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Can training programmes change behaviour? Age, creative behaviour, and active learning

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ABSTRACT

Earlier studies provide mixed results regarding the influence of training programme on behavioural change. We draw on the transfer of training theory to explain behavioural change of 45 early childhood teachers, refugees living in the Dzaleka Refugee camp in Malawi, who attended a training programme. Our results indicate that age, creative behaviour, and their interactive effect have a positive influence on behavioural change. Interestingly, active learning by itself had no significant influence on behavioural change. When considering the interactive effect of age and active learning, we found a positive influence on behavioural change.

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Training programme; active learning; creative behaviour; age; behavioural change

Introduction

Changing habits and behaviours is a fundamental challenge that many organisations face (Berkman 2018; Mendenhall et al. 2021). Organisations and entities encourage and motivate behavioural change to obtain specific desired outcomes. For that, they offer different types of incentives such as team competitions, promotions, and financial bonuses (Gneezy, Meier, and Rey-Biel 2011). One of the common ways to promote behavioural change is by providing organisational training and development programmes (Baldwin, Kevin Ford, and Blume 2017). These programmes offer the knowledge and experience to facilitate and support behavioural change within an organisation (Mendenhall et al. 2021). For example, in teacher training programmes, the behavioural change is facilitated by enabling teachers to acquire new knowledge, practices, and methods (Gilad-Hai and Somech 2016).

Despite the common usage of organisational training programmes, prior studies provide ambivalent results regarding their effect on behavioural change (Cheng 2016; Grossman and Salas 2011; Mendenhall et al. 2021; Velada et al. 2007). Organisations expect trainees to obtain new knowledge, utilise it within their unit and retain it after the training has ended. However, participants may not apply learned skills or new techniques obtained during the training (Maurer, Weiss, and Barbeite 2003). According to the Transfer of Training theory, such can be explained by the training-input factors,

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that are the trainee characteristics and the training design (Baldwin and Ford 1988; Bell et al. 2017).

Transfer of training has also been researched within humanitarian settings. Prior investigation has studied the training of refugees and the positive impact it has on their futures and their communities (Beek, Dawson, and Whelan 2017; Ehiri et al. 2014; Mendenhall et al. 2021). Continued educational opportunities for refugees strengthen the refugee camp community, increase refugee service provision within the camps, and provide skills for refugees to develop their communities and society, within the refugee camp, at the local level, or after being resettled in a third country (Veck, Dovigo, and Proyer 2021; Wright and Plasterer 2010). Furthermore, training programmes among refugees have shown increased knowledge and access to services (Ehiri et al. 2014), and increased economical, cognitive and psychological wellbeing (Shepler and Routh 2012) among participants. Factors that influence the transfer of training within refugee contexts include the individual, the training, and the organisational, socio-cultural and political systems (Beek, Dawson, and Whelan 2017; Veck, Dovigo, and Proyer 2021).

Research shows that certain personal traits and characteristics facilitate the transfer of training and ease the training implementation and behavioural change (Bell et al. 2017; Minja, Mbura, and Charles 2022). More specifically, an individual's life experiences and interaction with external social mechanisms will guide their behaviour in the social world (Consoli 2022; Gyimah, Sugden, and Pearson 2009). Participant age has been shown to be an important factor when one considers behavioural change (Lamichhane 2017; Maurer, Weiss, and Barbeite 2003). On the one hand, studies on employees' age have demonstrated a positive influence on personal motivation to learn new skills, improve job performance, and increase expertise, all of which indicate behavioural change (Kunze, Raes, and Bruch 2015). On the other hand, other studies suggest age has a negative effect on one's willingness to participate in training programmes. Participants' memory and cognitive capacity may together suggest insignificant behavioural change after the training (Wang and Zatzick 2019).

In accordance with *human capital* theory, age often suggests experience and tacit knowledge that are said to help organisations gain a competitive advantage (Ehrenberg and Smith 2012; Özçürümez, Tursun, and Tunç 2023). This perspective suggests that the knowledge and skills a trainee obtains through experience and training generate a certain stock of capital that benefits their work environment. Therefore, 'older workers, by developing greater knowledge through more years of work experience, might be more capable than their younger colleagues' (Ng and Feldman 2013a, 587) in bringing and implementing new skills or knowledge. Studies on inclusive education found that teachers' past migration experience ensure a more inclusive school climate (Özçürümez, Tursun, and Tunç 2023). Thus, our research's first goal is to reconcile prior mixed results regarding the influence of age on behavioural change and specifically to study the case of trainee's age when participating in a training programme.

Second, behavioural scholars highlight the importance of creative behaviour when referring to the transfer of training (Awoniyi, Griego, and Morgan 2002; Bramwell et al. 2011). High levels of creative behaviour often suggest that trainees will question the status quo and explore new ideas or knowledge in the problem-solving process (Blank and Naveh 2018). Indeed, organisations' overall outcomes rely on their

participants' creative behaviour (Miron, Erez, and Naveh 2004). As such, creative behaviour often includes taking risk and 'thinking out of the box'. This is specially needed for teachers operating in low-resourced environment, where they need to create an engaging learning environment for their students (Burns and Lawrie 2015; Mendenhall et al. 2021). Thus, this study's second goal is to demonstrate the significant role trainee's creative behaviour plays in behavioural change and to investigate the mutual influence of trainee's age and creative behaviour on behavioural change.

Third, active learning behaviour may also be an important ingredient when attempting to change. Encouraging active participation of the trainee during the training programme has been associated with increased effectiveness of the transfer of training (Bell et al. 2017). Active participation allows participants to draw on their prior experience and knowledge during the training session and to actively test it in processing the new learned knowledge (Bell and Kozlowski 2010; Nachmias et al. 2004; Özçürümez, Tursun, and Tunç 2023). Such behaviour may play an important role for older trainees, as they bring more expertise and knowledge to the training session, that may confront or assist their behavioural change. Learning behaviour is even more important in contexts of crisis and displacement, where teacher professional development is episodic, its quality varies, its duration is limited, and for many of these teachers it is their first time attending such training (Mendenhall et al. 2021). Thus, our third research goal is to expand the literature on behavioural change by considering trainee's age together with active learning behaviour that may enhance it.

Last, although many resources are invested in refugees training programmes (Taylor and Sidhu 2012), the extent of their impact is unclear. As the majority of studies looking at the effects of training have been conducted in high-income countries, and there are few studies looking at settings with less resources, infrastructure and support (Hognestad and Bøe 2019; Kawakita 2019; Kless 2019). Teachers' ideas and attitudes towards students and learning processes impact school children's prospects concerning academic performance (Özçürümez, Tursun, and Tunç 2023). Throughout our research, authors were unable to find studies on professional development of early childhood educators in humanitarian settings or refugee camps and its complex situation. Therefore, our final goal is to expand our understanding on the transfer of training and behavioural change within refugee camps where there are less resources available and its impact can be life changing.

To test these hypotheses, this research was conducted in the Dzaleka refugee camp in Malawi. According to UNHCR (2021), Malawi has almost 53,000 refugees, the majority of whom live in the Dzaleka refugee camp located close to the capital Lilongwe. Most of the refugees living in Dzaleka are from the Democratic Republic of the Congo, Burundi, and Rwanda and almost half of them are children. Trainees were refugees working within the camp in early childhood education. This study contributes to the strategic human capital literature by referring to the transfer of training perspective and specifically to refugees' characteristics and learning behaviour that assists in behavioural change. Our results demonstrate a positive association between trainees' age and behavioural change. The interactive influence of both age and creative behaviour suggests that the older a trainee is and the more creative behaviour s/he shows, the more their change in behaviour will increase. Likewise, the interaction between trainees' age and active learning behaviour suggests that the positive association between age and behavioural change will be strengthened for trainees obtaining high learning behaviour. This study

findings can facilitate resource providers and decision makers regarding the expected success levels of training programme (Figure 1).

Literature and hypotheses

According to Baldwin and Ford's Transfer of Training Theory (1988), for a training programme to have an impact on professional activities of trainees, learned materials must be generalised and implemented over time. They claim that there are three main aspects that impact the transfer of training: training inputs, training outputs, and conditions of transfer. *Training inputs* include the trainee's characteristics, the training design, and the work environment. *Training outputs* include the learning and reflection on the material, and *condition of the transfer* relates to the participants' ability to apply the learned material to their job context. Finally, the transfer of the training refers to the change in behaviour that participants implement in their work and professions after the training activity has ended. In our study, we focus on trainee's characteristics and active learning to explain the change of behaviour.

The trainee's inputs relate, for example, to the participants' personal characteristics. These have been shown to influence their decisions to participate or not in training programmes and whether training programmes will influence future changes in behaviour (Awoniyi, Griego, and Morgan 2002; Velada et al. 2007). Personal characteristics that influence and impact training processes include personal capabilities, personal traits, motivation, values and interests, attitudes and emotions, and prior experience (Bell et al. 2017). Furthermore, participants' self-efficacy and the perceived feeling of support from their environment predict the training effectiveness of training programmes and their subsequent transfer to either their workplace or community (Van der Klink and Streumer 2002). Within the context of a refugee camp, to facilitate the transfer of training, supportive strategies must be put into place to encourage the training transfer specifically in humanitarian settings (Beek, Dawson, and Whelan 2017). For example, a study on teacher training workshop in Kakuma refugee camp in Kenya

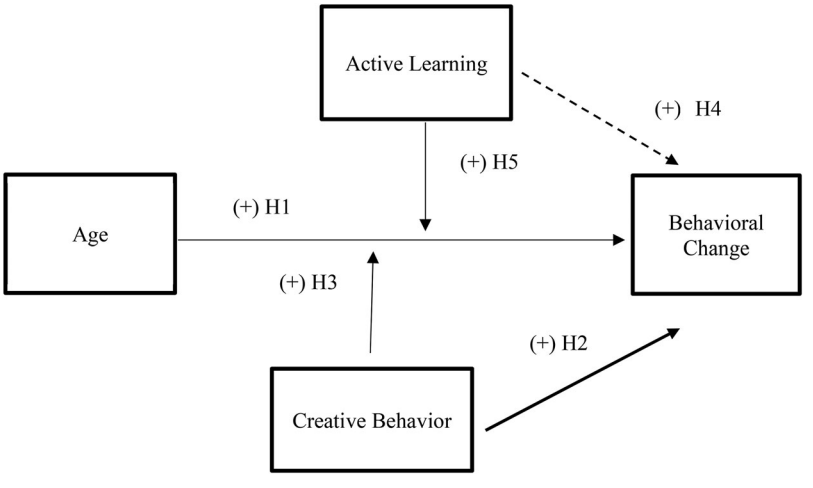

Figure 1. The research model.

highlights the role that continuous professional development plays in making positive changes to teachers' beliefs and practices (Mendenhall et al. 2021).

Trainees' age influences behavioural change

One of the most ambivalent factors that influence behavioural change relates to the trainees' chronological age. Age stereotypes suggest that older participants are less creative, more rigid, and more resistant to change. Large-scale studies demonstrate a non-significant relationship between chronological age and work performance (Gyimah, Sugden, and Pearson 2009; Ng and Feldman 2008; Posthuma and Campion 2009), and inconsistent effects on innovation (Ng and Feldman 2013a, 2013b). Though behavioural change is not necessarily correlated to change in performance or innovation, findings suggest that purely chronological age approaches to predicting participants' behavioural change are opaque and call for more investigation (North 2019).

Contrarily, when looking at the effects of trainees' age, some studies have shown that age has a positive association with motivation to learn and an impact on training behavioural intentions (Bertolino, Truxillo, and Fraccaroli 2011; Gegenfurtner and Vauras 2012). Indeed, according to the *human capital* perspective, employees' knowledge and experience provides the organisation an important intangible resource that can be valuable, rare, inimitable, and non-tradable (Ehrenberg and Smith 2012). Many studies also show that age has a positive outcome on job performance, taking into consideration employees' lengthy experience, developed expertise, increased solving problem ability, and increased wisdom and judgement (Cowman and McCarthy 2016; Ng and Feldman 2008). Mature teachers rely mainly on their personal talents and skills, cope independently with problems that arise in the classroom, and develop their professional abilities independently (Somech and Drach-Zahavy 2007). For such teachers, training programme can provide valuable knowledge that they can easily put to use in their classes. This will all have a positive outcome on the relationship between age and behavioural change among refugees' teachers participating in the training programme. Therefore, our first hypothesis is:

Hypothesis 1: Trainees' age is positively related to behavioral change.

However, some studies show that age negatively affects behavioural change (Maurer, Weiss, and Barbeite 2003; Minja, Mbura, and Charles 2022). Further studies show that younger employees have a more positive relationship towards training than older participants (Bertolino, Truxillo, and Fraccaroli 2011). It has been shown that older employees are less likely to participate in training activities or to be offered training activities, therefore they have fewer opportunities to change their environment or behaviours (Taylor and Urwin 2001). In addition, some studies have shown that age has a negative effect on memory capacity, cognitive capacity, and motivation (Ebner, Freund, and Baltes 2006; Verhaeghen et al. 2003), which may influence whether or not they change their behaviour. Older workers are also perceived as less motivated and determined to learn and implement new technology (Davis and Songer 2009). Indeed, one scholar found that older teachers are less likely to adjust their teaching style for students with special needs (Lamichhane 2017). Their resistance to change may be the result of fear of the unknown, unsuccessful previous experience, or pressure of different interest groups

(Nachmias et al. 2004). Older teachers in a refugee camp participating in training programme may hesitate to leave known practices and trust new ways of teachings. Therefore, we suggest an alternative to Hypothesis 1 above:

Alternative Hypothesis 1: Trainees' age is negatively related to behavioral change.

Creative behaviour influences behavioural change

Creative behaviour can be defined as an action that brings an original and useful solution to a problem or challenge (Kampylis and Valtanen 2010). This behaviour is void of self or external constraints and leads to self-expression, invention, discovery, new or improved design and problem-solving. Creative behaviour is not only a cognitive act, but also combined with the production of a solution that is unique, original and practical (Puccio and Cabra 2012). Scholars define creative behaviour as the kind of behaviour that permits one to act unobstructed from self or externally imposed constraints in pursuit of (self-expression, invention, discovery, design, and problem solving) (Kampylis and Valtanen 2010). Creative behaviour uses many cognitive abilities such as flexibility, originality, elaboration, persistence and resilience, and it has been compared to play behaviour, which encourages exploration and adaptation leading to new and useful results (Brown 2009; Minja, Mbura, and Charles 2022).

Additionally, creative behaviour will influence trying new things and developing new ideas and techniques, and can therefore improve design, implementation, and performance (Barrett, Balloun, and Weinstein 2005; Blank and Naveh 2019). For example, studies show that creativity affects people's attitudes and behaviour, divergent thinking, problem solving, and performance. It provides one with a set of strategies for working with already available knowledge (Scott, Leritz, and Mumford 2004). Teachers with a high level of creative behaviour will encourage active participation in the learning process, including developing improved problem solving approaches, learning from peers, and integrating and synthesising a variety of knowledge from close and far environments (Snyder and Snyder 2008). Our study claims that trainees' creative behaviour will positively influence behavioural change within the refugee camp. This is because refugees who have demonstrated creative behaviour and participated in training programmes will be able to transfer learned skills and knowledge more easily, allowing for changes within their environment. The trainee characteristic of creative behaviour will help the retention and learning of the training and will encourage adaptation of new learned techniques into daily tasks. Therefore, we hypothesise that:

Hypothesis 2: There is a positive relationship between trainees' creative behavior and behavioral change.

Trainees' age and creative behaviour influences behavioural change

We propose that the positive link between trainees' age and behavioural change will be strengthened when creative behaviour is high. Older trainees accumulate more experience and knowledge and can connect both past and new knowledge and experiences to new ideas, resulting in action (Ng and Feldman 2013a). Creative behaviour encourages the production of new and unique solutions, allowing for the rearrangement of an

experience into something meaningful and novel (Blank and Naveh 2019). We propose that increased experience together with increased creative behaviour will lead to behavioural change. Within the refugee camp, we suggest that older trainees who demonstrate high levels of creative behaviour can take advantage of their prior work/life experience and utilise the newly obtained knowledge from a training programme. They may search for new information, be interested in increasing their skills, connect different perspectives into solutions, and use their creativity to change (Miron, Erez, and Naveh 2004).

In contrast, when the level of creative behaviour is low, the positive association between age and behavioural change will be diminished. We suggest that an older trainee who shows low levels of creative behaviour may avoid trying to learn new skills and knowledge. Teacher refugees with low levels of creative behaviour may refrain from risk and negative consequences (Kanfer and Ackerman 2004). Thus, under such conditions the transfer of training will be lower, and we may not see a change in their behaviour. Therefore, we hypothesise that:

Hypothesis 3: The positive association between trainees' age and behavioral change will be strengthened when creative behavior is high (rather than low).

Trainees' active learning influences behavioural change

Training design and delivery has a very important impact on the transfer of training and behavioural change (Bell et al. 2017). Recently, there has been a shift from traditional training programmes where participants passively receive information to a learner-centred approach that encourages active participation of the trainees in the learning process (Bell and Kozlowski 2010).

Training with active-learning components allows for trial and error, exploratory learning, and incorporating the participants' experience and knowledge into the learning process. Prior studies show that high levels of active-learning behaviour lead to higher rates of training transfer (Bell and Kozlowski 2008; Minja, Mbura, and Charles 2022). When participants are encouraged to take an active role in acquiring knowledge through different techniques, they allow the development of flexible and adaptable skills, which is required for transferring and implementing obtained skills and knowledge (Nachmias et al. 2004).

High levels of active learning within the training design, allow trainees to have meaningful control over their learning process (Bell and Kozlowski 2010). This also leads participants to explore and experiment with new knowledge, thereby suggesting strategies and principles in ways to use it (Mayer 2004). Therefore, the acquisition of new knowledge through active learning affects the transfer of training and positively influences participant's behavioural change, especially within a refugee camp, where the environment is always changing. A training programme designed with techniques that incorporate active learning provides participants not only with new information, but the opportunity to use, test, and make needed changes to assimilate new learned knowledge. Therefore, we hypothesise that:

Hypothesis 4: There is a positive association between trainees' active learning behavior and behavioral change.

Trainees' age and active learning behaviour influences behavioural change

Knowledge increases with age. Older people obtain wisdom regarding careers, organisations, and from facing challenges through their professional mature life (Baltes et al. 1995). Refugees' experience (professional, personal, and educational) evolves over their lifetime and influences success and promotion (Judge et al. 1995; Yang, Hanneke, and Carbonell 2013). When studying the effects of previous experience, studies have shown that it is related to commitment to learning new skills and has a positive effect on training outcomes (Roberson, Kulik, and Pepper 2001; Saks 1995).

We propose that the positive association between refugees' age and behavioural change will be strengthened when active learning within the training design is high. Older refugees develop larger support networks, allowing for an exchange of ideas and views on tackling challenges and problems they are confronted with (Constant, Sproull, and Kiesler 1996), which can be easily discussed within an active learning training design. Furthermore, such refugees can obtain strong positions within their networks, allowing for easier implementation of new learned skills and application of knowledge (Ng and Feldman 2013a). Their experience facilitates the transfer of training since they know what to do and how to do it (Ng and Feldman 2013b).

When the design of a training programme has little active learning possibilities, the positive association between age and behavioural change will be lessened, because older trainees will avoid the active use of new knowledge or skill. They will choose to act in a passive way and avoid risking their position with new or untested approaches or methods. Therefore, we hypothesise that:

> *Hypothesis 5*: The positive association between trainees' age and behavioral change will be stronger when active learning is high (rather than low)

Data and methods

Sample and procedure

To test these research hypotheses, we focused on a teacher training programme in a refugee camp in Malawi. This longitudinal study was included in a training programme aimed at improving the early childhood education programmes that existed in the Dzaleka refugee camp in Malawi. The programme's goals were to introduce new teaching-learning tools and theory that teachers could implement or use in the classrooms. The training was conducted by an international non-profit organisation specialising in early childhood education in partnership with an international non-governmental organisation (NGO) that is in charge of educational programmes in the refugee camp. Our study used self-report measures and included data collection from 45 early childhood teachers out of 47 participants who completed the training. Participants were asked to complete two questionnaires, one at the beginning of the course and one at the end. In addition to questionnaires, observations in the classrooms were made before, during, and at the final training session. Participants self-evaluated the change that they implemented in their teaching after having attended the training programme.

The participants of this research attended three one-week training sessions every two months. These teachers worked in informal and formal early childhood centres (18 in all) run by schools, faith-based organisations, and individuals, and that included approximately 3000 children aged of 3 to 6 years old. Approximately 17% of the participants held an academic education in education, 52% had teaching certificates, and the rest held a high-school education. About 61% of the trainees were women, with an average of 5.8 years of work experience in early childhood education. The age range of the teachers varied from 18 to 58 years, with an average age of 34 years.

The training programme lasted six months in total and included 90 h of lectures and workshops spread throughout three one-week sessions every two months. The training used an active-learning design with hands-on workshops and encouraged participants to share experiences, opinions, and ideas. Participants discussed the challenges faced within the environmental limitations and ways to implement new techniques in their classrooms. Each week-long training session included theoretical, practical and experiential parts. Participants learned how to implement new activities in their classrooms and were asked to apply new techniques in between each training session. Training consisted of one week in person workshops conducted from 9am to 5pm every day. Observations sessions were included before the training and during the week the trainers were in Malawi. There were two half-day observation sessions each training week.

Accompanying the training programme was a guidebook distributed to each participant in the programme. The guidebook emphasised child-centred practical ideas and included a variety of activities and tools that could be easily implemented. The purpose of the guidebook was to provide an additional support tool that participants could reference in between the training sessions and enable active learning. Additionally, there was remote support to the participants throughout the duration of the programme via online meetings and communication using WhatsApp.

Knowledge and strength of the participants were included in the training in several ways. The manual was written together with the local organisation, and throughout the training, participants were urged and supported to share their experiences, their knowledge and their ideas. There were also seven mentors from among the participants, who were appointed to help support the other teachers, to share their experiences and provide leadership within the refugee camp. The training employed a participatory approach and provided very practical examples and workshops, to allow the participants to practice what had been learned and to incorporate their own life experience and knowledge into the training (see Appendix 1 for a list of topics in the training).

Context

The Jesuit Refugee Services (JRS) provides some very important educational services to the people living in the Dzaleka camp. Since 2010 they have offered online courses through the Jesuit Commons network of universities. The programme, called Higher Education at the Margins, provides about 80 students per year the opportunity to access higher education within Dzaleka and earn a Diploma of Liberal Studies from Regis University, Denver, CO, USA. JRS also brings psychosocial programmes to refugees and displaced persons to help them capitalise on their support systems and to address issues of trauma, displacement and community and individual level healing

and social inclusion. They run a primary and secondary school in the camp, as well as other higher education initiatives allowing hundreds of graduates on a yearly basis to receive their secondary education diploma. JRS has built a technology centre within the camp with computers and Internet access that is used by residents of Dzaleka.

When the training programme started, in August 2018, there were some programmes available for the young children in the camp, however, there was a critical need for improved early childhood education services. At the time there were 2625 children between the ages of 3–5 years old, of which 2240 attended a formal or informal school setting. There were 272 children between the ages 3–5 who were attending the JRS school in the refugee camp, however most of the children in the camp were attending informal early childhood centres that were run by either faith-based organisations or individuals in the camp (1868 children attending 15 informal centres). Approximately 70% of the professionals running the centres had some form of teacher training but not necessarily in early childhood education.

Measures

All participants were asked to fill out the research questionnaire. A baseline questionnaire was given to all training participants before the training programme started. This first questionnaire included general questions about participants' personal characteristics, knowledge about early childhood education, activities they were implementing in class, and the learning environment in their classroom (see Appendix 2). Prior to the training, observations were taken in classrooms to assess activities, the learning environment, and the use of activity centres. In addition, visits to randomly selected classrooms continued during the course of the programme in order to observe the change that participants were able to implement. At the end of the training programme, participants were given a questionnaire to evaluate their self-perceived behaviour change (see Appendix 3). Participants were asked to rate their creative behaviour, and their active learning.

The language of the training and the collection of data was in English. Many of the refugees who answered the questionnaires were not Native English speakers. However, one of the requirements of doing the training was to possess a good working knowledge of oral and written English.

Ethical consideration

The study was carried out with informed consent from the participants, who were aware that they could withdraw from the study at any time without incurring any personal consequences. Participants were informed that their participation in the study was entirely voluntary, and they could refuse to answer any questions they did not wish to answer. They were also assured that the survey and interview were confidential and anonymous, individual data was never used, and that the information gathered from participants would be analysed and used only for purpose of this study. The questionnaire for this study was examined and approved for use by Jesuit Refugee Service (JRS). The approval from JRS underscores our commitment to conducting research that aligns with ethical standards and respects the welfare of the study participants.

Dependent variable

To measure teachers' behavioural change, we referred to learned materials and asked participants to indicate if they had implemented changes in their classroom. More specifically, on training sessions, trainees were introduced to teaching methods using 'activity centers. Activity centers are designed by teachers, and allow children to play independently, and to choose freely with whom to play and how they play. Activity centers promote students' creativity, problem solving abilities, socialisation skills, and active learning behaviour. Thus, we referred to the usage level of activity centres in the teachers' classroom. In the questionnaire, we asked the teachers if they had created an activity centre in the classroom and to what extent they used it. We used a 1-to-5 Likert Scale to measure the usage frequency: 1 – never, 2 – a few times during the last 6 months, 3 – once a month, 4 – once a week, 5 – everyday.

Independent variables

Trainee age was indicated by participants and measured by their chronological age. *Creative behaviour* was measured by participants' self-perceived implementation of creative activities in the classroom. In the questionnaire we asked, 'To what extent do you use creativity in your classroom?' *Active learning* was measured by participants' self-perceived use of the guidebook given to them. Participants were asked, 'How often did you use the guidebook?'. We used a 1-to-5 Likert Scale to measure the frequency of the two mentioned above variables: 1 – never, 2 – a few times during the last 6 months, 3 – once a month, 4 – once a week, 5 – everyday.

The research team employed recordings of observations in the classrooms before and during the training sessions, as well as collected data from questionnaires to evaluate the research variables.

Control variables

Gender. We included gender to control any possible effect of participant men versus women (Ng and Feldman 2010).

Results

Table 1 shows the means, standard deviations, and correlations of the variables used to assess behavioural change. To test our hypotheses, we used the SAS GLM (general linear

Table 1. Means, standard deviations, and correlations[a].

	Mean	SD	1.	2.	3.	4.	5.
1. Age	34.00	10.37					
2. Gender	0.39	0.49	–.01				
3. Education	1.87	0.69	–.11	.23			
4. Active Learning	4.48	0.87	.27[†]	.17	–.05		
5. Creative Behaviour	4.59	0.61	.05	.19	.01	.23	
6. Behavioural Change	4.45	0.76	.28*	–.23	.11	.08	.23

[a] $n = 45$.
[†] $p < .1$.
* $p < .05$.
** $p < .01$.

model) procedure suitable for statistical models. Subsequently, we compared the independent variables (and control) with participants' behavioural change using regression models in SAS 9.4. We performed simple slope analyses and used Aiken, West and Reno's (1991) graphical method to demonstrate interactions of variables.

Hypothesis 1, which predicted a positive association between age and behavioural change was significantly supported (see Table 2, model 2, $\beta = 0.02$, $p < .05$), and thus reject the alternative hypothesis 1. Such indicates that older teachers are more likely to experience behavioural change. Hypothesis 2, which predicted a positive association between creative behaviour and behavioural change was significantly supported (see Table 2, model 3, $\beta = 0.83$, $p < .01$). In other words, teachers displaying high levels of creative behaviour were more likely to undergo changes in their behaviour. Hypothesis 3, which predicted that the positive association between employees' age and behavioural change would be strengthened when creative behaviour is high was significantly supported (see Table 2, model 4, $\beta = 0.03$, $p < .05$). Hypothesis 4, which suggested a positive association between trainees' active learning behaviour and behavioural change, was not supported (see Table 2, model 5, $\beta = -0.10$, $p > .10$). Lastly, Hypothesis 5, which predicted that the positive association between age and behavioural change would be stronger when active learning is high, was marginally supported (see Table 2, model 6, $\beta = 0.02$, $p < .10$).

To understand the nature of the significant interactions, we followed the graphing method outlined by Aiken, West, and Reno (1991; that high and low are ± 1 SD). Figure 2 shows that an increased level of age leads to higher levels of behavioural change when creative behaviour was high. When level of creative behaviour was low, age had no influence on behavioural change and was stable for both younger and older teachers. When comparing low versus high levels of creative behaviour, we can see that higher behavioural change was demonstrated for all ages when creative behaviour was high. High creative behaviour simple slope test results are: $b = 0.03$, $t(45) =$

Table 2. Regression analyses of behavioural change, age, learning behaviour, and creative behaviour[a].

	Model 1 Behavioural change	Model 2 Behavioural change	Model 3 Behavioural change	Model 4 Behavioural change	Model 5 Behavioural change	Model 6 Behavioural change
Intercept	4.60** (0.14)	4.60** (0.13)	4.59** (0.11)	4.54** (0.11)	5.04** (0.46)	4.59** (0.52)
Gender	−0.35 (0.22)	−0.37† (0.21)	−0.43* (0.18)	−0.34* (0.17)	−0.33† (0.19)	−0.40* (0.19)
Age		0.02* (0.01)	0.02* (0.01)	0.01 (0.01)	0.02* (0.01)	−0.08 (0.06)
Creative Behaviour			0.83** (0.15)	0.83** (0.15)	0.58** (0.17)	0.64** (0.17)
Active Learning					−0.10 (0.10)	−0.01 (0.11)
Age* Creative Behaviour				0.03* (0.01)		
Age* Active Learning						0.02† (0.01)
Adjusted *R*-square	0.052	0.136	0.472	0.516	0.401	0.449
F	2.62	3.63*	12.23**	10.69**	5.36**	5.07**

Note: Unstandardised estimates are reported, with standard errors in parentheses.
[a]$n = 45$.
†$p < .1$.
*$p < .05$.
**$p < .01$.

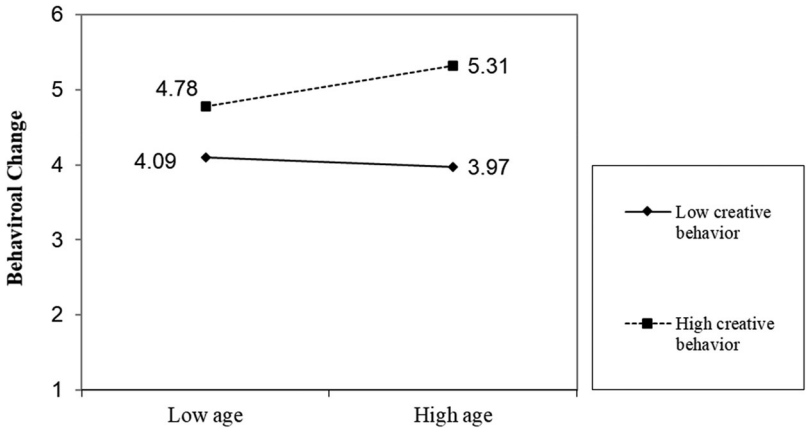

Figure 2. Regression line of age and creative behaviour on behavioural change.

2.67, ($p < .01$). When the level of creative behaviour was low, age was not associated with behavioural change (the simple slope test results are: $b = -0.01$, $t(45) = -0.28$, n.s.).

Figure 3 shows that increased levels of age were associated with higher levels of behavioural change when levels of active learning were high. High active learning simple slope test results are: $b = 0.22$, $t(45) = 1.77$, ($p = .08$). When the level of active learning was low, age was not associated with behavioural change (the simple slope test results are: $b = -0.21$, $t(45) = -1.01$, n.s.).

Discussion

This study examined the impact of trainees' age, creative behaviour, and active learning on behavioural change of early childhood teachers in a refugee camp. Results indicate that trainee's age, creative behaviour, and their interactive effect have a positive influence on behavioural change. Interestingly, active learning by itself had no significant influence on behavioural change. When considering the interactive effect of age and

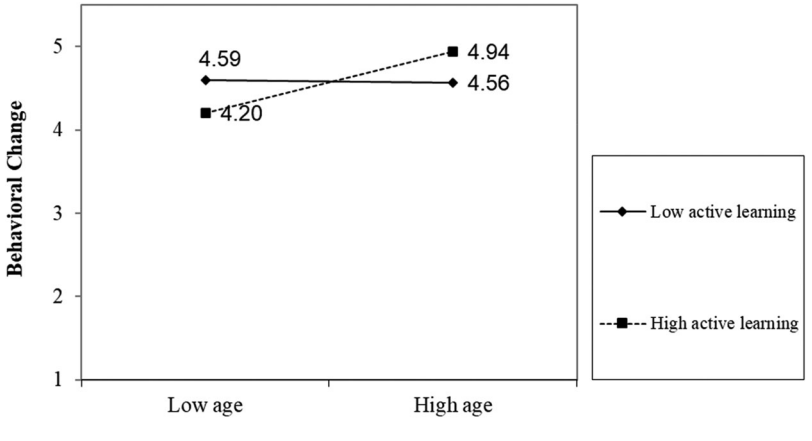

Figure 3. Regression line of age and active learning on behavioural change.

active learning, we found a marginal positive influence on behavioural change. These results advance our understanding of the transfer of training literature and specifically within the field of inclusive education field by referring to the trainee characteristics and the training design (Baldwin and Ford 1988; Bell et al. 2017; Karsli-Calamak and Kilinc 2021; Taylor and Sidhu 2012) in several ways.

First, we further emphasise the importance of the participants' characteristics in the training programme and specifically direct our attention to trainee age and its relation to behavioural change. Age stereotypes suggest that older participants are less creative and more resistant to change. Our results support a prior assertion that the 'assumption of general decline with age is simplistic and misleading' (Kanfer and Ackerman 2004, 442). We propose to refer to additional job characteristics and expected outcomes (Espinosa et al. 2007; North 2019). We contribute to the ongoing discourse by suggesting that there may be a tendency for behaviour change and the integration of new knowledge within classroom practices among older employees, specifically preschool teachers in a refugee camp environment, as well as individuals who have experienced displacement, and who participate in training programmes. Further exploration is warranted to discern whether this tendency primarily stems from age or factors such as accumulated experience. Our findings underscore the need for more comprehensive research in untangling the intricate interactions between age, experience, and the context of training programmes. To expand our findings, future studies may examine other professions within refugee camps to continue to explore the transfer of training within humanitarian settings.

Furthermore, prior studies that have investigated the reasons participants often fail to transfer new knowledge focused on participant determinants, such as motivational, volitional and personal factors, as well as cognitive abilities (Tonhäuser and Büker 2016). This study draws attention to the important role creative behaviour plays in behavioural change. Creative behaviour, which often refers to searching for new information, taking risks, breaking existing paradigms, and experimenting with and trying new things (Blank and Naveh 2018), is key in encouraging participants to apply what they've learned in creative ways. More specifically, by focusing on teachers' creative behaviour, we offer an explanation for prior findings that claimed teachers' training programmes were not as successful as they were expected to be (Cheng 2016). Our results contribute to this line of literature and confirm its positive influence on teachers' behavioural change. Future research on educational systems needs to examine creative behaviour of training programme participants, because teachers are expected to serve as agents of educational change (Eyal and Yosef-Hassidim 2012).

In addition, our study suggests that the influence of creative behaviour on behavioural change is even more critical for older trainees. We found that older trainees with high levels of creative behaviour possess abilities and skills that have developed with the passing of time, which later assist them in trying new methods and changing their way of performing in class. More specifically, our results suggest that when teachers demonstrated low levels of creative behaviour, their age had no effect on behavioural change. These findings contribute to prior results that 'older workers, by developing greater knowledge through more years of work experience, might be more capable than their younger colleagues in bringing about innovation in firms' (Ng and Feldman 2013a, 587). Our study sample consisted of preschool teachers working in a refugee camp,

whose education programme was relatively more flexible. Older teachers that embraced creative behaviour seemed to be more open to new ways of setting up their classroom and implementing the acquired new knowledge. Future investigation may encompass middle-school and high-school teachers to learn if we can extend our results to a wider range of educators.

Furthermore, earlier studies referred to active learning as an important factor enabling the implementation of new skills and knowledge (Kozlowski et al., 2001; Taylor and Sidhu 2012). Our findings suggest that teachers' active learning may not translate into actual change. This can be explained by the small research sample or by the high challenge teachers face when incorporating new knowledge (Yemini 2018) specifically in the complex situation of a refugee camp (Turner 2016). In transient communities and humanitarian settings like refugee camps, the infrastructure of schools and early childhood educational centres is almost always poorly developed as well (UNICEF 2019). Prior studies that investigated educational champions argued that implementing innovation should be encouraged by setting and supporting the structures, routines, and opportunities for its emergence (Madden 2007; Murphy et al. 2009). Future studies may look into the school level of support and commitment for implementing change together with teacher academic workload, to understand better the possible mutual influence on their behavioural change.

When considering active learning interactive influence with trainee's age, results reveal a clearer picture. When active learning was high, the positive association between age and behavioural change was strengthened. In contrast, when active learning was low, age had no significant influence on behavioural change. These findings highlight the key role trainee's age may play in organisational change, and specifically in the education system. Contrary to the popular belief that older employees are rigid and hard to change, we demonstrated that dynamics operate differently in education and specifically in a refugee camp setting. We found that older teachers with high levels of active learning demonstrated higher levels of behavioural change. When teachers had low levels of active learning, their age had no effect on behavioural change and the level of behavioural change was fairly high for both younger and older teachers. These results contribute to the transfer of training literature, and suggest that in addition to resources provided, the achievement of long-term desired behavioural change requires increased attention to diverse aspects (Noe, Clarke, and Klein 2014). This study demonstrated the dominant role of active learning in embracing and implementing teachers' new knowledge obtained via training programmes. Further investigation is needed to differentiate whether this inclination primarily originates from age or from other variables such as accumulated experience. Future investigations may measure the change of trainees' active learning and discuss ways to enhance its levels for increasing the chances of transfer of training.

Finally, trainees that participated in the training programme were refugees, and we suggest that a refugee requires many skills that we discussed in this article. Being a refugee means having to reinvent yourself, recreate yourself and remake your life – processes that all require creative behaviour and active learning skills. Change behaviour for such teachers may be encouraged by their perception that they can dramatically change their own and their students' lives. Future research may investigate the question of how education programmes in refugee camps facilitate students' integration into third

countries and how the student's creative behaviour influences outcomes along this process.

Research limitation

This study has several limitations that require further discussion. First, we developed our hypotheses based on organisation literature that refers to the implementation of new knowledge obtained via professional training programmes for their employees. Our study sample consisted of early childhood teachers in a refugee camp. Future research may test our hypotheses on training programmes for teachers operating in public schools.

Second, our study measured behavioural change by teachers' creating and using activity centres in the early childhood development. Activity centres are common in early childhood educational systems in western countries since they support the development of creativity, problem solving abilities, and socialisation skills in young students. For that reason, Jesuit Refugee Services, an international non-governmental organisation, partnered with an educational venture to develop a unique programme to introduce Malawi's refugee teachers to methods commonly used in western countries. Future research should refer to conventional programmes in the specific country to avoid possible bias in participants' willingness to embrace new knowledge.

Third, the average age of our trainees was 34 years old. Although the outcomes of our research showed the impact of age on behavioural change, further study with older participants should be examined. Future investigations may look specifically at older participants in training programmes (above 50 years old) to determine the influence age range has on creative behaviour, active learning and the transfer of training.

Last, our study lasted about six months and included on-going visits and observations in the participants' classroom. The training programme provided the teachers with the needed knowledge and support to implement new skills. However, only in the long run will we be able to see whether and how teachers' and students' skills and abilities changed, and if and the degree to which these changes were sustained through classroom setup and daily schedules.

Conclusion

Using the Transfer of Training Theory, this research aimed to better understand the influence of age, creative behaviour and active learning on behavioural change among teachers after having participated in a training programme. This research also aimed to provide more knowledge on teacher training in humanitarian settings and refugee camps. Results show that trainees' age and creative behaviour, as well as their interaction, all had a positive influence on behavioural change, after having participated in a teacher training programme. Active learning, on its own, did not have a significant influence on behavioural change, however there was a positive interactive effect of age and active learning.

More research in different contexts, including refugee camps and humanitarian settings around the world, on the transfer of training and the influence training has on behavioural change needs to be completed. Specifically, it seems that only a handful of

teacher training programmes, and almost no early childhood education and development programmes have been researched in the context of refugee camps. This research gives light to the complex interactions between training programmes, participants' characteristics and its influence on behavioural change in humanitarian settings.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendices

Appendix 1

Topics within the training included:

Training One:

- The importance of early childhood education
- The needs of young children
- What is ideal early childhood Education in the twenty-first century?
- Emotional and social needs in early childhood: What is the role of the significant adult?
- The theory of multiple intelligences
- The temperament of children
- Boundaries and freedom

Training Two:

- Emotional Development
- Children's Literature
- Storytelling
- Drama
- Engaging parents and caregivers

Training Three:

- Cognitive Development
- Didactic and Cognitive Games and Activities
- Tools for Observation and Evaluation
- Lesson Planning and Daily Schedules
- Creating Activity Boxes-Fostering Free Play
- Developing Classroom Culture and Positive Behaviour
- Arts Integration and Creativity in the Classroom

Appendix 2

Project Questionnaire Early Childhood Educators in Dzaleka Refugee Camp

Name:	Position (teacher, principal, assistant, etc.):	School name:
Age: Gender:	Years of experience in early childhood duration:	Highest level of Education (high school, university, post secondary certificate, etc.):

Number and Ages of Children: Circle all that are appropriate, please write below each age the number of children.

Age	2–3 years old	3–4 years old	4–5 years old	5–6 years old	over 6 years old	Total
Number of children						

Circle the Activities you've done in class.

Free Play	Free drawing	Yoga	Group games	Nature activities (going outside on walks, collecting nature objects, treasure hunt)
Dance	Small group activities	Sports	Outdoor games	Reading stories
Ball games	Making stories	Puppets	Theatre/drama	Songs

Thank you for collaborating with us!

Appendix 3

Project Questionnaire Early Childhood Educators in Dzaleka Refugee Camp

Name:	Position (teacher, principal, assistant, etc.):	School name:
Age: Gender:	Years of experience in early childhood duration:	Highest level of Education (high school, university, post secondary certificate, etc.):

Please answer the following question:

1. To what extent do you use creativity in your classroom? (everyday, once a week, once a month, a few times throughout the year, never)
2. Did you include implement Activity Corners in your classroom? Yes/No
3. How often? (everyday, once a week, once a month, a few times throughout the year, never)
4. If not, why?

   _____

5. Did you use the guidebook? Yes/No. How often? (everyday, once a week, once a month, a few times throughout the year, never)
6. If not, why? _____
7. Please describe how the training influenced your teaching in kindergarten

   _____

   _____

   _____

   _____

Thank you for collaborating with us!