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Use It or Lose It? Predicting Learning Transfer of Relationship and Marriage Education Among Child Welfare Professionals

Objective: Following a training in relationship and marriage education (RME), examine whether applying information at 2 months is associated with application at 6 months and how participants' confidence, utility, and self-efficacy is associated with learning transfer and application at 2 months posttraining.

Background: Child welfare professionals are required to receive numerous trainings each year with the expectation of understanding, retaining, and transferring this learning into practice.

Method: With a sample of 324 child welfare professionals across 5 states who completed a 1-day training in RME, we used structural equation modeling with participant self-efficacy, utility, and confidence as predictors of application of RME concepts at 2 months posttraining. We also assessed how application of RME concepts at 2 months predicted self-efficacy, confidence, and application at 6 months.

Results: Only the combined effect of both higher self-efficacy and higher utility was related to applying concepts at 2 months. Those who apply the concepts at 2 months are more likely both to report higher confidence at 6 months and to apply the concepts at 6 months.

Conclusions: Evaluations of trainings should move beyond measurement of immediate learning outcomes to better understanding how to motivate immediate learning transfer.

Implications: If participants do not feel like they have actually learned new skills and, more importantly, do not implement the skills with individuals or clients soon after a training, they will be much less likely to use them in the future. A combination of learning concrete principles and skills with confidence they can implement the materials may result in future implementation.

Child-welfare professionals (CWPs) are trained to work with families to promote the safety, stability, and overall well-being of children (U.S. Department of Health and Human Services, 2000). In the past few decades, extensive resources have been developed and delivered to aid CWPs in ensuring a well-rounded

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approach in their interactions with susceptible individuals and families (Child Welfare Information Gateway, 2012). For instance, numerous research-based trainings have been implemented to educate CWPs on a variety of topics relevant to the clients they serve (Collins, Amodeo, & Clay, 2007; Futris, Schramm, Richardson, & Lee 2015), both with an emphasis on intervening during a crisis and, more recently, preventive efforts to equip clients with the best tools to avert a crisis (Mitchell et al., 2012). Moving beyond assessing simple affective measures related to how well participants liked the trainer and the training (see Schramm, Galovan, & Goddard, 2017), and as trainings have increased in frequency, evaluations have been conducted to understand what factors contribute to the facilitation or impediment of training materials and skills being applied within the given population CWPs serve (Alliger, Tannenbaum, Bennett, Traver, & Shotland, 1997; Antle, Barbee, & van Zyl, 2008). This application from training to client-delivery has been referred to as *learning transfer* (Antle et al., 2008).

However, understanding this learning transfer is not a simple task (Leake, Holt, Potter, & Ortega, 2010); it is a complex process with many constructs simultaneously influencing application (Antle et al., 2008). As such, numerous casework evaluation models have been presented and adopted by states to ensure training initiatives are reaching the children and families CWPs serve. A commonly used model is Kirkpatrick's (1959) taxonomy, which presents four levels in evaluating training: reactions, learning, transfer/behavior, and results. However, many have argued that learning transfer is not as linear as Kirkpatrick postulated. Indeed, Alliger et al. (1997) conducted a meta-analysis of the training literature and found that increases in knowledge alone did not predict transfer. As such, Alliger et al. built on Kirkpatrick's work by making an addition and a clarification. First, they differentiated between affective reactions (i.e., how much the trainees liked the training) and utility reactions (i.e., how relevant the training was to the clients CWPs serve). Second, Kirkpatrick's notion of learning was conceptualized and specified as immediate recall and long-term retention of knowledge. In their meta-analysis, they found that utility reaction was more strongly associated with transfer than was affective reaction or immediate learning. Although some have since found gains in knowledge to be more predictive of a learning transfer (Antle et al., 2008), others have found support for Alliger and colleagues' findings in that utility reaction more strongly predicted learning transfer in training for CWPs (Futris, Schramm, Lee, Thurston, & Barton, 2014). These mixed results may not be surprising in light of Futris et al.'s finding that approximately one third of the CWPs in their study were not applying principles or skills from the training to the populations they served at a 6-month follow-up, which suggests that other variables influence transfer of learning, particularly transfer well after the initial training. For example, previous research provides evidence that confidence and self-efficacy may contribute to learning transfer (Burke & Hutchins, 2007; Chiaburu & Lindsay, 2008). Thus, to ensure stability and well-being of children and families CWPs serve, further exploration is needed to distinguish the variables and processes that differentiate those who use training materials and ideas following training from those who do not.

The purpose of the present study is to address this gap in the literature. Focusing beyond immediate learning outcomes, we build on previous research conducted on a relationship and marriage education training for CWPs by exploring whether CWPs' usage 2 months post-training can be predicted by their confidence and self-efficacy with training materials, and if, in turn, this is associated with their likelihood of applying materials at a 6-month follow up. Using data from 324 CWPs and other helping professionals, we utilized structural equation modeling to illustrate how utility, self-efficacy, and confidence may be associated with the transfer of learning.

Theoretical Framework

There are two models of learning and application considered in the present study. First, sociocognitive theory assumes that a large share of knowledge is gained by observing others' behaviors, interactions, and experiences. Bandura (1997) expanded social learning theory from observing, modeling, and imitating to also include attention, motivation, confidence, and self-efficacy, and renamed it social cognitive theory. Prior to understanding how confidence and self-efficacy influence learning transfer, it is imperative to distinguish between these two

similar constructs. Bandura (1997) made the following distinction:

> It should be noted that the construct of self-efficacy differs from the colloquial term "confidence." Confidence is a nondescript term that refers to strength of belief but does not necessarily specify what the certainty is about. I can be supremely confident that I will fail at an endeavor. Perceived self-efficacy refers to belief in one's agentive capabilities that one can produce given levels of attainment. (p. 382)

Thus, Bandura (1997) conceptualized self-efficacy as one's belief in one's own capacity to perform a specific task, such as helping couples apply skills to manage conflicts and challenges after receiving training on how to do so. Other scholars have noted a similar distinction, suggesting self-efficacy is more than a general feeling about one's personal traits; it also personal beliefs about specific capabilities (Skaalvik & Skaalvik, 2007). These beliefs about specific capabilities stem from new knowledge and awareness of new skills and principles, which influence one's abilities and comfort when applying new information. In contrast, confidence is defined as "judgments individuals make about their competency to perform a defined task" (Bandura, 1982, p. 122) and reflects how assured an individual is in performing it. In sum, self-efficacy can be viewed as self-confidence in a specific situation using a specific skill set. Both constructs may influence whether CWPs transfer what they learn posttraining.

The second model that informs the present study, experiential learning, is nested within social–cognitive theory. In its simplest form, experiential learning entails taking concepts that have been learned in traditional formats and applying them outside of the classroom setting to facilitate deeper understanding (Kolb & Kolb, 2005). In doing so, this type of learning "is the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38). That is, applying classroom learning in fieldwork and other real-world situations is critical for more meaningful learning to take place. Clarifying this, Kolb (1984) offered a simple four-stage model of how this transformational learning occurs. First, a learner gains basic knowledge in an area. Then he or she actively experiences a related activity, reflects back on the experience and conceptualizes a model of

what is being observed, and concludes with active experimentation in which he or she plans how to use the information for a forthcoming experience. In support of this view, scholars have noted how experiential learning enhances learning and subsequent application (e.g., Mann, 2011; Mann et al., 2009), citing its use in various areas of higher education, ranging from geography (Healey & Jenkins, 2007) to engineering (Abdulwahed & Nagy, 2009). In these instances, learners' experience increased the likelihood that the newly acquired information would subsequently be applied in a real-world setting (Mann et al., 2009). We argue that in the context of training CWPs, experiential learning occurs as learners apply the concepts and tools conveyed during training in real-life settings, during which they both refine their skills and see the benefits of a given method for helping those they serve. This learning could potentially lead to greater skill and confidence and ultimately encourage continued transfer. In the following sections, we review the literature on sociocognitive theory and experiential learning.

CONFIDENCE, RELEVANCE, SELF-EFFICACY, AND TRANSFER OF LEARNING

Previous work has reported a positive association between confidence and usage of a skill (Holden, Meenanghan, Anastas, & Metrey, 2002). In addition, research suggests that confidence and knowledge have a positive association; that is, the more confidence individuals have, the more apt they are to be engaged with the training and increase their knowledge about the curriculum content (Lee & Akhtar, 2007). For instance, Holden et al. (2002) found that social workers with higher confidence tended to report a higher degree of effort in their jobs. Similarly, Olson (2011) found that social workers who reported higher confidence had more comfort interacting with clients. Hence, these studies provide initial evidence that confidence is associated with—and may lead to—comfort, knowledge, and work effort, thus supporting the premise that building confidence in trainees' abilities may increase the likelihood that a learning transfer will occur.

In addition to confidence, there is evidence to support the assertion that those who receive training are more likely to put the knowledge and skills into practice if they perceive the

information as useful and relevant to their work. As noted, Alliger et al. (1997) found in their meta-analysis that utility-type reaction measures (i.e., relevance) were more strongly related to transfer of learning than affective-type reaction measures or immediate or retained learning measures. Others have found similar strong associations in trainings with college students (Roszkowski & Soven, 2010) and CWPs (Futris et al., 2014), suggesting the importance of including utility reaction measures when assessing training effectiveness.

Globally, self-efficacy has been a key construct for ensuring that a learning transfer occurs. For instance, Lau and McLean (2013) found that among employees who participated in an outdoor management training, self-efficacy was a key predictor of whether training materials were used posttraining; that is, whether learning transfer occurred. Similarly, using structural equation modeling, Yamkovenko and Holton (2010) posited a holistic framework that included personality factors, motivations, and readiness to learn. Specifically, within the construct of motivation, their model yielded support for the importance of self-efficacy as a key determinant of learning transfer. In an assessment of learning transfer among American undergraduate business students, networking with professionals amplified the impact of mastery experiences on student self-efficacy for social networking and professional business activities, which was linked to reports of a higher likelihood of engaging in these activities 1 year later (Anders, 2018). Finally, using meta-analytic techniques to examine the outcomes of computer-based learning, Gegenfurtner, Quasada-Pallarès, and Knogler (2014) found that self-efficacy posttraining was a key indicator for predicting whether participants intended to use the skills learned online in the future. In short, one's level of self-efficacy has direct implications for concurrent and future learning transfer.

Taken together, previous literature supports the notion of confidence, utility, and self-efficacy as being critical components of learning transfer. Nevertheless, to ensure the application of training materials, it is imperative to fully understand what contributes to gains in confidence, utility, and self-efficacy and how these factors may combine and interact with one another. One mechanism that has been found to increase

confidence, utility, and self-efficacy is sustained usage of specific skills.

EXPERIENTIAL LEARNING THROUGH TRAINING USAGE AND LATER LEARNING TRANSFER

According to Bandura (1992), practicing behaviors and skills that were recently learned can facilitate perceptions of increased knowledge and confidence, or self-efficacy, in how to apply those skills in the future. Various academic disciplines have demonstrated the success of experiential learning. Cheek, Rector, and Davis (2007) found that social work graduate students who integrated experiential learning into their curriculum reported enhanced knowledge and understanding in their course objectives. Similarly, gerontology social work students who took what they had learned in the classroom and applied it to their targeted population during the semester in the form of experiential learning exhibited improved understanding and confidence within their gerontology curriculum (Downey, & Miles, 2005). In the business field, Cornell, Johnson, and Schwartz (2013) found that students who were actively engaged in the learning process believed that their active engagement provided more and *sustained* knowledge and confidence than would have been possible with passive learning. Furthermore, Zawadzki, Danube, and Shields (2012) found similar results with regard to knowledge and confidence stemming from experiential learning concerning gender inequality.

In sum, there is a growing body of literature demonstrating how using training materials and skills is positively associated with confidence, self-efficacy, and learning. However, many of the aforementioned studies focus mainly on immediate outcomes within the context of college courses, where experiential learning occurs across multiple weeks as material is learned. In contrast, less is known about the long-term impact of community-based trainings where professionals are more likely to engage in experiential learning soon after the completion of training—not during a training—by applying the training materials in their work. Hence, exploring how experiential learning can promote further usage in workplace contexts is imperative for informing future integration of training materials. In the present study, the training that was given to CWPs was relationship and marriage education.

Relationship and Marriage Education

Broadly, relationship and marriage education (RME) focuses on building and strengthening core principles and skills that aid in developing healthy relationships for youth and single adults and relationship maintenance for those in dating and committed unions (Futris & Adler-Baeder, 2013). In two meta-analyses, RME has been shown to increase couples' relationship quality and communication skills (Carroll & Doherty, 2003; Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Indeed, researchers have created and delivered programs to specific populations with great success, such as adolescents (Adler-Baeder, Kerpelman, Schramm, Higginbotham, & Paulk, 2007), stepfamilies (Higginbotham & Skogrand, 2010), and military couples (Stanley, Allen, Markman, Rhoades, & Prentice, 2010), among others. Nonetheless, several researchers have called for curricula targeting low-income couples, who are at a heightened risk for numerous relational issues (Bradbury & Lavner, 2012; Hawkins & Fackrell, 2010). However, barriers have been identified to reaching this population, such as child responsibilities and work (Skogrand, Reck, Higginbotham, Adler-Baeder, & Danise, 2010). With such obstacles common in the daily lives of these families, one method proposed to overcome these barriers is implementing RME alongside preexisting community resources, such as child welfare services (Pecora, Whittaker, Maluccio, Barth, & Plotnick, 2000).

Despite the hesitancy of some CWPs to be trained to deliver RME, many CWPs remain interested in learning about RME (Schramm, Futris, Galovan, & Allen, 2013). Indeed, the goals of CWPs and outcomes of RME (strengthening intimate relationships) are quite similar. That is, there is an established link between healthy couple functioning (be it as coparents or as an intimate couple) and positive outcomes for children (i.e., well-being and safety; Halford, Markman, & Stanley, 2008), so providing CWPs with resources pertaining to healthy relationships can aid in promoting efforts to increase the safety and flourishing of all children. As such, some have advocated that RME be used as a preventative strategy for high-risk families who utilize the services of CWPs (Markman & Rhoades, 2012; Mitchell et al., 2012), and subsequently these efforts have received federal funding beginning in 2005 (Schramm, 2014).

Therefore, ensuring RME trainings are effective past the day of the training is vital to the success of implementing RME materials into CWPs' daily work. Despite the importance of these trainings for the clients served, little is known empirically about how immediate *use* of RME materials and skills with clients can further solidify application and promote future family stability and improvements in child safety, permanency, and well-being.

Present Study

The present study extends prior work evaluating both the need and efficacy of RME training for CWPs (Futris et al., 2014; Schramm et al., 2013) by exploring the role of usage (i.e., experiential learning) in facilitating continued self-efficacy and confidence for delivering RME 2 and 6 months posttraining. In doing so, we also extend previous work on experiential learning by exploring associations longer term and in a professional development context rather than a university setting, where many studies are carried out. We hypothesized that those who were high in self-efficacy, utility, and confidence after the RME training would be more likely to implement RME 2 months later (H1). We also hypothesized that the effect of self-efficacy on RME application at 2 months would be conditional on the degree to which they saw utility in RME for their work (H2). As well, we expected that self-efficacy both following the training and at 6 months would be related to increased confidence at the concomitant times (H3). Furthermore, we hypothesized that use at 2 months would be associated with higher levels of self-efficacy and confidence at 6 months (H4a) and be positively related to use at 6 months following the training (H4b). Finally, we also explored how use at 2 months may enhance the effects of self-efficacy and confidence on usage at 6 months. We hypothesized that the effect of self-efficacy and confidence on RME application at 6 months may be conditional on the degree to which RME was applied at 2 months (H5).

Method

Procedures

The Healthy Relationship and Marriage Education Training project (Futris & Schramm, 2015) was implemented across five states (i.e.,

Arkansas, Georgia, Iowa, Missouri, and North Carolina) with CWPs and other professionals serving youth and families in the child welfare system who voluntarily chose to participate in the training. This 6.5-hour, 1-day training focused on seven basic healthy relationship concepts (Futris & Adler-Baeder, 2013): *choose* (intentionality and commitment), *know* (development of intimate knowledge of a partner), *care* (demonstrating kindness, affection, understanding, respect, and support), *care for self* (maintaining physical, psychological, and sexual health and wellness), *share* (developing and maintaining friendship), *manage* (strategies of engagement and interaction around differences, stresses, and issues of safety), and *connect* (engaging social support, community ties, and sources of meaning). For each of the seven areas, facilitators provided skills, knowledge, and tools to integrate the teaching of these concepts into child welfare and related services. A total of 42 trainings were offered in 2012 and 2013. Each training was conducted by faculty members at partnering land-grant universities who contributed to the development of the training curriculum and materials. In total, 1,374 CWPs registered for the trainings and 1,157 (84.2%) attended across the five states: Arkansas ($n = 126$), Georgia ($n = 373$), Iowa ($n = 86$), Missouri ($n = 248$), and North Carolina ($n = 324$).

Data were collected through five surveys, including a pretest distributed approximately 2 weeks before the training (pre), a posttest immediately at the conclusion of the training (posttest), and three follow-up surveys sent 1 week, 2 months, and 6 months after completing the training. This study used, only the posttest and three follow-up data collection points were used. With the exception of the paper-and-pencil posttest survey, all surveys were administered online, with participants contacted by e-mail and provided a secure Internet hyperlink to access the survey. Dillman's (2000) tailored design method was used to increase response rate. Specifically, reminder notices for each survey were mailed 3 or 4 days and again 7 or 8 days after the first notice was mailed. With the exception of the free training, materials and an offer of continuing education credits, no additional incentives were provided to complete the surveys voluntarily. Participants created personal identifiers that they used to complete each survey to maintain anonymity while allowing our research team to match surveys over time.

Sample

Of the 1,157 professionals who attended the training, 1,147 (99.1%) completed at least one survey. Survey response rates declined over time: pretest ($n = 1,073$; 93.5%), posttest ($n = 1,112$; 96.9%), 1-week follow-up ($n = 659$; 57.5%), 2-month follow-up ($n = 415$; 36.2%), and 6-month follow-up ($n = 305$; 26.6%). Because the application of the training content with clients is more likely to occur among field professionals (Futris et al., 2014), we excluded participants who identified themselves as administrators or supervisors ($n = 348$) or who were not frontline workers who could easily implement the training ($n = 75$). The remaining sample of 724 was further reduced to participants who completed both the posttest and 1-week follow-up, and who completed the 2-month and/or 6-month follow-up survey (i.e., they completed at least three of the four time points) that assessed application. This resulted in a final sample of 324 caseworkers in the child welfare system ($n = 178$) and other similar professionals ($n = 146$) who reported having direct contact with clients and who provided data on our variables of interest. Comparisons of caseworkers who were retained in the study (44.8%) and those who dropped out of the study (55.2%) indicated no statistical differences in terms of age, gender, time in the child welfare field, time in their current position, and marital status. The final sample was less racially diverse: $\chi^2(1) = 31.833$, $p < .001$, Cramer's V $= .217$, $p = .217$; 75.9% of the final sample comprised non-Hispanic Whites compared with 55.2% of excluded caseworkers) and reported higher levels of education: $\chi^2(4) = 24.654$, $p < .001$; Cramer's V $= .192$, $p < .001$.

Participants in the final sample ($n = 324$) ranged in age from 23 to 81 years ($M = 39.9$; $SD = 11.6$), and a majority identified themselves as female (94.1%) and Caucasian (75.9%). Most participants had completed either an associate's or bachelor's degree (52.0%) or an advanced degree (45.8%). Participants had been working in their current position for less than 1 month to 37 years ($M = 5.1$ years, $SD = 5.2$). Analyses conducted with the final sample comparing CWPs ($n = 178$) to other professionals ($n = 146$) revealed statistically significant variations

on age ($F = 31.12$, $p < .001$) and education ($\chi^2 = 85.56$, $p < .001$). The other professionals tended to be older than CWPs ($M = 44.8$, $SD = 12.7$ vs. $M = 38.8$, $SD = 10.4$, respectively), and CWPs were less likely to report earning an advanced degree (32.3%) compared to other professionals (71.9%).

Measures and Variables

The survey items used in this study were developed by the authors based on items from prior statewide surveys (e.g., Karney, Garvan, & Thomas, 2003) and scales previously used with CWPs (Sar & Antle, 2003). The constructs described here were informed by the training evaluation model proposed by Antle and colleagues (2008; Antle, Frey, Sar, Barbee, & van Zyl, 2010). Also, our indicators of learning impact and learning transfer were found to be reliable and positively associated in our initial pilot training assessment (Futris et al., 2014).

Self-efficacy. Self-reports of self-efficacy were documented at two time points (1 week and 6 months) following completion of the training. Eight items to assess participants' perceived *knowledge* of skills and strategies to promote healthy relationships (three items), *ability and comfort* with discussing marital or couple issues and providing information to improve their clients' relationships (three items), and *awareness* of RME resources available to support healthy relationships (two items). Example items include "I understand specific skills that support healthy couple relationship development" (knowledge), "I am comfortable with providing information to individuals/families I work with on ways they can improve their marital/couple relationships" (ability and comfort), and "I am aware of resources available that I can use with individuals/families in supporting couple relationships" (awareness). Responses ranged from *strongly disagree* (scored as 1) to *strongly agree* (5). Scores for each of the eight items served as indicators of a latent self-efficacy construct ($\alpha = .90$ at 1 week; .93 at 6 months). For descriptive analysis, a mean score was computed, with higher scores represented greater perceived efficacy.

Utility. At 1 week posttraining, participants were asked to report how relevant they felt the training was to the clients they work with and to child welfare professionals in general. We assessed relevance to clients with three statements: (a) Strong marital/couple relationships lead to successful parenting, (b) the clients I work with can benefit from participating in programs that focus on enhancing marriage/couple relationships, and (c) child welfare clients' participation in marriage/relationship enhancement programs can help reduce incidences of child abuse and neglect. To assess relevance to CWPs, we asked participants to respond with their level of agreement with three additional items: (a) Child welfare workers need knowledge and skills about enhancing marriage/relationships to do their job more effectively, (b) understanding characteristics of healthy marital/couple relationships will strengthen my assessment and case planning skills to reduce abuse/neglect, and (c) gaining knowledge and skills about working with couples will help me perform my job more effectively. Responses were given on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Due to the similarity in these subscales, they were highly correlated ($r = .74$) and were therefore combined into a single measure. Scores for each of the six items served as indicators of a latent utility construct ($\alpha = .87$). For descriptive analysis, a mean score was computed, with higher scores representing greater perceptions of the utility of the training to the work they perform.

Confidence. Participants' confidence with using the training materials was assessed at two time points after the training: posttest and 6 months later. At posttest, participants reported how confident they felt helping individuals and couples use content from each of the seven core areas. At 6 months, they were similarly asked to rate their confidence over the preceding 3 months in each of the seven core areas. Response options ranged from *not at all confident* (1) to *very confident* (4). Confidence scores for each of the seven areas served as indicators of a latent confidence construct ($\alpha = .94$ at 1 week; .95 at 6 months). For descriptive analysis, a mean score was computed, with higher scores representing greater confidence.

Application. Participants' reported use of the training materials was assessed at the 2- and 6-month follow-ups. Participants were asked to describe how they had *applied concepts*

from each of the seven core modules. Responses were coded by two independent raters based on whether respondents documented applying the tools with clients ($1 = applied$; $0 = not\ applied$); raters' agreement for the 14 total open-ended questions ranged from 87% to 94% of cases. In cases where raters differed in their coding, the third author reviewed the responses and made a final decision as to whether the response described an appropriate application of the concept in their work setting. Application scores for each of the seven areas served as indicators of a latent application construct ($\alpha = .92$ at 2 months; .93 at 6 months) and were specified as categorical indicators, as noted in the analytic plan. For descriptive analysis, a sum of the seven items was calculated such that scores ranged from 1 to 7 with higher scores indicating application of more RME content.

Control variables. CWPs with more years of experience might have been more capable than those with fewer years of experience to apply the information learned, independent of their organization's support. Thus, we controlled for self-reports of *years of experience* in their current work position. Also, based on variations in our final sample, participant *race*, *age*, *sex*, and *education* were also controlled for in the analyses.

Analytic Plan

Approximately 14% of data were missing. To estimate missing values, we employed multiple imputation with chained equations (MICE) within the pcAux *R* package (Lang et al., 2017) to impute 100 complete data sets (see Hawkins et al., 2017). With continuous data, MICE has been found to yield similar results as the full information maximum likelihood estimation and the multiple imputation with data augmentation techniques (Azur, Stuart, Frangakis, & Leaf, 2011; Enders, 2010). In the program, both categorical and continuous variables can be imputed. Furthermore, the program does not require that continuous variables be normally distributed and will constrain estimates to the allowable range for a given scale. Thus, the distribution of the imputed data will be very similar to the existing data. The pcAux package further improves the missing data estimation by including auxiliary variables—variables that are not part of the substantive model but that may explain the

missingness—to provide more precise estimates of the plausible values (see Howard, Rhemtulla, & Little, 2015; Little, Lang, Wu, & Rhemtulla, 2016).

After imputing the missing values, we then used Mplus version 7.31 (L. K. Muthén & Muthén, 2015) to construct a structural equation model (SEM) with participant self-efficacy, utility, and confidence as predictors of application of RME concepts at 2 months posttraining. We also assessed how application of RME concepts at 2 months predicted self-efficacy, confidence, and application at 6 months, while including earlier levels of self-efficacy and confidence as predictors (see Figure 1). In the initial model, we included participants' age, sex, education, racial/ethnic minority status, and years of experience in the child welfare field as controls.

To remove bias and more precisely estimate RME application, the application items were specified as categorical indicators. This method uses an item response theory framework to model an underlying continuous application construct with a two-parameter logistic model (Baker & Kim, 2004). The model estimates thresholds for each item, and these denote the difficulty of applying each concept. In other words, the model orders the seven application items along a latent metric and determines at what score for the latent construct (the threshold) responses regarding the application of a particular concept are likely to change from no to yes. Conceptually, given the thresholds for each application item, the estimated latent score for each individual allows for estimation of how many and which application items were applied. This continuous latent application variable thus represents a more precise estimate of application than a simple sum of how many items were applied—although saved factor scores for RME application at both 2 and 6 months were strongly correlated with the number of areas that were applied ($rs = .98$ at both times). As noted earlier, within the model we assessed how the application at both 2 and 6 months was associated with other variables in our model.

After fitting a final model, we explored our moderation questions regarding predictors of RME application at 2 and 6 months. Accordingly, we estimated a latent interaction model (B. Muthén, 2012) with the posttest utility variable interacting with the posttest self-efficacy variable to predict 2-month RME application and the 2-month RME application variable interacting

Figure 1. Structural equation model predicting relationship and marriage education (RME) application ($N = 324$). Coefficients are standardized estimates. Model fit: χ^2 (1172) = 1050.71, $P = .995$; Tucker–Lewis index = 1.029; root mean square error of approximation <.001; standardized root mean square residual = .053. [a] There was a statistically significant interaction between self-efficacy and utility such that higher simultaneous scores on both constructs were associated with more RME application at 2 months. [b] Path statistically moderated by 2-month RME application.
** $P < .01$. *** $P < .001$.
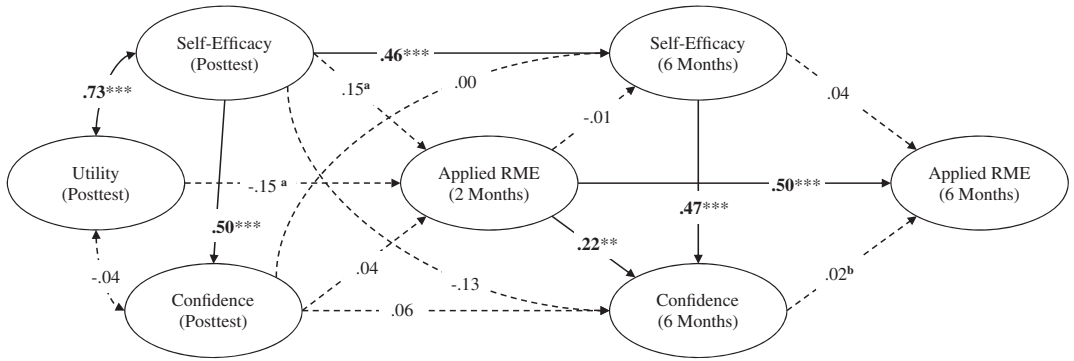
with the 6-month self-efficacy and confidence variables to predict 6-month RME application. To follow up on statistically significant interactions, we saved the factor scores from our model and used Hayes's (2013) PROCESS regression macro to determine regions of statistical significance and the conditional strength of the paths for each of the interaction effects (see Goddard, Olson, Galovan, Schramm, & Marshall, 2016).

Results

Descriptive Analyses

Participants tended to report high scores on the 5-point self-efficacy scale both immediately after completing the training ($M = 4.03$) and 6 months later ($M = 3.98$), a difference that was not statistically distinguishable, Wald (1) = 2.44, $p = .119$. However, there was a statistically significant decline in confidence, $M = 3.23$ vs. 2.89; Wald (1) = 60.35, $p < .001$, and application of the seven RME content areas, $M = 3.62$ vs. 3.37; Wald (1) = 3.98, $p = .046$. Initial confidence following the training was fairly high, with almost 76.2% of respondents reporting scores in the *confident* to *very confident* range, but the percentage in that range fell to 55.5% at the 6-month follow-up. At 2 months, 61.5% of respondents had applied RME content from three or more areas, and 35.3% had done so from at least six areas. At 6 months, 63.5% of

respondents had applied RME content from three or more areas, and 25.0% had done so from at least six areas. The thresholds from the SEM analysis suggest that the *Care* and *Care for Self* training modules were the most commonly applied modules at both 2 and 6 months (55.5% and 57.4% were applying these respective modules at 2 months, and 52.2% and 50.6% were doing so at 6 months), and the least commonly applied module at both time points was the *Know* module (45.7% and 43.5% applied this module at 2 and 6 months, respectively).

Structural Equation Model Analyses

Our initial model included covariates (modeled as correlations with the exogenous variables and regression paths for the endogenous variables; see Galovan, Holmes, & Proulx, 2017), but none of the covariates were statistically related to application at 2 or 6 months. At posttest, older individuals ($r = .12$), those who were better educated ($r = .17$), and those who saw more utility in RME ($r = .73$) reported more posttraining self-efficacy; also at posttest, those with more education or of minority status tended to report more confidence ($\beta s = .13$ and .11, respectively). At 6 months, age was negatively associated with reported confidence ($\beta = -.13$). The initial model fit the data well: χ^2 (1387) = 1254.34, $p = .995$; Tucker–Lewis index (TLI) = 1.031; root mean square error of

approximation (RMSEA) < .001; standardized root mean square residual (SRMR) = .053. Given that the covariates did not meaningfully alter the results, we estimated the more complex moderation models without covariates. The model without covariates also fit the data well: χ^2 (1172) = 1050.71, p = .995; TLI = 1.029; RMSEA < .001; SRMR = .056.

The results from our final model are shown in Figure 1. Contrary to our first hypothesis (H1), self-efficacy, utility, and confidence did not statistically and directly predict RME application at 2 months. Supporting our second hypothesis (H2), however, there was a statistically significant interaction between utility and self-efficacy (unstandardized B = .57), such that self-efficacy statistically predicted 2-month RME application when utility was high but not when utility was low (see Figure 2). A regions of significance analysis suggested that this effect was present for utility scores above 3.53 on the 5-point scale (βs ranged from .21 to .26). Supporting Hypothesis 3, posttraining self-efficacy was also predictive of participants' confidence in providing RME after the training (β = .50). Additionally, those with higher posttraining self-efficacy also reported higher self-efficacy 6 months after the training, which was related to higher confidence at 6 months (β = .47). Partially supporting Hypothesis 4a, greater RME application at 2 months was also predictive of higher confidence (β = .22) at 6 months but unrelated to self-efficacy at 6 months. Hypothesis 4b was supported, as RME application at 2 months was related to RME application at 6 months (β = .50). Finally, regarding Hypothesis 5, we found that confidence and self-efficacy at 6 months were not statistically related to RME application at 6 months. However, when 2-month RME application was high, confidence at 6 months statistically predicted 6-month RME application (see Figure 3). A regions of significance analysis suggested that this effect was present for those with 2-month RME application scores greater than .86 *SD* above the mean (βs ranged from .11 to .21) and that confidence was unrelated to 6-month application when 2-month application scores were below this level. Thus, applying the training at 2 months was associated with more confidence in using RME at 6 months, and when participants applied the training at 2 months, confidence was more strongly associated with application at 6 months than when it was not applied at 2 months.

DISCUSSION AND IMPLICATIONS

CWPs are tasked with multiple responsibilities related to serving and protecting families and children. It is imperative that the continuing education training they receive be efficacious and lead to learning transfer. Utilizing frameworks developed by Kirkpatrick (1959) and Alliger et al. (1997), the purpose of this study was to examine (a) whether CWPs who implement components of an RME curriculum into their work with families at 2 months posttraining were more confident and self-efficacious with the training materials than their counterparts who do not implement any components of the curriculum and (b) whether implementation at 2 months was associated with a higher likelihood of applying the information 6 months posttraining. We also evaluated whether use at 2 months combined with either 6-month self-efficacy or confidence was associated with a higher likelihood of use at 6 months.

Our findings indicate that among participants who saw utility in the RME training (i.e., scores above the neutral score option of 3; specifically scores greater than 3.53), the single strongest predictor of whether they used the RME materials 2 months following the training was reported self-efficacy immediately following the training, or their belief about their knowledge and comfort level with the knowledge and skills presented in the RME training. In other words, greater application at 2 months was related to the combined effect of both high self-efficacy and high utility. Looking forward, the strongest predictor of using the training materials with clients 6 months following the training was whether participants had used the materials at 2 months. These findings elucidate key determinants of whether participants will "use it or lose it." Furthermore, not surprisingly, participants' self-efficacy scores at posttraining predicted their level of confidence in providing RME. However, contrary to our assumptions, confidence was not a predictor of actually applying the concepts at 2 months. It may be that in the short term, those who participated in the training and who felt they had gained the requisite skills and knowledge were willing to test how it worked with their clients, regardless of their confidence level.

Our results suggest, however, that confidence may be more important for longer-term training application. We found that confidence tended to decrease in the 6 months following training.

FIGURE 2. INTERACTION PLOT ILLUSTRATING THE MODERATING EFFECT OF UTILITY ON THE ASSOCIATION BETWEEN POSTTRAINING SELF-EFFICACY AND 2-MONTH RELATIONSHIP AND MARRIAGE EDUCATION APPLICATION ($N = 324$). APPLICATION SCORES REPRESENT AN UNDERLYING CONTINUOUS TRAIT ASSOCIATED WITH THE YES–NO RESPONSES FOR EACH CONTENT AREA. HIGHER UNDERLYING SCORES DENOTE A GREATER LIKELIHOOD OF APPLICATION IN EACH OF THE CONTENT AREAS.
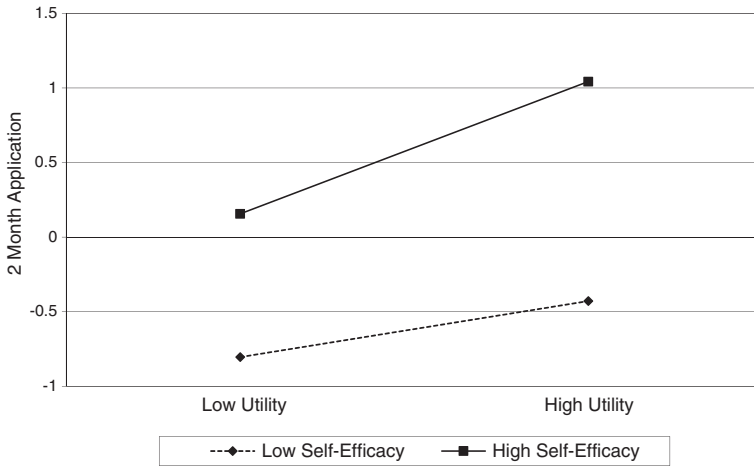

FIGURE 3. INTERACTION PLOT ILLUSTRATING THE MODERATING EFFECT OF 2-MONTH RME APPLICATION ON THE ASSOCIATIONS BETWEEN 6-MONTH CONFIDENCE AND 6-MONTH RME APPLICATION ($N = 324$). APPLICATION SCORES REPRESENT AN UNDERLYING CONTINUOUS TRAIT ASSOCIATED WITH THE YES–NO RESPONSES FOR EACH CONTENT AREA. HIGHER UNDERLYING SCORES DENOTE A GREATER LIKELIHOOD OF APPLICATION IN EACH OF THE CONTENT AREAS.
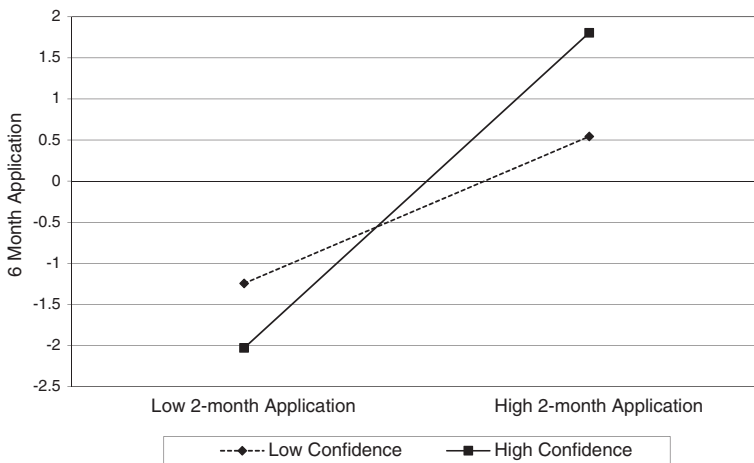
Importantly, even after controlling for current and prior levels of self-efficacy and prior levels of confidence, those who applied the training at 2 months were more confident at 6 months than those who did not apply the training. Our interaction analysis found that there was an association between confidence and application at 6 months among those who were using the RME materials at 2 months compared with those who were not. This suggests that those who use the materials soon after the training may develop greater confidence because they have practiced the RME skills with clients, learned ways to present the information, and perhaps see

the benefits of RME in their clients' lives. In turn, their higher levels of confidence, combined with greater familiarity with RME and experience using it, are associated with higher levels of continued RME application at 6 months. In contrast, those who do not apply the training may internalize the knowledge gained in the training—as shown by their maintenance of self-efficacy—but they may be less confident that they can effectively share what they learned with their clients in ways that will benefit them.

Building on the work of Kirkpatrick's (1959) taxonomy, which presents four levels in evaluation trainings, and Alliger et al.'s (1997) addition of affective and utility reactions to that taxonomy, our findings indicate that greater emphasis should be placed on participants' self-efficacy and behavior, which are associated with implementation and learning transfer. That is, regardless of how much participants enjoy trainings or find them relevant to the work they do, our results indicate that if they do not feel like they have actually learned new skills and, more importantly, do not implement the skills with individuals or clients soon after a training, they will be much less likely to use them in the future.

With the vast amount of trainings CWPs receive (Ellett, Ellis, Westbrook, & Dews, 2007), an initial focus should be on ensuring they are equipped with the skills and information they need and feel capable of implementing. Lower self-efficacy scores on posttest evaluations of trainings signals a potential problem in terms of subsequent learning transfer; individual follow-up may be needed to answer questions, clarify concepts and expectations, or resolve concerns. As with many skills in life, when practiced and used regularly, individuals become more confident in their skills and abilities as well as more comfortable using them (e.g., Banach, Foden, & Carter, 2018). Given some research suggesting CWPs' unfamiliarity with RME and self-reported low levels of comfort and ability with this type of material (Schramm et al., 2013), it is notable that our study may be the first to demonstrate that self-efficacy and behavior are linked in the context of training CWPs in a curriculum with material that is largely unfamiliar to them. Moreover, our results suggest that ensuring participants have the necessary skills and encouraging them to use the information soon after receiving training is one of the best predictors of whether they will adopt the practices, gain and maintain confidence in their use,

and continue to apply the training in their work with families in the future.

Limitations and Future Directions

Despite several strengths and notable findings from this study, there are also limitations. Most studies that examine program evaluation and transfer of learning are challenged by low response rates and homogenous samples, which limit the generalizability of findings, and our study is no exception. Our final sample of 324 field professionals only represented 44.8% of field professionals trained, largely due to sample attrition over the 6 months following the training. However, this response rate while using multiple data collection points is good relative to comparable studies (e.g., Antle et al., 2010). A notable strength is the inclusion of field professionals from five states, which enhances the representation of varied experiences among field professionals and enhances the stability of the statistical models performed. However, our final sample ($n = 324$) was still primarily White females (71.3%), followed by Black females (21.3%), so future evaluations of learning transfer should include more diverse samples in terms of racial/ethnic identity and gender to examine whether findings are consistent across these characteristics. As such, we caution against generalizing the findings of this study to all helping professionals.

Another limitation of the present study is the use of subjective ratings of self-efficacy, utility, confidence, and applying the concepts into practice in the participants' work with families. Future research is needed that also uses objective, more direct assessments of learning impact and learning transfer, such as observations of professional–client interactions and assessment of outcomes for families and children. These approaches were beyond the scope and funding of this study. However, despite the subjective nature of our measures, these findings provide insights into the correlates of field professionals using information from trainings. Further work is needed to explore additional factors that contribute to the transfer of learning. For example, we know CWPs' perceptions of organizational support moderate the influence of self-efficacy and knowledge on use of RME tools and practices (Futris, Schramm, Richardson, & Lee, 2015), but there are likely additional moderating influences that have yet to be examined,

such as what some refer to as an *outward mind-set* (Arbinger Institute, 2016), ethical responsiveness, or way of being (Galovan & Schramm, 2018; Schramm, Galovan, & Goddard, 2017). Replication of the training with a more diverse population as well as more rigorous methods of evaluating our outcomes would further advance understanding of the moderating and mediating factors that may influence the adoption of RME into child welfare services.

We also acknowledged that a single-day training in any type of program is likely limited in its long-term impact on training recipients. Some have recommended more frequent brief interventions (Kanter & Schramm, 2018) and others have recommended booster sessions for trainees in addition to consistent feedback and assessments (Antle et al., 2013), which may be useful for reminding participants about key principles, content, and application of material. If booster sessions are implemented, however, they should not necessarily be limited to targeting self-efficacy—focusing on helping CWPs remember the content and skills taught in the training. Rather, our data suggest that ongoing training may be more effective inasmuch as it also targets CWPs confidence. Such targeting may use strategies that focus on helping professionals practice and apply those skills to real life settings. For example, CWPs could be encouraged to bring real situations to a booster session where they could discuss and perhaps role-play how the training could be applied in that particular situation. This would likely help professionals feel more confident in applying concepts learned in the trainings. Booster sessions were beyond the scope of this funded research project, but all of the teaching tools and training information (e.g., video modules) were made available online (http://www.hrmet.org) for field professionals to access, review, and refresh their memories concerning the content as well as examples of how it can be shared. Knowing whether and how participants used these online resources since the training would foster a better understanding of how their availability may be related to confidence, utility, self-efficacy, and transfer of learning in the months following training.

An additional promising method, which is less time-intensive than booster sessions, is the inclusion of follow-up reflection worksheets. Scholars evaluated a 2-day skills-training workshop for therapists and found that the group that received 1-, 4-, and 8-week follow-up reflection worksheets, which asked about main concepts learned (e.g., how it will be useful, how they will implement the new skills), reported using the skills more frequently and having an increased awareness of the main concepts 10 weeks after the workshop, compared with a control group that only received the 2-day training (Bennett-Levy & Padesky, 2014). Other studies have implemented text reminders and other simple boosters following interventions and trainings. For example, following 7 weeks of HIV and sexual education information sessions, youth received daily text messages, pictures, and knowledge boosters for 3 months (Cornelius et al., 2013). Similar studies with booster reminders have been successfully carried out with youth and diabetes management (Bin-Abbas, Jabbari, Al-Fares, El-Dali, & Al-Orifi, 2014), lifestyle modifications (Nguyen et al., 2012), and with parents for immunization reminders (Haji et al., 2016). Future studies should continue exploring the benefits of similar strategies to reinforce training materials and encourage participants to be more mindful of applying the concepts and skills learned (Schramm, Galovan, & Goddard, 2017; Vennum & Conner, 2016).

Conclusion

The results from this study can inform future trainings and evaluations of trainings for helping professionals by moving the focus of program evaluation beyond measurement of immediate learning outcomes of affective and utility reaction (i.e., whether participants liked the training and the trainer and perceived it as relevant) to more complex models intended to better understand transfer of learning over time and moderating influences. CWPs are faced with countless difficult tasks as they strive to help children and families. A better understanding of factors that promote retention and application of knowledge gained will ultimately lead to the enhancement of services that promote a safer and more stable environment for children.

Author Note

not necessarily reflect the views of the U.S. Department of Health and Human Services, Administration for Children and Families.

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