

Effectiveness of Online and In-Person Training on Lupus Assessment for Promotores at Latino-Serving Health Nonprofits

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Background

Health nonprofits increasingly use promotores de salud (promotores) to connect low-income Latinos with health services, provide health education, and empower clients with positive coping skills (Vega, Rodriguez, & Gruskin, 2009). Because promotores typically come from the communities in which they serve, they are culturally competent peers who can help many Latinos overcome the language barriers and institutional distrust that limit their willingness to seek services (Elder, Ayala, Parra-Medina, & Talavera, 2009; Nemcek & Sabatier, 2003).

Well-trained promotores are essential for implementing effective programs, but training programs, particularly those run by experienced facilitators, are expensive and raise nonprofits' opportunity and transaction costs. In contrast to in-person training programs, online training may allow nonprofits to maximize the benefits of training while minimizing organizational costs.

Online training programs have proliferated in recent years with the wide availability and declining cost of high-speed Internet service in the United States. Hundreds of online college and graduate degree programs in nearly all fields promise students worthwhile educational experiences with geographic and temporal flexibility and lower costs. Although evidence exists of student satisfaction with online education, significant questions remain about its effectiveness in preparing students for the workforce.

To respond to concerns about the effectiveness of online training in the health service field, we examined the effectiveness of using online and in-person methods to train promotores at local

nonprofits on systemic lupus erythematosus (lupus), an autoimmune disorder that causes inflammation and affects the skin, joints, and multiple organ systems (Ginzler & Tayar, 2013). Approximately 160,000 to 320,000 people in the United States have lupus, with varying symptoms ranging from mild to severe (Dall'Era, 2013; Mayo Clinic, 2011). Lupus symptoms often resemble those of other common conditions, which may delay accurate lupus diagnosis (Centers for Disease Control and Prevention, 2014).

We focused this study on online versus in-person training on lupus for two reasons. First, Hispanics are at significantly higher risk of lupus than non-Hispanics (Pons-Estel & Alarcón, 2012; Pons-Estel, Alarcón, Scofield, Reinlib, & Cooper, 2010). Second, evidence of lupus is difficult to spot, even by seasoned health professionals. The likelihood of a promotora encountering a client with lupus is relatively low compared with other conditions, which may prompt nonprofits to withhold resources for lupus training. Development of effective online lupus training could help lupus awareness groups train promotores to spread important information to at-risk populations at a lower cost than traditional in-person training. Therefore, our central research question was: To what extent is online lupus training a viable method to effectively train promotores at Latino-serving health nonprofits?

Methods

We used data from two studies we conducted in 2017 that examined programs with similar characteristics and nearly identical goals, but differed by training method: *Latinas con Lupus*, *Promotoras con Información*, an online training course; and *Understanding Lupus*, an in-person training course. Both courses aim to improve the ability of promotoras to raise awareness and conduct effective outreach to Latinos about lupus. We used an identical two-group experimental design with the same pretest and posttest measures to evaluate the two courses, which allowed us to combine the data sets from each study to test the extent to which training modality affected training program effectiveness.

We hypothesized that in-person training for promotores on lupus would demonstrate greater effectiveness than online training because in-person training allows for an intimate and conversational learning environment that may be more conducive to learning than a more impersonal online environment.

Three forms of program effectiveness served as the dependent variables: knowledge, or the extent to which study participants correctly answered questions about lupus; behavioral intentions, or the extent to which study participants intended to act in the near future on information obtained in the training; and self-efficacy, or study participants' perceived ability to apply the course information to outreach efforts.

We asked participants questions on the three dependent variables before and after the training. We examined the pre- and posttest percentage of correct answers to five knowledge questions, as well as each participant's change in correct answers from pretest to posttest. We tabulated how many responses to questions on behavioral intentions and self-efficacy were positive at pretest and posttest and calculated their change. For each program effectiveness variable, we summed the results of the individual questions and divided them by the total number of questions to create composite scores, ranging from 0 to 100 (e.g., a composite knowledge score of 100 meant that a participant correctly answered all knowledge questions).

We also examined participants' satisfaction with their training by asking them five questions using a five-point Likert scale. In this case, a composite satisfaction score of 100 indicated complete satisfaction with the course.

The treatment groups yielded a population of 58 participants: 28 from the *Latinas con Lupus*, *Promotoras con Información* study and 30 from the *Understanding Lupus* study. Their demographic characteristics served as independent variables. Three important population differences were noted.

First, roughly 68 percent of the in-person training course participants were at least 46 years of age, compared with only 26 percent of online training course participants. Second, approximately 89 percent of in-person course participants had no greater than a high school education, compared with 33.3 percent of those in the online course. In contrast, 66.7 of online course participants reported having an undergraduate or graduate degree, compared with approximately 11 percent of in-person course participants. Third, more in-person (96.4 percent) than online (80.0 percent) course participants reported being of Hispanic origin. There were no statistically significant differences between in-person and online course participants by location, time residing in the United States, previous promotores training or experience, or receipt of training on lupus.

To examine the bivariate relationship between training method and training effectiveness, we ran repeated t-tests for each program effectiveness variable. Because the low number of observations rendered multivariate analysis difficult, we ran analysis of covariance (ANCOVA) F-tests to assess the mediating effects of singular demographic characteristics on the relationship between training method and the change in composite scores for each program effectiveness variable. Our review of the data suggested that their distribution supported the multiple ANCOVA assumptions.

The low observation count and demographic differences, coupled with data being derived from separate studies, limited this analysis. Low generalizability and limited statistical control made it challenging to extrapolate our findings. Nonetheless, this analysis takes a first look at the differences in effectiveness between online and in-person training for promotores at Latino-serving health nonprofits.

Findings

In-person course participants answered an average of 46.4 percent of knowledge questions correctly at pretest, compared with 51.3 percent for those in the online course. At posttest, correct answers on knowledge questions increased to 88.5 percent for in-person and 90.7 percent for online course participants. Course participants exhibited marked increases in correct answers (42.1 and 39.3 percent, respectively, for in-person and online participants). For individual questions, participants exposed to either training method showed considerable proportional increases in correct knowledge responses.

In-person course participants showed high positive behavioral intentions (92.9 percent) at pretest compared with participants in the online course (80.0 percent). However, at posttest, the

two groups showed nearly equivalent positive behavioral intentions (94.6 percent of in-person and 93.3 percent of online course participants reported they would act on lupus information received in their training in the near future).

Although knowledge and behavioral intentions showed positive gains from pretest to posttest, neither demonstrated strong statistical significance. The findings were more robust for differences in self-efficacy. At pretest, more in-person course participants (73.7 percent) demonstrated higher degrees of self-efficacy than online course participants (52.9 percent), particularly on their ability to explain lupus to their clients, explain the importance of managing lupus, and in an overall manner in their composite self-efficacy scores. This finding was significant at a 95 percent confidence level. At posttest, the average self-efficacy score in the two groups was virtually identical. This important finding suggests that exposure to the online training course helped its participants to overcome a statistically significant deficit, compared with in-person course participants. The change in self-efficacy rose for both groups, climbing 24.1 percent for in-person course participants, but a significantly greater 42.5 percent for those in the online course.

The data did not support the notion that in-person training in classroom settings creates a more satisfying learning environment. For in-person course participants, the lowest average satisfaction score (96.4 percent) related to their posttraining preparedness to conduct lupus awareness outreach, and specifically with Latinas who have been diagnosed with or show symptoms of lupus. On these two measures, satisfaction with the online course was nonsignificantly lower. For the composite satisfaction scores, the in-person course (98.6 percent) slightly edged out the online course (95.3 percent).

No significant mediating effects were evident for knowledge change as a form of program effectiveness, and only Hispanic origin significantly mediated the relationship between training method and behavioral intentions as a program effectiveness measure. However, the mediating effects of demographic variables (age, education, race, Hispanic origin, location, time residing in the United States, and hours of promotores training) between training method and self-efficacy were statistically significant, suggesting that certain groups benefit substantially from online training, including younger, less educated promotores of Hispanic ethnicity. Unsurprisingly, given the similar composite scores for satisfaction from both training groups, we found no evidence of statistically significant mediating effects on satisfaction.

Implications

These findings are encouraging for nonprofits that want to train their promotores but lack the financial resources for expensive, in-person training. Participants in both training methods ended their course with relatively high and comparable knowledge and reported behavioral intentions to conduct outreach activities on lupus. More importantly, exposure to the online course allowed participants to overcome a significant shortfall in self-efficacy. Our program effectiveness measures—knowledge, behavioral intentions, and self-efficacy—revealed two groups of participants who were equally well trained. High training satisfaction in both groups mitigates concerns that online training is a less favorable vehicle for obtaining information.

These findings have three important implications for community-based nonprofits that use promotores to serve their clients. First, the lower cost and equivalent effectiveness of online compared to in-person training may spur nonprofits to invest in training to create high-skilled promotores who provide improved services to their clients. Second, the geographical and temporal flexibility of online training benefits nonprofits because promotores with Internet access can train from virtually any location and often at various hours of the day. Third, the potentially lower costs and flexibility of online training may encourage nonprofits to invest in coursework on topics such as lupus that may be uncommon, but crucial, to their communities.

Though these preliminary findings should be viewed cautiously, they provide a first look at the viability of online training for health-related nonprofits. Effective training is necessary to retain qualified and talented employees, and it also supports community outreach and awareness. These results suggest that online training may be as effective as in-person training, which could be a boon for nonprofits as they increasingly rely on promotores for service provision.

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