Results of a Randomized Trial of Web-Based Retail Onsite Responsible Beverage Service Training: WayToServe

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ABSTRACT. Objective: Research in Responsible Beverage Service (RBS) training indicates that such training can prevent over-service of alcohol and reduce drunk driving. However, reviews of the RBS literature suggest that the quality of training methods and the stability of implementation are important factors in determining RBS training effectiveness. Most RBS classes have been taught live, where the quality of instruction varies across instructors and classes, and the stability of the implementation of an RBS curriculum is variable. Web-based RBS training may carry important advantages by stabilizing instruction and implementation factors. Randomized trial results of a web-based onsite RBS training program (WayToServe® [WTS]) are reported here. It was hypothesized that servers trained by WTS would refuse alcohol service at significantly higher rates compared with Usual and Customary (UC) live training. **Method:** On-site alcohol-serving establishments in New Mexico communities were randomized to receive WTS training ($n = 154$) or the Usual and Customary live RBS training ($n = 155$). Prem-

ises were assessed at baseline, immediate post-training, 6-months post-training, and 1-year post-training intervals. Pseudo-intoxicated patron protocols were used to assess premise alcohol service during the early to mid-evening hours of 6:30 P.M. to 8:30 P.M., with the percentage of alcohol service refusals to apparently intoxicated pseudo-patrons as the primary outcome variable. **Results:** Results indicate significantly higher refusal rates for WTS than for UC premises at the immediate (WTS = 68% vs. UC = 49%) and the 1-year post-training assessment points (WTS = 68% vs. UC = 58%) but not at the 6-month post-training assessment (WTS = 69% vs. UC = 64%). Differences in refusal rates based on pseudo-patron age were observed where younger pseudo-patrons were consistently refused more often than older pseudo-patrons. **Conclusions:** Effective RBS training can be delivered online, making it a potentially cost-effective way of reaching large alcohol server populations. (*J. Stud. Alcohol Drugs*, 79, 672–679, 2018)

ALCOHOL USE AND MISUSE is the third leading cause of preventable death in the United States (Mokdad et al., 2004). In 2015, 10,265 people were killed in alcohol-impaired driving crashes (driver's blood alcohol concentration [BAC] > .08 g/dl; National Highway Traffic Safety Administration, 2016). Drunk driving fatalities (with a BAC > .08) accounted for 31% of all traffic deaths in 2013. Half of all drivers arrested for driving while intoxicated (DWI) drank last in alcohol-serving establishments (e.g., bars, restaurants, and lounges; Chang et al., 1996; Gruenewald et al., 1999; Stockwell et al., 1993; Ventura County Behavioral Health, 2007), and, in one study, more than 10% of binge drinkers drove within 2 hours of their most recent binge drinking occasion (drinking in licensed establishments accounted for 54% of those driving episodes; Naimi et al., 2009).

Alcohol servers may help prevent alcohol-impaired crashes and other harms by discouraging overconsumption among patrons. Although almost every U.S. state prohibits selling or serving alcohol to an intoxicated patron, these laws are not widely enforced (Alcohol Epidemiology Program, 2000; McKnight & Streff, 1994), with alcohol service refusal rates ranging from 11% to 42% (Freisthler et al., 2003; Toomey et al., 1999, 2004, 2005, 2016). These differences in refusal rates may be attributable to a variety of factors, including local law enforcement efforts and the mandatory nature of Responsible Beverage Service (RBS) training.

RBS interventions in the United States typically focus on server training to improve serving behavior. They typically cover (a) state alcohol laws pertaining to a server, (b) procedures for checking patron identification to avoid service to underage individuals, (c) methods for recognizing intoxicated patrons, (d) techniques for preventing over-service (serving too much alcohol on a given occasion), and (e) information on alcohol as a consumable substance.

Evaluations of RBS training have found inconsistent results. Ker and Chinnock (2006), in a Cochrane meta-analytic review, concluded that (a) the effectiveness evidence for server training interventions is mixed; (b) the evidence is complicated by nonrandomized designs, lack of clear outcomes, and incomplete reporting of effect sizes; and (c) consistent implementation of server training is a complicat-

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ing factor, as the quality and fidelity of RBS training in live classes can vary. Recently Toomey and colleagues (2017) reported a lack of effectiveness for their RBS training program—raising questions about the utility of further research on RBS training (Buvik & Rossow, 2017).

There are two arguments for continuing this research. First, positive evaluations of RBS programs have been reported. For example, the Stockholm Prevents Alcohol and Drug Problems (STAD) program that combined community mobilization, RBS training, and enforcement had substantial effects, increasing alcohol service refusal rates from 5% at baseline to 70% 5 years later (Wallin et al., 2005). It also increased refusal of entrance to apparently drug-impaired patrons (Gripenberg et al., 2007) for up to 5 years (Abdon et al., 2011; although these effects failed to replicate, Skardhamar et al., 2016; Trollidal et al., 2013).

A second argument for further RBS research is that on-line technologies hold promise for improving training quality and fidelity (and reducing cost), potentially making RBS effects more predictable and cost-effective. Web-based alcohol server training can provide advantages when delivered wide-scale across large populations. It can provide consistent and high-fidelity training implementation by avoiding variation across independent trainers, and its multi-media features can present engaging learning activities and immersive simulations. A number of web-based RBS training courses are commercially available (e.g., learn2serve.com, tipsalcohol.com). However, to date, no systematic test of their effectiveness has been published, comparing it to no training or face-to-face training. Reported here are findings from a randomized trial comparing web-based RBS training for on-premise servers (liquor by the drink)—WayToServe® (WTS)—to usual live training, measured by refusal to serve apparently intoxicated pseudo-patrons.

Furthermore, social factors (e.g., gender and age of both server and patron) were examined for impact on alcohol service refusal. Alcohol service situations may resemble first-impression situations where social factors affect attributions and decision making (cf. Berger & Calabrese, 1975; Cook, 1979; Kleinke, 1975). Our prior work (Saltz et al., 2001) found that server and pseudo-patron gender affects alcohol sales refusal rates to apparently intoxicated pseudo-patrons. Male servers were significantly more likely to refuse alcohol service to apparently intoxicated female pseudo-patrons than to male pseudo-patrons, and female servers were significantly more likely to refuse alcohol service to apparently intoxicated male pseudo-patrons than to female pseudo-patrons. The age of either the server or the patron has not often been studied specifically in RBS research, although it has been included as a covariate in analyses of RBS laws (Chinman et al., 2013). It has been speculated that, compared with younger servers, older servers (i.e., bartenders) may have more confidence in refusing alcohol sales and supporting RBS practices by coworkers (Fell et al., 2016), although one

TABLE 1. Premise sample by randomized group

Type of establishment	Randomized group		
	Control	Intervention	Total
Bar	<i>n</i> = 42 13.7%	<i>n</i> = 40 13.0%	<i>n</i> = 82 26.7%
Bar/restaurant	<i>n</i> = 98 31.9%	<i>n</i> = 94 30.6%	<i>n</i> = 192 62.5%
Bar/package store	<i>n</i> = 0 —	<i>n</i> = 3 1%	<i>n</i> = 3 1%
Restaurant	<i>n</i> = 15 4.9%	<i>n</i> = 15 4.9%	<i>n</i> = 30 9.8%
Total	<i>n</i> = 155 50.5%	<i>n</i> = 152 49.5%	<i>n</i> = 307 100%

study (Wallin & Andréasson, 2004) that did examine the age of the server found no difference due to server age when providing service to a young-appearing confederate. Unique to the current investigation, the full range of the age of both the server and the patron as well as the gender of the server and the patron are examined as potential determinants of alcohol service refusal.

Hypothesis and research question

Hypothesis. Alcohol servers in premises trained by WayToServe® (WTS) will more likely refuse service to apparently intoxicated patrons than alcohol servers in premises trained in the usual and customary live RBS training methods (UC).

Research question. Do social factors (i.e., gender and age of servers and pseudo-patrons) significantly affect alcohol service refusal rates?

Method

Sample of licensed alcohol serving premises

Before study activities, approval was obtained from the University of New Mexico's institutional review board. The New Mexico Alcohol and Gaming Division (AGD) provided a list of licensed alcohol-serving establishments. From this list, 309 on-site alcohol-serving establishments were randomly selected from the 566 on-site premises in four New Mexico communities, comprising four types of premises: (a) stand-alone bars, (b) bars that also sold package alcohol, (c) restaurants with a physical bar, and (d) restaurants that served alcohol but did not have a bar. Table 1 shows that the type of premise was balanced between the study arms.

WayToServe®: Web-based RBS training

The WTS program conformed to content requirements of the New Mexico Alcohol Server Training curriculum (NewMAST; Saltz & Stanghetta, 1997). WTS was itera-

tively developed via focus groups with alcohol servers and premise managers in New Mexico that determined proper terminology, idea groupings, and sensitive topics. Once the WTS developed, additional focus groups with alcohol servers and RBS policy makers throughout New Mexico helped to refine its design and structure. WTS was then beta tested in four communities in New Mexico, with five servers per community; all participants found the site to be stable, easy to use, and understandable.

The final version of the website consisted of six multimedia, interactive content modules that included information on skill building, shown in Table 2. WTS emphasized user involvement and interactivity. Each module used video hosts who introduced the module and each of the learning activities: (a) major interactive activities that utilized user involvement to convey information and present and practice RBS skills and (b) “infogadgets” that provided mainly text-based RBS information in a series of tabs anchored by graphics. WTS’s navigation structure was linear, with users required to proceed through modules in order from one to six. To conform to state-mandated testing and certification procedures, each module had an eight-item multiple-choice quiz that users had to pass with at least 80% accuracy to continue and receive an RBS certification from the State of New Mexico. Users who failed a quiz were required to repeat the module. The average completion time for the entire WTS training was 3.71 hours, similar in duration to most live trainings in New Mexico, which are required by state regulation to be at least 4 hours in length.

Usual and customary (UC) training

At the time of the trial, servers were required to receive the state-mandated NewMAST in-person training every 5 years. New servers needed to complete training within 30 days of employment. These live trainings, provided by several trainers, conformed to curriculum standards set by the New Mexico AGD and included content on New Mexico alcohol laws, preventing service to minors, alcohol as a substance, alcohol risk during pregnancy, and managing intoxicated patrons. This constituted the UC training condition.

Trial procedures

The design was a 2 (level of training: WTS vs. UC training) $\times$ 4 (time of assessment: baseline vs. immediate post-training vs. 6-month post-training vs. 1-year post-training) mixed factorial design. Premises were visited by pseudo-patron (PP) assessment teams who conducted the baseline assessment of alcohol purchase attempts before the premises were randomized to the WTS ($n = 154$) or the UC ($n = 155$) training condition.

Research staff contacted managers at the premises assigned to the WTS training, secured participation, and reg-

istered the servers on the online WTS system. Premises were offered a free project laptop as an incentive to participate. Of the 154 premises contacted for participation in the WTS training, all 154 agreed to participate, with 477 servers registered in the online WTS system in these premises. Two hundred ninety-five servers in the WTS premises completed the WTS training and received a new 5-year New Mexico training certificate. The premises assigned to the UC group were not contacted and remained blind to the study. Attrition of premises due to business closure was 35 premises (11.3%), with more lost in the WTS ($n = 24$ premises, 15.5%) than in the UC condition ($n = 11$ premises, 7%).

Immediate post-training PP assessments were conducted approximately 45 days after the intervention sites were given WTS access, followed by the 6-month and the 1-year post-training assessments. The primary outcome was the rate of alcohol service refusal—how often apparently intoxicated PPs were refused service across establishments.

Pseudo-patron assessment

The PP protocol presented servers with patrons who displayed obvious signs of intoxication. Teams consisted of PP buyers who attempted to purchase alcohol while acting obviously intoxicated at the alcohol-serving establishments and an observer of the purchase attempt who acted as a bystander. Trained observers entered the business ahead of the buyers and rated the fidelity of the performance. The use of PP assessment is a well-established method to evaluate the effectiveness of various alcohol server training models (Gliksman et al., 1993; McKnight, 1989, 1991, 1993; Russ & Geller, 1987; Saltz, 1989).

Pseudo-patrons. Research associates age 21 years or older were trained to behave in accordance with a script comprising such behavior as slurred speech, fumbling with money, lack of eye focus, and difficulty with walking and balance. Raters of videotaped PPs, blind to the script, were 100% accurate in distinguishing the scripted behavior from “sober” presentations. Notably, the script had no threatening or disruptive behavior.

PPs ($n = 23$; 11 men, 12 women) were recruited through local advertisements and attended five training sessions that explained the project, data collection, and techniques for identifying an obviously intoxicated person. The average age of the PPs was 39.73 years, ($SD = 12.74$; range = 21–62 years), and 62% were Anglo, 26% Hispanic, and 12% African American. All trained PPs took part in the assessments.

Assessment protocol. The PP teams conducted two visits to each premise between 6:30 P.M. and 8:30 P.M. during each assessment period, separated by approximately 1 week. PP teams did not visit or collect data on the same establishment twice. All premises were blind to the use of the PP protocol, and PP teams were blind to the experimental condition. The choice of the time frame for the assessments (6:30 P.M.–8:30

TABLE 2. *WayToServe* modules and content

1. Alcohol laws	What one <i>can</i> do legally as a server, what one must do as a server, and the penalties one could face for failure to comply with the alcohol laws.
2. Preventing service to minors	Identifying underage patrons, including the finer points of checking an identification (ID) and information on strategies used by minors in attempting to obtain alcohol.
3. Alcohol and pregnancy	Information about Fetal Alcohol Spectrum Disorder (FASD), including frequently asked questions about FASD.
4. Facts about alcohol	The effects of alcohol and how to recognize a patron who has consumed too much alcohol and information regarding the definition of a Standard Drink and blood alcohol concentration (BAC) levels.
5. The intoxicated patron	Instruction and skill-building activity on the active role the server plays in refusing further alcohol service to intoxicated patrons and preventing patrons from driving under the influence of alcohol.
6. Responsible alcohol sales	Opportunity to learn and practice the SERVE system for practices sizing up patrons and monitoring their drink consumption to prevent intoxication and to review what has been presented in the previous five sections.

P.M.) was driven by a number of practical considerations. The relatively early time ensured that restaurants with alcohol licenses were open. Later times would likely correspond with a greater likelihood of intoxication among “real” patrons, and, in some cases, later times might be busier (depending on the specific business). These conditions could affect serving behavior in unknown ways, but the standard time window ensured comparability across types of businesses and time periods.

At the beginning of each PP visit, the observer entered an establishment several minutes before the arrival of the buyer and assessed the premise’s environment (e.g., location of the bar and type of establishment). The observer moved to an area closest to the bar where she or he could observe the buyer upon her or his arrival. At no point during the PP assessment would the buyer or observer acknowledge each other. The buyer arrived acting intoxicated, located a serving area within the observer’s clear view, and engaged the server in conversation before ordering a bottle of Budweiser. If service was refused, the buyer engaged in jovial token resistance but then quickly accepted the server’s decision and exited the premise. If the alcohol was served, the buyer paid for it, excused himself or herself to go to the restroom, and then exited the premise. The observer remained in the premise for up to approximately 5 minutes to observe any comments from the server or other patrons in regard to the buyer, before exiting. Once outside and away from the premise, the buyer and the observer met and completed their data collection forms. In the event of inquiry or confrontation by a premise employee or bystander, the buyer and the observer had a letter explaining that they were part of a research study, although they never used it.

Buyer and observer forms. The buyer and observer recorded both the results of the PP purchase attempt and

information on the server (i.e., apparent age, gender, and race/ethnicity) and the premise (i.e., location of alcohol, cleanliness and lighting, placement of required signage, and number of servers present in the premise). Attributed demographics of servers at baseline were 57.9% female, 1.3% African American, 63.8% Anglo, 3.7% Asian, 31.9% Hispanic, 0.7% Native American, with an average age of 31.7 years ($SD = 8.52$).

Statistical analysis

The proportion of apparently intoxicated buyers who were refused alcohol service was the primary outcome variable in the analysis. Data were analyzed using SPSS software, Version 23 (IBM Corp, Armonk, NY). Data were analyzed via a mixed model repeated measures analysis of variance (ANOVA; treatment was fixed at two levels [WTS training vs. UC training] and PP assessment was a four-level repeated factor), with planned directional *t* tests. The interaction between the treatment and the assessment point tested Hypothesis 1. The research question was probed by including the gender and age of the buyers as additional fixed factors in the design and examining three-way interactions among the treatment group, the assessment period, and the social factors. Alpha level was set at $p = .05$ for all tests. Ancillary analyses were performed that examined the impact of the type of premise.

Results

Effectiveness of WayToServe®

The 2 (level of training) $\times$ 4 (time of assessment) repeated-measures ANOVA on the alcohol service refusal

FIGURE 1. Mean refusal rate and confidence intervals by randomized group across assessment points

rate found significant main effects for training, $F(1, 264) = 5.55$, $p = .019$, and the time of assessment, $F(3, 792) = 34.07$, $p = .0001$, and a significant ordinal training by time interaction, $F(3, 792) = 2.88$, $p = .035$, partial $\eta^2 = .11$. Planned t tests (one-tailed critical values were used to test the directional H1, cf. Kirk, 1968) at each assessment period were used to probe the interaction. No significant differences for the refusal rate between WTS and UC training at baseline (WTS refusal rate mean = 33%; UC refusal rate mean = 34%, $t(306) = 0.159$, n.s.) were found, but at immediate post-training, $t(288) = 3.265$, $p < .0006$, Cohen's $d = 0.37$,

a significant improvement in the WTS (refusal rate mean = 68%), compared with UC training (refusal rate mean = 49%), occurred. At 6-months follow-up, no differences in refusal rates were detected between the WTS (mean refusal rate = 69%) and the UC training (mean refusal rate = 64%, $t(282) = 0.794$, n.s.). However, at 1-year post-assessment, a significant difference in refusal rates between the WTS (mean refusal rate = 68%) and the UC training (mean refusal rate = 58%), $t(272) = 1.739$, $p = .04$, Cohen's $d = 0.21$, was detected. Figure 1 displays these means and confidence intervals.

Social factor effects

A 2 (level of training) $\times$ 4 (assessment point) $\times$ 2 (buyer gender) $\times$ 3 (buyer age – young adult vs. middle-age vs. mature) ANOVA was conducted. A categorical buyer age variable (young adult = ages 21–25 years, $n = 3$; middle age = 26–50 years, $n = 14$; mature age = 51 years and above, $n = 5$) was included in this analysis as a between-subjects factor. Of the total number of PP visits conducted in the study, 12.3% were conducted by young adult buyers, 53.3% by middle-age buyers, and 34.3% by mature-age buyers. A significant main effect for age category emerged, $F(2, 1116) = 22.57, p = .0001$, partial $\eta^2 = .039$. Young buyers garnered more refusals (83.5%) than middle-age (52.4%) or mature (38.2%) buyers. There was no evidence that this social factor moderated the WTS training effect (training $\times$ assessment $\times$ age, $F(4, 1116) = 1.88, p > .05$). The gender-related PP main effect and interactions were nonsignificant. The gender and age of server main effects and interactions were also nonsignificant. Finally, analyses examining the impact of the type of premise (bar, bar/restaurant, bar/package store, restaurant) were conducted, with no statistically significant effects found.

Discussion

WTS RBS training improved refusal rates of alcohol service to apparently intoxicated patrons immediately after training and at 1 year. Given the lack of randomized trials on web-based RBS programs, this is an important finding, which suggests that online training may effectively teach RBS practices compared to live trainings ostensibly following the same state-mandated standardized curriculum. This finding stands in contrast to recent claims about the lack of RBS training effectiveness (cf. Buvik & Rossow, 2017; Toomey et al, 2017) and suggests that RBS training can be effective. Moreover, the level of refusal achieved in the WTS condition (close to 70% at all follow-ups) represented a high level of refusal compared with other published outcomes (e.g., Toomey et al., 1999, 2004, 2005, 2016).

The current investigation does not allow us to separate the impact of web-based delivery from the training content, but it does demonstrate that WTS training was effective. Possible reasons include the following: (a) the WTS training controlled for variability in teaching ability or style and purposeful or inadvertent omission of required content inherent in live training; (b) the WTS program consistently provided standard, high-fidelity training to each trainee across time and location; and (c) by using all media formats (i.e., audio, visual, static and motion graphics, and video), WTS created more engaging, enjoyable, and interactive instruction than live trainers. In particular, online simulations in which servers applied RBS skills in realistic on-premise situations and received feedback to improve them may have

benefited servers. Live trainers, using similar techniques, might produce similar results. However, the quality and fidelity of live training varies in practice (Ker & Chinnock, 2006) and raises the question as to whether live trainers can consistently achieve such success. Because of its automation, online training delivery is more consistent and has a better chance of producing similar improvements every time.

The impact of WTS appeared to be immediate and was maintained over a full year, whereas the refusal rate within the UC training group fluctuated. The differences at 1 year, largely due to a decline in refusal by control groups, suggested that the improvement produced by UC training at 6 months was partly due to error variance, whereas improvement achieved by WTS was real and sustained. Randomization should have balanced error variance in UC training, as well as other biases. Future research should replicate persistence of online RBS training effectiveness to determine the best period for renewing training (many states require re-training at 3- to 5-year intervals) and should examine online server training in different alcohol service settings. The effect sizes for WTS versus UC group differences were medium (.37 at immediate post assessment) to small (.21 at 1-year post assessment). These differences may reflect important effects when scaled to an entire state or country, but continued investigation should focus on ways to improve the impact and persistence of web-based RBS training.

Alcohol service refusal rates in the UC condition never exceeded those in the WTS condition, but they did increase at the 6-month post assessment. A number of possibilities might explain this finding. There might have been enhanced enforcement of serving laws by the state regulators around the 6-month follow-up, but a review of agency records showed no extra enforcement. Deviations from the PP protocol could have raised refusal rates in the UC condition, but PP assignments did not differ by condition. Repeated assessment of the premises in a short period (i.e., from baseline to immediate post-training to 6 months) might have increased control premises' vigilance and refusal rates, a phenomenon witnessed in prior research on alcohol and tobacco products (cf. Erickson et al., 2013; Glanz et al., 2007). Finally, live training in the UC condition might have produced the improvements in alcohol service refusal but achieved less permanency than the WTS training over the 1-year period.

Online delivery of RBS training, such as in WTS, may have greater potential for wide-scale RBS training distribution than live training. It can be easily delivered to large populations over far distances for low cost, when and where servers want it. This may be especially advantageous in the hospitality industry with high staff turnover. However, online training may not be effective for some trainees who benefit from having live trainers respond to their personal needs, monitoring whether they have learned the content, and answering questions. Future research needs to replicate

the effectiveness of online training, especially since it has become a common method of RBS training in several U.S. states.

Finally, PP age may influence RBS decisions by servers, with older apparently intoxicated patrons more likely to be served than younger ones. Servers may feel that older patrons are more experienced at managing intoxication and avoiding risky behavior than younger patrons. Servers may have also been more intimidated by older than younger patrons, making refusal more difficult. The influence of customer age should be highlighted in RBS training because servers may not always be aware of it. However, only three PPs were in the young adult category performing 12.3% of the assessments; this finding should be considered preliminary and in need of further investigation.

Study limitations

There were a number of limitations in this study. Conducting PP assessments during later hours at night might have either raised or lowered refusal rates and possibly affected statistical power. This limitation was weighed against practical and safety considerations. Restaurants (with and without bars) comprised more than 70% of the study premises, many of which close after dinner hours. Pseudo-patron visits had to be scheduled during peak hours for those businesses but may have been early for bars that remained open later. Of note, few "late-trading" establishments (those that serve later than 12:00 midnight) exist in New Mexico, unlike in larger urban settings elsewhere. Thus, the findings may generalize best to premises that are not "late trading." However, if baseline refusal rates had been much higher, concerns might have been raised that PPs were visiting during slow periods and would thus be obvious.

Active recruitment of managers and premises may have overestimated the effect of online training in practice. Managers who participated may have communicated their commitment to RBS techniques and to the importance of the online training more than managers in the UC condition. Management commitment has improved servers' adherence to RBS principles (Ker & Chinnock, 2006).

PP and premise characteristics may limit the findings. PP assessments might have been affected by patron variability, but the PPs were extensively trained, and different ones made visits to the establishments within and across assessment rounds. Repeated PP assessments could have influenced refusal rates, but randomization should have balanced this across conditions. Differential staff turnover could have affected the results, even in the case of a randomized design. There were no data on the reach or quality of training among the UC training control sites. The study was conducted in a single state that required RBS training of all servers. Whether the findings generalize to all of the 36 states that require, incentivize, or encourage RBS training needs confirmation.

Further research should examine the conditions where RBS training is effective at preventing alcohol over-service.

The WTS program is only one form of online training and used interactive media available in the Internet environment, operationalized principles of behavior change and adult learning, and focused on skill acquisition. Not all online RBS courses use multimedia technology, and some focus on presenting knowledge and information more than teaching RBS skills. Whether others are as effective as WTS is unknown and deserves study.

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Author's Note

The project took 6 years to complete, from systematic development to testing of the WTS in a multi-community randomized trial in New Mexico. After project completion and a review of our preliminary results, we reported the WTS RBS training program to the Science and Technology Center (STC—the University of New Mexico's technology transfer center) as an invention, per UNM and NIH rules. At the conclusion of the project, the STC advised our group to commercialize the program via the formation of a private company, and, consequently, Dr. Woodall, Dr. Buller, and Dr. Erwin Bettinghaus (an investor not involved with the research) formed Wedge Communications LLC to do so. The three original primary owners of the program's intellectual property (i.e., University of New Mexico, Klein Buendel, Inc., and Pacific Institute for Research and Evaluation) licensed the program to Wedge Communications, the State of New Mexico's AGD-certified WTS, and it became commercially available to servers statewide in 2011. During all phases of the research and commercialization of WTS, our team has complied with the advice, rules, and procedures at the University of New Mexico regarding scientific research and commercialization. Starting with the report of the WTS program to the STC, there has been an active conflict of interest management program ongoing on all research regarding WTS reported by our group, overseen by Barbara McCrady, director of the UNM-Center on Alcoholism, Substance Abuse, and Addictions. The conflict of interest management program involves a regular annual review of all WTS-related manuscripts and presentations. At no time have the researchers or the company taken any funding from any alcohol production, distribution, marketing, or sales organization during the research or commercialization of the WTS program.

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