

Relationship between training effectiveness, motivation and public hospitals food handlers' food safety practice

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Abstract

This study aims to examine the relationship between training and employee food safety practice and to examine whether motivation mediates the relationship between training effectiveness and employee food safety practice. This quantitative study was conducted using questionnaires and the unit of analysis was Selangor public hospitals food handlers. The regression analysis confirms a significant relationship between training attributes and food safety practice, training attributes and motivation, and motivation significantly affect food safety practice. Lastly, the mediation analysis confirms that motivation mediated the relationship between training and food safety training. The program design and training evaluation of the food safety training would enhance the food safety practice among the public hospitals' food handlers.

Keywords:

Food safety; training; training needs assessment; training design; training evaluation

1 Introduction

Training is one of the important elements in human resource development which provides all the employees with knowledge about tasks related to the job. A virtuous training program commonly entails a systematic sequence starting with a needs assessment of the employees to acknowledge the tangible training needs and is considered as the first steps of designing the training program (Cavalli, Salay & Proença, 2011; Arthur, Bennet, Edens & Bell, 2003; Kirkpatrick & Kirkpatrick, 2009; Noe, 1986). Training evaluation afterwards either formative or summative evaluation may be helpful for the management and trainers to evaluate the whole training program to ensure the effectiveness of the training (Harris, Chung, Hutchins, & Chiaburu, 2014; Arthur et al., 2003; Berger & Farber, 1986).

In public sector, training is compulsory as The Malaysian Public Service Department (JPA) has circulated the *Pekeliling Perkhidmatan Bilangan 6* in 2005, stating that all civil servants in Malaysia must complete at least seven (7) days of training every year. Generally, the head of the department will plan ahead the suitable training that is needed for each employee based on the allocations and the focus of the study was the Dietetic and Catering Department, which implemented the food safety program. Hence, one of the most important approaches is focusing on the food handler's food safety training program which is one of the compulsory processes for maintaining the system and certifications. This food safety program approach is needed for hospital kitchens to avoid the negligence on patients' food preparation as hospital food is part of healing for the patients and safe food is a crucial need for patients as they are in a vulnerable group (Kokkinakis, Kokkinaki, Kyriakidis, Markaki, & Fragkiadakis, 2011).

There are various approaches to food safety training program. Based on '*Peraturan-Peraturan Kebersihan Makanan 2009*', all employees are required to attend the basic four (4) hours training of '*Kursus Pengendali Makanan*' (Food Handler Course) which is compulsory. Hence, for the Dietetic and Catering Department, more specific and detailed training is required. This includes all elements mentioned in Malaysian Standard 1514-GMP and Malaysian Standard 1480-HACCP. As the knowledge of this area is dynamic and ever-evolving, systematic and continuous training is needed which also includes an evaluation after the training to identify the outcomes and understanding the clear picture of the employees training.

Previous studies had related knowledge gained from the training impacts to the food handlers' performance, but it was still vague. This was because not only training affected the performance, but it might have other factors influencing their performance. Motivation to learn is one of the influences that potentially impact the employees' reaction and performance towards the training program (Ghaffar, Som, Mohamad & Majid, 2015; Noe, 1986). However, there are limitations and challenges

for implementing or conducting training for all the employees equally. Especially Department of Dietetic and Catering runs continuously and with shift schedules. However, the food safety training program still needs to be performed for the continuity of food safety practices in the hospital kitchen.

Unfortunately, it happens that although given much training on the food safety aspect, some of the employees are still not alert and tend to be unconcerned (Abdul-Mutalib, Abdul-Rashid, Mustafa, Syafinaz, Hamat, & Osman, 2012). A statistic from Secretariat of Food Quality Assurance of Kuala Lumpur Hospital (HKL) has highlighted the cases of food physical contamination still happened at all public hospital. Based on personal observation on the field as the management team, the implementation of the food safety program was supposed to improve the overall process of food production. Undesirably, this statistic showed the opposite side which indicated that there might be some scarceness on the implementation of the food safety program and employees' performance, especially on the training program.

Training effectiveness study focuses on employees' characteristics, the needs assessment before training, trainers and training design. Nevertheless, there may perhaps some other possible factors which the employees' motivation that likely may cause for the ineffectiveness of the training (underperformance) and need to be addressed by the study (Rohin, 2016; Adesokan, Akinseye & Adesokan, 2015; Abdul-Mutalib et al., 2012). So, there is a potential chance that motivation to learn and to transfer can mediate the performances of the employees which need to be further clarified in this study. Furthermore, it is a compulsory trainee to fill the evaluation form for evaluating the training given. Even though the data has been collected, but data from the evaluation have not been used for any further investigation especially on the aspect of improving the training program itself.

So far in Malaysia, there was a little discussion about evaluating the training effectiveness for the hospital kitchen employees' especially in public hospitals and also in an overall public sector. This limitation may be an opportunity to further study on this particular topic to get a clear sight of training in the public sector, focusing on public hospital kitchens. Therefore, there was a need to conduct this study to view the evaluation of the training effectiveness aspect of a food safety program in public hospitals. Therefore, this study aimed to identify the relationship between training effectiveness and employee food safety practice performance and to examine the mediating effect of motivation in the relationships between training effectiveness and employee food safety practice performance at Public Hospital in Selangor.

2 Literature Review

2.1 2.1 Training

Training is known as a medium to transfer knowledge not only in education but also in the working environment. Ghaffar et al. (2015) noted that training was one of

the methods to deliver information related to the field of knowledge needed. This highlighted the importance of training in the industry, generally. Not only that, employees might satisfy with their work once they had the feel of the development of their competency on performing their tasks which can be accomplished through the effective training of the organisation (Olubukunola, 2015). Training is also important in enhancing and improving employees' performance continuously in their knowledge of their work, skills that need to perform the tasks given and also to develop employees' commitment in achieving the organisation target (Huslid, 1995; Ichniowski & Neal, 1997). On the other hand, some of the studies have mentioned some issues which highlighted the disadvantage of training. Grossman and Salas (2011) suggested that the investment return for training was relatively low and this was also supported by Ford, Yelon and Billington (2011) and Georgenson (1982) as they suggested the transfer of behavioural change in the workplace was only 10% of the investment given by the organisation. This showed that, although the organisation invested some allocation on training to develop their employees, still it may be a limitation on achieving their target of the transfer of learning to the employee practice.

2.2 Patients food safety

According to the World Health Organisation (2014), food-borne illness is one of the major threats to the world population. The concern is not only for the world but in Malaysia overall food poisoning incidences are 47.34 over 100,000 population and the mortality rate is 0.01 (Health Fact Ministry of Health, 2016). From this fact, foodservice industry especially the healthcare foodservice in the hospital needs to be more alert and strategise their plan to prevent this issue as this non-profit organisation provides food for the public which understood that patients who receive the food are vulnerable and fragile. Top management and supervisors need to focus on the food safety procedure implementation done by food handlers especially in the hospital setting. Department of Dietetic and Catering responsible for patients' diet need to ensure the food is safe by having a good monitoring system and certification (Rohin, 2016). To establish good systematic monitoring, Ministry of Health has propagated the awareness for all the hospital kitchens to implement a food safety system and to obtain the certification of Good Manufacturing Practices (GMP) and Hazard Analysis Critical Control Point (HACCP).

2.3 Training needs assessment

There is a need to engage them by having training needs assessment to corroborate the training program, planned for the employees. The information gained from training needs assessment leads to a solid justification for a decision on course design and the suitable material to be developed. Not only that, it will lead the management or trainers to clarified about what and how the training should be conducted (Chostelidou, Griva & Tsakiridou, 2009). A study by Kodwani (2017) on decoding training effectiveness, organisations needed to consider employees' opinions as they can increase their motivation in pre-training. Not only that, there was a need

to conduct a consistent needs assessment on training which has been emphasized by McCormick, Reel, Alperin, Lloyd and Miner (2017) in their study on a strategic approach to assess training needs across a diverse region which included public health workforces as their unit of analysis. They suggested on methods to be used for a training needs assessment that included electronic and paper surveys, facilitated focus group discussions at the conferences and meetings, interviews with the key personnel, post-training assessment questionnaires and site visits. Apart from that, it was also suggested by other researcher that a training needs assessment must be performed periodically which in line with McCormick et al. (2017); and Harrison et al. (2005) to ensure the training program was effective, up to date and the training quality was relevant.

2.4 Training design

When it comes to food safety and designing an effective training program, there is a need to have a clear understanding of the factors related to the food safety behaviour at the workplace (Clayton et al., 2002). Designing the training may go around the related aspects of the topic selected, training location and settings, learning materials, training methods (on-the-job or off-the-job) as this should be designed matching with the employees' ability to learn, and it may give impact to the learning transfer (Velada et al., 2007; Bhatti & Sharan, 2010). As the main purpose of a food safety program is to identify the probable hazard and the mishandling practice of the handlers, this underlines the importance of good food safety training designs to achieve the target. There is a need to clarify this construct from the perspective of the employees who receive the training.

2.5 Training Evaluation

Once the training program is completed, there is a need to evaluate the program. This evaluation is considered as the first step of training program evaluation process (Bhatti & Sharan, 2010). From this evaluation, it is expected that employees are aware that they had been evaluated throughout the training program and this may encourage them to apply and transfer their learning input into practice at their workplaces (Kodwani, 2017). This fact was also supported by White and Branch (2001) and Burke and Saks (2009) which stated that training evaluation improved and increased the training transfer. Hence, it was important for the organisation to well-design their training evaluation strategy to ensure the outcomes of training can be measured systematically (Kodwani, 2017). Due to the evaluation also, Kodwani's study (2017) on decoding training effectiveness highlighted that employees will be more inspired and focused on the training program and thus increased the chances of demonstrating the practice after the training. It has been explained in details by Rekiik and Bali (2017); and also Grohmann and Kauffeld (2013) about training evaluation, who divided reaction into: i) satisfaction and utility and; ii) knowledge for learning.

2.6 Food Safety Performance

The performance of food handlers in conducting food safety practice is the most crucial part of hospital food service. Some of the socio-demographic characteristics such as age, experience, education background and also training may reflect through employees' performance. Not only responsible for producing food, but they are also fully accountable for food safety as the patients in the wards will consume it. A simple negligent of the food handling practice in food safety procedures will result in a major issue which may tarnish the department, hospital and also healthcare institution (Rohin, 2016). Meanwhile, Kafetzopoulos and Gotzamani (2014) stated that performance was a standard that measured process effectiveness and quality of the product which in the context of the food safety system, it was used to reflect the effect. A food safety system or certification should enhance the performance and must be effective to prevent any complaints (Ghafar et al., 2015). On the other hand, some studies stated that food handlers often over-reported their practice. Findings by Clayton et al. (2002) suggested that the link between training, knowledge and food safety practice was not simple.

2.7 Motivation to Transfer

Wexley and Lathan (1981) defined a motivation to transfer as a positive transfer of the training in a context of the trainees' task in the application of knowledge, skills and attitudes acquired from the training. Bhatti, Ali, Isa, Faizal and Battour (2014) suggested that an appropriate training design may offer essential support and also motivate employees to apply their newly learned skills on performing their work with the encouragement of supervisors and peers. Furthermore, it was proven that employees who were alert and aware of the training in the organisation by receiving earlier information might be motivated and appreciated their responsibilities (Norazman & Panatik, 2015; Martocchio, 1992). However, this motivation factor sometimes may not work according to the organisation plan of a training program as Baldwin, Magjuka and Loher (1991) in their study reported that the training participants who consulted and allowed to attend their requested training showed a high motivation and increased their commitment which also supported by Knowles (1987). From the perspective of food safety, the main advantage to enhance employees' motivation to transfer the practice according to the knowledge given through training was to ensure that the employees performing their best practice in providing safe food to the customers which in this study were the hospital patients.

3 Methodology

3.1 Research Design

This study was conducted by using explanatory study which looked into food safety training with the performance of the employees. The focal point of this study was to obtain the view of food safety training and practice performance. In line with that, this study was based on quantitative methods by using a questionnaire as a tool

for information gathering. This study was a cross-sectional as the data collection had been done at one time only. The setting was non-contrive because it happened in a natural environment where events commonly occurred in a causal relationship. The targets of this study were individual employees who handled food production (food handlers).

It is essential to highlight that the population of this study was the public hospital kitchen in Selangor. Firstly, Selangor was selected as the area of research because the entire hospital kitchen already has a food safety certification which means the food handlers have previously attended the food safety training. Next, was due to the limited time and resources for the researcher to broaden the studied population. Another relevant aspect of selecting Selangor was because there were mixed of kitchen settings with eight (8) in-house production and three (3) outsourcing production. Therefore, this was an appropriate sample to represent the population of public hospitals.

The sampling frame was all of the food handlers that worked in the hospital kitchen, including in-house and outsourced, based on the data provided by the in-charged personnel. For the sample size, the total numbers of food handlers' information, gathered from the supervisors were 220 personnel (Table 1). As the targeted population was the public hospital and the number of personnel was limited, hence, all the personnel were included as a sample for this study.

Table 1: Number of Food handlers in Selangor Public Hospital

Hospital	Kitchen Production	Food Safety Certification	Number of Food Handler
HTAR, Klang	Inhouse	GMP, HACCP	44
Kajang	Inhouse	GMP	20
Pusat Kawalan Kusta Negara	Inhouse	GMP	15
Banting	Inhouse	GMP	14
Orang Asli, Gombak	Inhouse	GMP	10
Tanjong Karang	Inhouse	GMP, HACCP	11
Kuala Kubu Bharu	Inhouse	GMP, HACCP	6
HTAJ, Sabak Bernam	Inhouse	GMP, HACCP	10
Sungai Buloh	Outsourcing	GMP	30
Ampang	Outsourcing	GMP, HACCP	30
Serdang	Outsourcing	GMP	30
TOTAL			220

3.2 Variables and constructs measurement

Another important part of this study was measuring the development process. This was because, in order to get the right measurement, the study must use the

correct procedure. Each construct had a record of reliability and validity. Furthermore, all the measures used in this study were adopted and adapted from previous researchers, both local and international settings which related to training, motivation to transfer with employee practice. The questions were undergoing alteration after the pre-testing and pilot test of the questionnaire. The construct related to this study were as follows:

Table 2: Summary of Items Sources for Variables and Constructs Measurement

Variables / Constructs	No. of Items	Sources
Training needs assessment	7	Eerde et al. (2008)
Training design	17	Tesluk et al. (1995), Velada et al. (2007), Mortlock et al. (2000) & Adesokan et al. (2015)
Training evaluation	6	Grohmann and Kauffled (2013)
Motivation to transfer	9	Tsai & Tai (2003), Holton et al. (1996), Gegenfurtner et al. (2009)
Food safety practice	8	Siau et al. (2015), Adesokan et al. (2015)

It was compulsory to receive The Ministry of Health approval upon the data collection. The researcher applied for the approval from the Ministry of Health Medical Research Ethics Committee (MREC) via the National Medical Research Register (NMRR) online application. It took almost two (2) months for the approval process. After the approval, the researcher went from one hospital to another for the distribution of the questionnaire to the food handlers. Throughout the data collection process, the researcher managed to collect 91% from the overall target population and this showed a good commitment from all respondents and the department management team.

The entire data, collected using questionnaires, were transferred into the SPSS for preparation of data analysis. The data analysis includes descriptive analysis, Exploratory Factor Analysis (EFA), correlation analysis and regression analysis. The mediating effect analysis was conducted using PROCESS macro model 4 (Hayes, 2012).

4 Findings

4.1 Exploratory Factor Analysis (EFA)

The first analysis was to assess the construct for the dimension using Exploratory Factor Analysis (EFA). Firstly, “training needs assessment” items from the questionnaires were run using EFA. The eigenvalue was 3.306 which more than 1 and the percentage of variance was 55.09% with only one component. Second, the “program design” items from the questionnaires were analysed using EFA. The

eigenvalue showed three (3) values which were more than 1. The first eigenvalues were 6.543 with the percentage of variance 46.74%, followed by 1.944 with the percentage of variance 13.89% and finally, 1.051 with the proportion of variance of 7.50%. For program design, there were three (3) components extracted which in line with the construct which included content and design, training types and training topics. The “training evaluation” items from the questionnaires were run using EFA. The eigenvalue was 4.176 which was more than one and the percentage of variance was 69.59% with only one component. The “motivation to transfer” items from the questionnaires were run using EFA. The eigenvalue was 5.227 which was more than 1 and the percentage of variance was 74.67% with only one component. Finally, the “food safety practice” items from the questionnaires were run using EFA. The eigenvalue showed two (2) values which more than 1. The first eigenvalues were 3.655 with the percentage of variance 52.21% and followed by 1.890 with the percentage of variance 26.99%.

4.2 Regression Analysis

The regression analysis between Training (Needs Assessment, Training Design, Training Evaluation) and Food Safety Practice showed that the R^2 value was 0.093. This can be interpreted that only 9.3% of the variation in independent predictors which were Training Needs Assessment, Training Design and Training Evaluation can explain the dependent predictor of Food Safety Practice. This showed that only a small percentage of the training predictor could predict the event of food safety practice as the dependent variable. As the p-value was 0.000 and the value < 0.05 , this meant the overall regression model was significant. The result can be interpreted by the equation as $F(3,197) = 6.769, p < 0.01, R^2 = 0.093$. The significant coefficient value explained how each predictor as an individual became a significant predictor to the food safety practice. On the other hand, the result showed that the training evaluation was significant as the value was 0.001 which less than 0.01. This explained that training evaluation as the predictor was making a significant unique contribution to the prediction of the food safety practice and not correlated with another two (2) constructs.

4.3 Mediating Analysis

The results below showed using the model for the explanation of the mediating effect of motivation to transfer on the relationship between training and food safety practice. Figure 1 reports the coefficient result of the total effect.

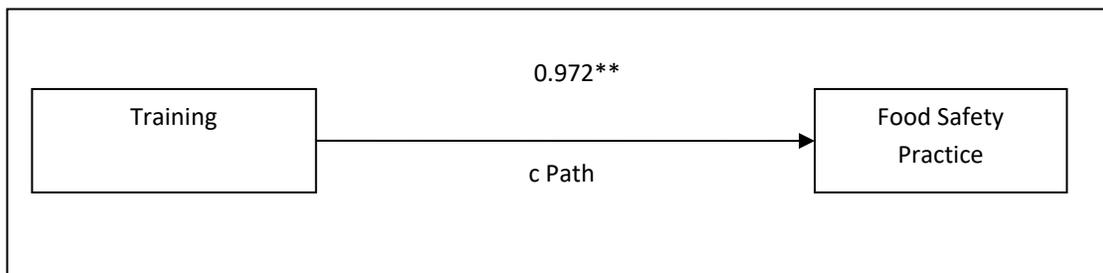


Figure 1: The coefficient result of the total effect

The result indicated that for the c path, the coefficient means for every 1 unit increase in training (X), the food safety practice (Y) score increased by 0.972 and the relationship was significant with p-value < 0.05. Figure 2 reports the coefficient result of the direct and indirect effect.

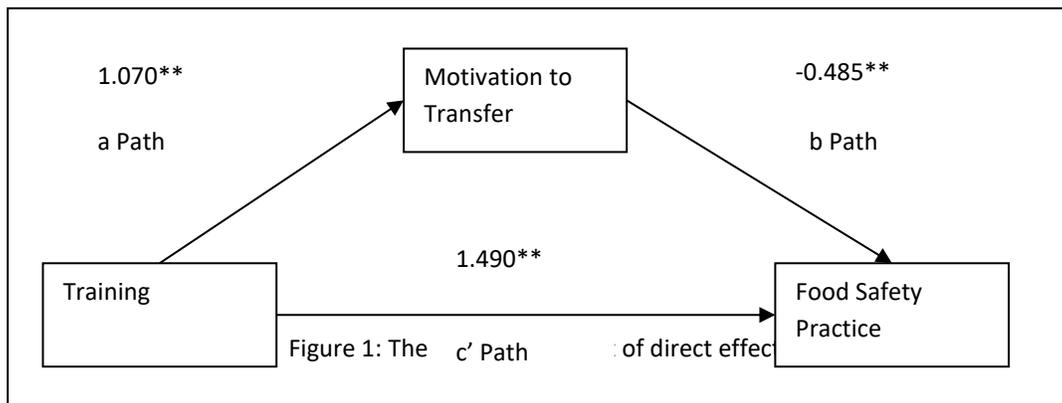


Figure 2: The coefficient result of the direct and indirect effect

First, a path was statistically significant with p-value < 0.01. It showed that the coefficient value (a path slope) was 1.070. This coefficient value meant for every 1 unit increase in training (X), the motivation to transfer (M) score increased by 1.070. Second, b path was also statistically significant with p-value < 0.01. It showed that the coefficient value (b path slope) was -0.485. This coefficient value meant, for every 1 unit in motivation (M), the food safety practice (Y) score decreased by -0.485. In this case, the effect size was -0.518, with a 95% confidence interval which did not include zero; that was to say, the effect was significantly greater than zero at a < 0.01.

Therefore, the first step of the mediation model, the regression of training with the food safety practice, ignoring the mediator, was significant, $b = 0.971$, $t(199) = 9.293$, $p < 0.001$. Next step showed that the regression of training with the food safety practice on the mediator, motivation to transfer, was also significant, $b = 1.070$, $t(199) = 21.272$, $p < 0.001$. Then, the mediation process showed that the motivation (mediator), controlling for the training with the food safety practice, was significant, $b = -0.4847$, $t(198) = -3.374$, $p = 0.001$. Finally, the analyses revealed that the controlling

for the mediator which in this study was the motivation to transfer, training was a significant predictor of the food safety practice, $b = 1.490$, $t(198) = 8.080$, $p < 0.001$.

Based on the results, it was shown that the indirect effect was significant and the indirect effect also remained significant. Approximately 34% of the variance in food safety practice was accounted for by the predictors ($R^2 = 0.341$). Hence, it was concluded that motivation to transfer partially mediated the relationship between training and food safety practice.

5 Conclusion

This study has summarized the training assessment based on the previous studies by Eerde et al. (2008); Velada et al. (2007); Grohman & Kauffled (2013); Gegenfurtner et al. (2009); and Adesokan et al. (2015). The objectives of the study were to identify the relationship between training effectiveness and employee food safety practice performance, and also the mediating effect of the motivation to transfer to the relationship of training and food safety performance. Based on findings in results and discussion, this study partly achieved two (2) objectives by using all the statistical analyses.

The study found that two of the constructs for training, which were program design and training evaluation, significantly affected the food safety practice among the food handlers. From the analysis, motivation to transfer was proven partially mediate the relationship between training and food safety practice of the food handlers in public hospitals in Selangor. Although the effect was merely small, still, it gave impact to the analysis results. These reflected that training gave impact to the food handlers' performance in regards to their food safety practice in the kitchen. This was because during training, new knowledge and skills were taught to the food handlers and they could have used it on the job. As for the motivation to transfer, motivated food handlers can apply their understanding about the food safety to their practice although they needed to seek for the information. This has enhanced them to performing a good practice during food handling and obeying with the food safety regulation.

As a conclusion, the results and information gathered from this study can be used by supervisors and management to improve the training plan for the food handlers by understanding the needs assessment, improving content and design of the training program and also evaluating the training feedback by the food handlers. Lastly, the food handlers' motivation also needed to be addressed clearly and taken care of for example rewarding the employees, so it can be a good drive for the food handlers to performing well in their jobs.

6 References

- Abdul-Mutalib, N.A., Syafinaz, A.N., Sakai, K. & Shirai, Y. (2015). An overview of foodborne illness and food safety in Malaysia. *International Food Research Journal*, 22(3), 896-901.
- Abdul-Mutalib, N.A., Abdul-Rashid, M.F., Mustafa, S., Syafinaz, A.N., Hamat, R.A & Osman, M. (2012). Knowledge, attitude and practices regarding food hygiene and sanitation of food handlers in Kuala Pilah, Malaysia. *Food Control*, 27, 289-293.
- Adesokan, H.K., Akinseye, V.O. & Adesokan, G.A. (2015). Food safety training is associated with improved knowledge and behaviours among foodservice establishments' worker. *International Journal of Food Science*, Retrieved from <http://dx.doi.org/10.1155/2015/328761>.
- Arthur, W. Jr., Bennett, W. Jr., Edens, P.S. & Bell, S.T. (2003). Effectiveness of training in organisations: A meta-analysis of design and evaluation features. *Journal of Applied Psychology*, 88 (2), 234-245.
- Baldwin, T.T., Magjuka, R.J. & Loher, B.T. (1991). The perils of participation: Effects of choice of training on trainee motivation and learning. *Personnel Psychology*, 44(1), 51-65.
- Berger, F. & Farber, B. (1986). Adult learning theory and hospitality industry training. *International Journal of Hospitality Management*, 5(3), 135-140.
- Bhatti, M. A., Ali, S., Isa, M., Faizal, M. & Battour, M. M. (2014). Training transfer and transfer motivation: the influence of individual, environmental, situational, training design, and affective reaction factors. *Performance Improvement Quarterly*, 27(1), 51–82.
- Bhatti, M.A. & Sharan, K. (2010). The role of individual and training design factors on training transfer. *Journal of European Industrial Training*, 34(7), 656-672.
- Burke L.A. & Hutching H.M. (2007). Training transfer: an integrative literature review. *Human Resource Development Review*, 6(3), 263-296.
- Burke, L. A., & Saks, A. M. (2009). Accountability in training transfer: Adapting Schlenker's model of responsibility to a persistent but solvable problem. *Human Resource Development Review*, 8(3), 382-402.
- Chostelidou, D., Griva, E. & Tsakiridou, E. (2009). A Record of the training needs of ESP Practitioners in Vocational Education. *Selected Papers from the 18th ISTAL*, pp. 131-143b.
- Clayton, D.A., Griffith, C.J., Price, P. & Adrian, C.P. (2002): Food handlers' beliefs and self-reported practices, *International Journal of Environmental Health Research*, 12(1), 25-39.
- Eerde, W.V., Tang, K.C.S. & Talbot, G. (2008). The mediating role of training utility in the relationship between training needs assessment and organisational effectiveness. *The International Journal of Human Resource Management*, Vol. 19 (1), pp. 63-73, DOI: 10.1080/09585190701763917.
- Ehiri, J.E. & Morris, G.P. (1996) Hygiene training and education of food handlers: Does it work? *Ecology of Food and Nutrition*, 35 (4), 243-251, DOI: 10.1080/03670244.1996.9991494.
- Food Act (1983). Food Safety Regulations (2009).
- Ford, J. K., Yelon, S. L., & Billington, A. Q. (2011). How much is transferred from training to the job? The 10% delusion as a catalyst for thinking about transfer. *Performance Improvement Quarterly*, 24 (2), 7-24.
- Garis Panduan Pensijilan HACCP Dapur Hospital Kerajaan, bahagian Keselamatan dan Kualiti Makanan, Kementerian Kesihatan Malaysia, 2010.
- Gegenfurtner, A., Veermans, K., Festner, D. & Gruber, H. (2009). Motivation to transfer training: An integrative literature review. *Human Resource Development Review*, 8(3), 403-423 DOI: 10.1177/1534484309335970.

- Ghaffar, S.W.A., Som, F.M., Mohamad, R. & Majid, N.A. (2015). HACCP training in MARDI: a contribution towards the development of HACCP competent human capital. *Economic and Technology Management Review*, 10b, 135-144.
- Georgenson, D. L. (1982). The problem of transfer calls for partnership. *Training and Development Journal*, 36, 75–78.
- Grohmann, A. & Kauffeld, S. (2013). Evaluating training programs: Development and correlates of the questionnaire for professional training evaluation. *International Journal of Training and Development*, 17, 135-155. <https://doi.org/10.1111/ijtd.12005>.
- Grohmann, A., Beller, J. & Kauffeld, S. (2014). Exploring the critical role of motivation to transfer in the training transfer process. *International Journal of Training and Development*, 18 (2), 84-103.
- Grossman, R. & Salas, E. (2011). The transfer of training: What really matters. *International Journal of Training and Development*, 15(2), 103-120.
- Harris, T.B., Chung, W., Hutchins, H.M & Chiaburu, D.S. (2014). "Do trainer style and learner orientation predict training outcomes?" *Journal of Workplace Learning*, 26(5), 331–344. Permanent link to this document: <http://dx.doi.org/10.1108/JWL-05-2013-0031>.
- Harrison, L.M., Davis, M.V., MacDonald, P.D.M., Alexander, L.K., Cline, J.S., Alexander, J.G., Rothney, E.E., Rybka, T.P. & Stevens, R.H. (2005). Development and implementation of a public health workforce training needs assessment survey in North Carolina. *Public Health Reports, Supplement 1*, 120, 28-34.
- Hayes, A.F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modelling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.
- Health Fact (2016), Ministry of Health Malaysia, Planning Division, Health Informative Centre. Retrieved at www.moh.gov.my/images/gallery/.../KKM%20HEALTH%20FACTS%202016.pdf on 19 November 2016.
- Holton, E.F., Seyler, D.L. & Bates, R.A. (1996). Evaluation of a computer based training system for OSHA safety and plant operator training. *Technical Report*.
- Huslid, R (1995). *Personnel management a human resources systems approach*, New York: West publishing Company.
- Ichniowski, A.A.G. & Neal, U. (1997). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3) 347-358.
- Kafetzopoulos, D.P. & Gotzamani, K.D. (2014). Critical factors, food quality management and organisational performance. *Food Control*, 40, 1-11.
- Kirby, M.P. & Gardiner, K. (1997). The effectiveness of hygiene training for food handlers. *International Journal of Environmental Health Research*, 7(3), 251-258.
- Kirkpatrick, J., & Kirkpatrick, W. K. (2009). The Kirkpatrick four levels: A fresh look after 50 years 1959-2009. *The Kirkpatrick Partners*, pp. 1-13.
- Knowles, M. S. (1987). *Adult learning: Training and development handbook*. New York: McGraw-Hill.
- Kodwani, A.D. (2017). Decoding training effectiveness: the role of organisational factors. *Journal of Workplace Learning*, 29 (3). Doi: 10.1108/JWL-05-2016-0038.
- Kokkinakis, E., Kokkinaki, A., Kyriakidis, G., Markaki, A. & Fragkiadakis, G.A. (2011). HACCP implementation in public hospitals: a survey in Crete, Greece. *Procedia Food Science*, 1, 1073-1078.

- Madeiras, C.O., Cavalli, S.B., Salay, E., & Proença, R.P. (2011). Assessment of the methodological strategies adopted by food safety training programmes for food service workers: A systematic review. *Food Control*, 22, 1136-1144.
- Malaysian Standard 1514:2009, Good Manufacturing Practice Certification Scheme, Department of Standards Malaysia.
- Malaysian Standard 1480:2007, Food Safety According To Hazard Analysis and Critical Control Point (HACCP) System. Department of Standards Malaysia.
- Martocchio, J.J. (1992). Microcomputer usage as an opportunity: The influence of context in employee training. *Personnel Psychology*, 45(3), 529-552.
- McCormick, L.C., Reel, J.J., Alperin, M., Lloyd, L.M. & Miner, K.R. (2017). Strategic approach to assess training needs across a diverse region. *Pedagogy in Health Promotion: The Scholarship of Teaching and Learning*, 3(1S), 28S-34S.
- Mortlock, M.P., Peters, A.C. & Griffith, C.J. (2000). A national survey of food hygiene training and qualification levels in the UK food industry. *International Journal of Environmental Health Research*, 10, 111-123.
- Noe, R.A. (1986). Trainees' attributes and attitudes: Neglected influences on training effectiveness. *Academy of Management Review*, 11(4), 736-749.
- Norazman, I. & Panatik, S.A. (2015). The validated learning transfer factors among Malaysian Public Sector. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*. 24(6), 124-141.
- Olubukunola, S. (2015). Personnel training and development as a tool for organisational efficiency. *Bachelor's Thesis in International Business*, pp. 1-36.
- Pallant, J.F. (2005). *SPSS survival manual: A step by step guide to data analysis using spss for windows* (Version 12). 2nd Edition. Sydney, Australia, Allen & Unwin. ISBN: 1741144787.
- Pekeliling Perkhidmatan Bilangan 6 Tahun 2005. Dasar Latihan Sumber Manusia Sektor Awam. Jabatan Perkhidmatan Awam Malaysia. No. Siri: 0093, JPA(L)S. 175/4/1-1-KLT.3, pp. 1-17.
- Peraturan-Peraturan Kebersihan Makanan (2009). Akta Makanan 1983. KKM-163/S/48; PN (PU2) 418/XII, pp. 1-60.
- Rekik, G., & Bali, N. (2017). Tunisian physical education student trainees' agreement rate about the consistency between initial training and integration during the preparatory internship for professional life. *Creative Education*, 8, 373-382.
<https://doi.org/10.4236/ce.2017.83029>.
- Rohin, M.A. (2016). Knowledge, attitudes and practices (KAP) on good manufacturing practices (GMP) among food handlers in Terengganu hospitals. *International Journal Pharmacy & Pharmaceutical Sciences*, 8(11), 53-59.
- Secretariat of Food Quality Assurance, Hospital Kuala Lumpur. Key Personnel Pn. Nor Ashikin binti Abdul Rahman, Pegawai Penyediaan Makanan Gred C41, Hospital Kuala Lumpur.
- Siau, M.F.A., Son, R., Mohhiddin, O., Toh, P.S. & Chai, L.C. (2015). Food court hygiene assessment and food safety knowledge, attitudes and practices of food handlers in Putrajaya. *International Food Research Journal*, 22(5), 1843-1854.
- Tesluk, P. E., Farr, J. L., Mathieu, J. E. & Vance, R. J. (1995). Generalization of employee involvement training to the job setting: individual and situational effects. *Personnel Psychology*, 48, 607-32.
- Tsai, W.C. & Tai, W.T. (2003). Perceived importance as a mediator of the relationship between training assignment and training motivation. *Personnel Review*, 32(2), 151-163, DOI 10.1108/00483480310460199.

- Velada R., Caetano A., Michel J.W., Lyons B.D. & Kavanagh M.J. (2007). The effects of training design, individual characteristics and work environment on transfer of training. *International Journal of Training and Development*, 11(4), 282-294.
- Wexley, K.N. & Latham, G.P. (1981). *Developing and training human resources in organisations*. Glenview, IL, Scott, Foresman.
- White, B. S., & Branch, R. M. (2001). Systematic pilot testing as a step in the instructional design process of corporate training and development. *Performance Improvement Quarterly*, 14(3), 75-94.
- World Health Organisation (WHO), (2014). Food Safety Fact Sheet N°399. Retrieved from <http://www.who.int/mediacentre/factsheets/fs399/en/>