and education are essential (Gegenfurtner et al., 2009). However, there is not enough literature to quantify the modifying effect of trainees' willingness to use the expertise and abilities they have gained. According to Vroom's (1964) hypothesis of expectancy, people have a greater desire to learn if they're certain it will improve their ability to perform. The moderating significance of transfer desire in the relationship between student achievement and student behavior modification is not well addressed in previous studies (Gerner, 2018). The combined effect and incentive to apply the taught abilities and expertise acquired in training sessions to change or alter behavior would likely be high among trainees who learn well from sessions of instruction.

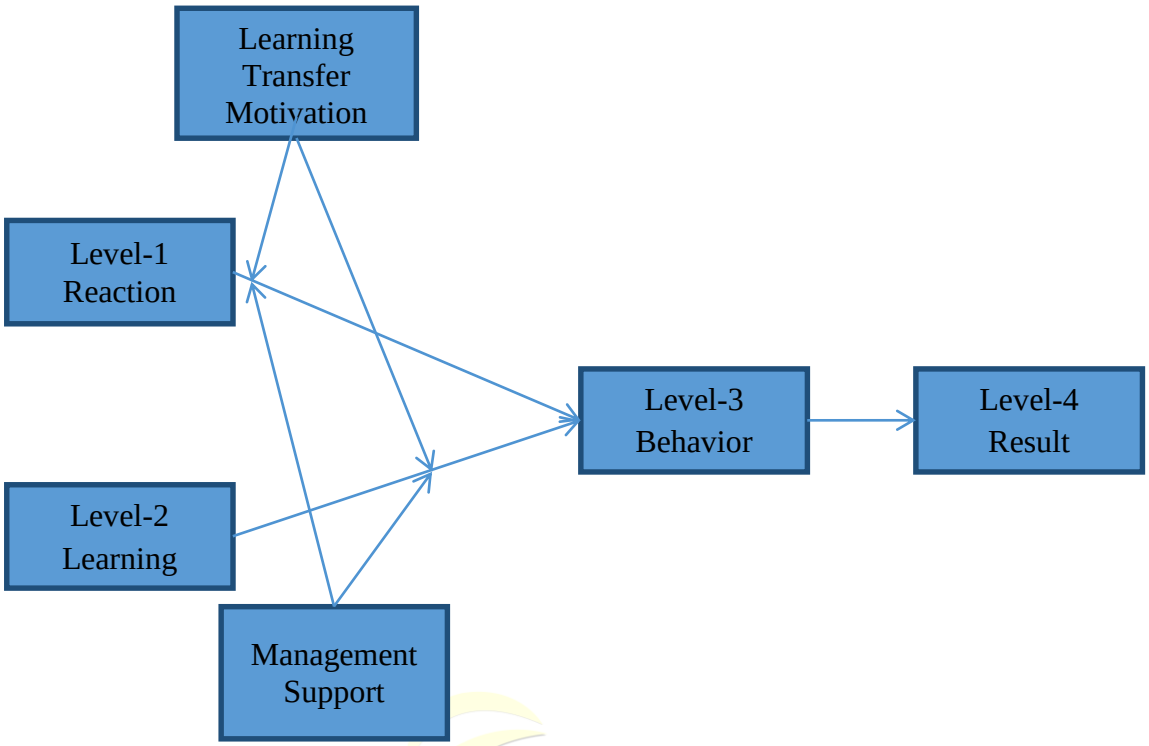
H5: Trainee learning transfer motivation has moderates the relationship among trainees' reaction, learning and behavior.

Moderating Effect of Management Support

A researcher (Kassem, 2018) defined social interaction as assistance from others. There remains an oversight with regard to job-related encouragement, specifically in the evaluation of training shifts and efficacy, despite research focusing primarily on peer assistance as an essential and potent indicator of the knowledge transfer procedure (Clarke, 2002). According to employment-related assistance, employees are more focused on the actions made by employment-related representatives, whether they have positive or negative effects depending on personal motivations (Eisenberger et al., 1986). Organizations provide physical and mental rewards in educational settings to help students develop their skills in a way that has a significant impact on their behavior (Homklin, 2014). According to an earlier study, social support is seen as a crucial element in the shift of instruction and greatly influences how training is used in job settings (Clarke, 2002). Social assistance is also a significant and positive predictor of the knowledge transmission process (Clarke, 2002). It adds to the notion that there is a significant relationship between trainee education and trainee conduct. Another investigation confirmed that the participation of peers and managers in training sessions is a requirement for newly learned or integrated learner job abilities and behavior (Cromwell & Kolb, 2004). Despite this, there has been little research that looks at managerial assistance as a moderating factor in connection with trainee learning and behavior (Nawaz & Ahmad, 2022)..The following constitutes the hypothesis.

H6: Management support moderates the relation among trainees' reaction, learning and behavior.

Proposed Conceptual Framework



Research Methodology

For research methodology onion model of (Saunders et al., 2018) will be used. The proposed research philosophy will be positivism. The researcher will use deductive technique with a survey approach, i.e., (questionnaire). The proposed research will use a mono-method, i.e., (quantitative). The investigator will collect the data on a cross-sectional basis. Lastly, the researcher will employ both inferential and descriptive statistics on the collected data.

Population and Sampling Frame

The population of the study will be the trainees of, Khyber Pakhtunkhwa Technical Education and Vocational Training Authority (TEVTA). The motive for selecting TEVTA as a population of the study is that the TEVTA offers dynamic, standardized, demand driven, and assimilated technical skill certification programs in Pakistan. Proposed population of the study will be comprised of trainees of TEVTA Khyber Pakhtunkhwa, Pakistan who are getting skill certification training in the field of "Computer operator and Dress Making". The reason of selecting these trades will be high number of trainee's enrollment in these training programs. The proposed population will be 702 trainees registered in computer course and 523 trainees registered in dress making course.

Population

S #	TEVTA	Computer Course	Dress Making
1	Peshawar	80	75
2	Mardan	104	65
3	Charsadda	54	58
4	Nowshehra	49	48
5	Abbottabad	95	69
6	DI Khan	44	39
7	Kohat	66	55

8	Swat	64	32
9	Bannu	74	40
10	Chitral	35	20
11	Jahangira	37	22
	Sum	702	523

Source: TEVTA ,2023

The sample size will be determined through Yamane's (1973). The final sample will be 255 computer course trainees and 227 dress making trainees. Below captioned is the formula.

$$n = \frac{N}{1 + N \times e2}$$

N=Population
n=Sample
e=Error-Chance (5%)
Calculation

S#	TEVTA	Computer	Dress Making
1	Populace	702	523
2	Calculation	702/1+702*.0025	523/1+523*.0025
3	Sample	255	227

Note. Self-Calculated

The researcher will use the probability sampling technique; stratified sampling with proportionate allocation method. The proportionate distribution formula is mentioned underneath.

$$n_i = \frac{n}{N} \times N_i$$

Proportion

S #	TEVTA	Computer	Proportion	Dress Making	Proportion
1	Peshawar	80	26	75	33
2	Mardan	104	33	65	28
3	Charsadda	54	17	58	25
4	Nowshehra	49	16	48	21
5	Abbottabad	95	30	69	30
6	DI Khan	44	14	39	17
7	Kohat	66	21	55	24
8	Swat	64	21	32	14
9	Bannu	74	24	40	17
10	Chitral	35	11	20	9
11	Jahangira	37	12	22	9
	Sum	702	225	523	227

Measurement Instruments

The questionnaire will be used for data collection based on a Likert scale five points. The below mentioned tables depicts the items and its sources.

Table 7 Measurements Scale

S#	Variable	Items	Source	Scale
1	NWKM	22	Liao & Hsu (2019)	Likert5 point
1.1	Reaction	12	-do-	-do-
1.2	Learning	4	-do-	-do-
1.3	Behavior	3	-do-	-do-
1.4	Result	3	-do-	-do-
3	Management Support	5	Kupritz (2002)	
5	Learning Transfer Motivation	5	Gegenfurtner et al. (2009)	-do-
	Total	32		

Data analysis

Demographics

Table 7.1

Variables	**Attributes**	**Occurrence**	**Ratio**
Gender	Male	399	83.6
	Female	78	16.4
Age	17-27 years	358	75.1
	28-38 years	90	18.9
	39 & Above	29	6.1
Experience	0-3 years	345	72.3
	4-5 years	98	20.5
	Above 6 years	34	7.1
Qualification	Undergraduate	369	77.4
	Graduate	108	22.6
Trainees	Computer	252	52.8
	Dress Makers	225	47.1
	Total	**477**	**100**

Table 7.2

Exploratory Factor Analysis

Factors			Weights				Commonalities
Reactions *KMO: .810, BTS:.05*	1	2	3	4	5	6	
Reaction-1	.901						.782
Reaction-2	.861						.694
Reaction-3	.789						.672
Reaction-4	.698						.571
Reaction-5	.876						.802
Reaction-6	.836						.742
Reaction-7	.489		.158		.381		.124
Reaction-8	.775						.659
Reaction-9	.837						.751
Reaction-10	.387	.257		.471		.422	.207
Learnings *KMO: .856, BTS:.05*	1	2	3	4	5	6	Commonalities
Learning-1		.914					.781
Learning-2		.875					.801
Learning-3		.847					.687
Learning-4		.698					.610
Learning-5		.821					.702

Learning-6		.902					.769
Learning-7	.412	.354	.254		.147		.479
Learning-8		.789					
Behaviors *KMO: .792, BTS:.05*	1	2	3	4	5	6	Commonalities
Behaviors-1			.874				.714
Behaviors-2			.687				.716
Behaviors-3			.923				.731
Behaviors-4			.911				.821
Behaviors-5			.745				.745
Behaviors-6	.257		.112		.236		.412
Result *KMO: .749, BTS:.05*	1	2	3	4	5	6	Commonalities
Results-1				.935			.853
Results-2				.967			.771
Results-3				.879			.791
Results-4				.956			.687
Results-5				.871			.829
Results-6				.847			.799
Results-7				.798			.688
Results-8		.471		.247		.124	.147
Results-9				.869			.699
LTM *KMO: .763, BTS:.05*	1	2	3	4	5	6	Commonalities
LTM-1					.957		.711
LTM-2					.879		.765
LTM-3					.698		.657
LTM-4					.971		.802
LTM-5					.902		.833
MS, *KMO: .866, BTS:.05*	1	2	3	4	5	6	Commonalities
MS-1						.924	.832
MS-2						.921	.801
MS-3						.878	.798
MS-4						.769	.829
MS-5						.811	.704

Note. EFA with 7 iterations

Table 7.3
CFA Standards

Fitness Standards	Hu and Bentler (1995) Criterion
NFI	>0.80
SRMR	<..08
Construct Validity	Gaskin and Lim (2016)
Reliability	>0.60
Composite Reliability	>0.70
AVE	>0.50
Discriminant	>0.50

Note. CFA standard criterion

Table 7.4
Moderation Evaluation

Indirect Estimates	Beta	Error	T	P	95%CI		Result
					LLCI	UPCI	
LTM x Reaction→Behavior	.098	.049	1.97	.048	0.002	0.193	Support
LTM x Learning→Behavior	.116	.046	2.50	.012	0.024	0.204	-do-
MS x Reaction→Behavior	.011	.047	.236	.813	0.105	0.080	Reject
MS x Learning→Behavior	.114	.045	2.53	.011	0.027	0.201	Support

DISCUSSION

The initial estimate of the trainee reaction's direct impact on learning, behaviour, and result showed that the trainee reaction was a strong positive predictor of learning, behaviour, and result. The outcome was in line with or compatible with earlier research, such as (lim & johanson, 2002; maister, 2008).Second, the moderating variables which are the trainees learning transfer motivation and management support in relationships between reaction, learning and behavior. The learning transfer motivation significantly moderates the relationship between trainee reaction, learning and trainee behaviour, while the relationship between trainee reaction and trainee behavior insignificantly moderates. The outcome was in line with or compatible with earlier research, such as (lim &johanson, 2002; maister, 2008).

CONCLUSION

The current study examined the variables influencing trainees' behaviour, learning, and response to outcomes. The importance of the pre-training phase, learning transfer motivation, and management support are all highlighted in the study as factors that affect how effective training is. An analysis of training requirements and the kind of training that influences an outcome. Training efficacy via learning motivation. The association between behaviour and outcome was also affected by trainees' management support for their training and their ability to transfer motivation. The most significant factor influencing training effectiveness among all the factors was found to be learning transfer motivation. The study's findings will encourage practitioners to incorporate trainees' attitudes towards training and these organisational level variables into training effectiveness models.

Limitations and scope for future research

Like many research projects, this one has its share of drawbacks. First off, the study's findings may not be applicable to other workplaces because the participants were limited to one organisation. Subsequent investigations ought to cross check the current results in diverse organisational environments. Furthermore, method bias cannot be completely ruled out even with efforts to reduce biases connected to the method. The respondents' identities were kept private and they were given confidence regarding the same. The use of single respondents for data collection, which could result in measurement error, is the study's second shortcoming. However, with informed respondents, these mistakes are less likely to happen. Three times were the data collected: prior to training, during training, and following training. A high sample size is necessary for the results of the future study to be generalizable, and it should be attempted to gather effectiveness data from multiple sources in order to entirely eliminate the bias associated with common methods.

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