THEORETICAL FRAMEWORK AND IMPACT OF THE PHOENIX SOBER ACTIVE COMMUNITY MODEL

Brett Wyker, MS & Jacki Hillios, PhD

November 2020 v 2.0

THE CHALLENGE

It is estimated that more than 95,000 people die from alcohol-related causes in the U.S. each year and over 67,000 die from drug overdose (Esser, et. al, 2020; Hedegaard, Miniño & Warner, 2020). Fueled by the opioid epidemic, drug overdose is now the leading cause of accidental death in the country (CDC, 2018). Professional treatment helps many individuals abstain from or manage their substance use, particularly those with greater substance use severity (Kelly, Bergman, Hoeppner, Vilsaint & White, 2018). However, the demand for substance use treatment is drastically outpacing the availability, as only 12.2% of the estimated 21.6 million individuals in need of substance use treatment are able to successfully access care (SAMHSA, 2019). Still, recovery without treatment is a common occurrence. In fact, only about one in four of those who have achieved stable recovery used treatment to do so (Kelly, Bergman, Hoeppner, Vilsaint & White, 2018; Sobell, Cunningham & Sobell, 1996). While more than half (58%) of those who have struggled with the use of substances will eventually enter sustained recovery (Kessler, 1994), the means by which they achieve sustained recovery varies greatly.

No matter the means of attaining remission, one critical component to sustaining sobriety is finding a recovery support network through which individuals encourage one another and learn about recovery from their respective lived experience (Best, 2012). The stigmatization attached to a history of substance use makes it challenging for some to find this supportive network. Without this network of support, many are forced to either return to the network of users they are familiar with or remain socially isolated, both options increasing the risk of relapse (Best & Lubman, 2017). Additionally, individuals with a substance use disorder are far more likely to have experienced interpersonal trauma (as a child or in adulthood) in which an experience or experiences with others has caused lasting emotional distress (Garami, 2019). For example, Lincoln and colleagues (2006) found that 60–70% of women enrolled in substance use treatment reported that they had been victims of domestic violence from their partners. Liebschutz and colleagues (2016) found that 81% of women and 69% of men with substance use disorder reported past physical or sexual abuse, starting between the ages of 11 and 13. These traumatic experiences leave the victims feeling vulnerable, untrusting of others and that their environments are unsafe (Forbes et al., 2014).

Taken together, we are currently facing a public health crisis that is claiming the lives of over 150,000 people every year. While professional treatment is helping many initiate their recovery, supportive social networks are critically needed to prevent relapse after treatment or to support the large number of people who do not use treatment as part of their recovery process. Above all, these networks must be sensitive to the shame and emotional distress experienced by those seeking help and intentionally create a welcoming and emotionally safe environment where they can heal.

THE PHOENIX SOBER ACTIVE COMMUNITY MODEL

The Phoenix ("Phoenix") is a sober active community that provides free, active and engaging programming - such as rock climbing, CrossFit, yoga, dance classes and social events - to anyone in recovery from a substance use disorder or who chooses to live a sober lifestyle. Phoenix is not a replacement for treatment, nor is it simply a "sober gym." Instead, Phoenix picks up where treatment services leave off by offering a welcoming, safe and supportive community to recover and heal, free to anyone with at least 48 hours of continuous sobriety. Recognizing the interpersonal trauma and social isolation are at the core of many people's addiction, all programming is aimed at bringing individuals into a community that instills hope instead of fear and fosters personal growth without judgment. Phoenix instructors are peers who have lived experiences through their own recovery journey or personal connection to the mission, which promotes trust, hope and emotional safety.

The Phoenix theory of change is illustrated in the organization's logic model (Figure 1). The model focuses on two key strategies: 1) provide access to active and engaging events and 2) build a restorative social network of peers in an emotionally safe environment. There is a great deal of evidence linking participation in physical activity with improvements in physical health (Warburton, Nicol & Bredin, 2006), and, for those struggling with a substance use disorder, physical activity can enhance abstinence and other recovery-related outcomes (Stevens, Hubbard & Leutwyler, 2020; Pekmezi, Carr, Barbera & Marcus, 2012). To open the community to those who may not be interested in group fitness classes, Phoenix also offers events that bring people together, such as book clubs and social gatherings. These activities are just as instrumental in supporting someone's recovery as the physically active events. In research of individuals in recovery from heroin or alcohol use, Best and colleagues (2012) found that the total number of times a person engaged in "meaningful activities," regardless of the type of activity, was positively associated improved functioning and quality of life for individuals. The other factor the researchers found to be critically important for sustained recovery was increasing the number of sober peers in a person's social network, Phoenix's second strategy. Phoenix's strategy isn't simply to increase the number of peers in a person's network. Perhaps more importantly, the network itself must be a place that is healing-focused and emotionally safe, or what organizational psychologists call "psychologically safe." Organization management research into group dynamics has demonstrated that psychological safety or allowing individuals to "employ one's self without fear of negative consequences of self-image," is a fundamental driver of workplace effectiveness (Kahn, 1990). Within this context, respect and acceptance mediates knowledge sharing within a group, resulting in teams working together more efficiently (Yixiang, 2010). In the Phoenix community, psychological safety is also used as a mediator for behavior change. Inclusiveness and respect for others are at the core of the Phoenix community standards, which are agreed upon by every member before participating in programming and are reviewed by instructors at events. The Phoenix approach is to create an emotionally safe environment where one can explore a sober lifestyle and experience self-directed growth. Trust is a principal antecedent to fostering psychological safety (Kahn, 1990) and Phoenix's peer-based model builds trust with individuals attending programming through shared experiences and mutual identification. [Note: while "psychological safety" and "emotional safety" may be operationalized differently across fields of study, for simplicity, the concept will be referred to as "emotional safety" throughout this article.]

FIGURE 1: THE PHOENIX LOGIC MODEL
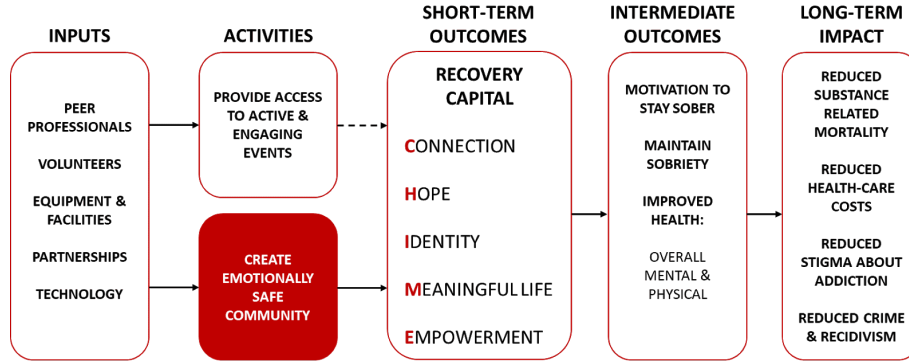
Through their review of 97 studies on personal recovery, Leamy, Bird, Boutillier, Williams and Slade (2011) developed an empirically-based conceptual framework of the recovery process. The framework named with the acronym "CHIME," highlights five dimensions of growth common across descriptions of the recovery process: Connectedness, Hope and optimism about the future, Identity, Meaning in life and Empowerment. The CHIMES conceptual framework aligns with the underlying theories considered when formulating Phoenix's Sober Active Community model and is used to categorize the short-term personal growth outcomes of the members it serves.

Connectedness – Social isolation at a young age has been found to be associated with the onset of addiction later in life (Chou, Liang & Sareen, 2011), while the stigmatization attached to a history of substance use perpetuates the isolation and places many individuals in recovery from a substance use disorder at risk for relapse (Best & Lubman, 2017). Qualitative studies have also demonstrated a pathway to addiction in which socially isolated individuals gain a sense of belonging and support by joining a social network of other users (Dingle, Cruwys & Frings, 2015). Conversely, building connections to a network of peers in recovery has been shown to be among the strongest predictors of sustained remission (Longabaugh, Wirtz, Zywiak, & O'Malley, 2010; Best, et. al., 2012). In this way, overcoming social isolation by strengthening perceptions of connectedness to others - particularly supportive peers in recovery – plays a crucial role in the recovery process. In fact, in a study of over 500 individuals in recovery from substance use disorder, the "shift from a state of isolation to a state of social connectedness" was identified as a principal factor associated with the transition from addiction to recovery and positive changes in the composition of the individuals' social networks (Bathish, et. al, 2017). Participation in group fitness and other active social events initiates social interactions and have been shown to strengthen social connectedness, as participants build relationships and form trust during the activities (Lubans, et. al., 2016). Phoenix leverages the social benefits of fitness and active events to introduce individuals with substance use disorder to a supportive recovery community.

Hope - In longitudinal research of individuals in recovery from a substance use disorder, positive expectations, or "hope," about living a sober lifestyle have been linked to stronger motivation to stay sober and subsequent positive substance use outcomes (Korcha, et al., 2011). While previous experience often influences a person's sense of hope, Social Cognitive Theory (SCT) (Bandura, 1977) highlights three additional social-behavioral pathways through which hope can be formed. First, through "vicarious experiences," in which individuals observe the benefits of a behavior when it is modeled by others. SCT also suggests that hope can be formed through "persuasive communication" from others and through

"psychological attachment," or the emotional response experienced after performing the behavior. Phoenix uses these strategies to instill hope about living a sober life for the individuals it serves. Leveraging the enjoyment, gratification and fun found in group fitness and exercise, members observe one another living a fulfilling sober life. The organization uses persuasive communication in marketing, social media and personal interactions to highlight the benefits and pride that can be found through a life in recovery, and provides, with little barrier to entry, an opportunity for experiential learning and emotional exhilaration.

Identity – Stigma affects people through a social psychological process in which societal stereotyped beliefs are used to form a negative self-image (Link & Phela, 2001). For those with a substance use disorder, the stigma associated with previous substance misuse can bring on or deepen feelings of shame and worthlessness (Wiechelt, 2007) and these negative self-perceptions often result in poorer social functioning (Perlick et al., 2001), delaying and dropping out of treatment (Kushner & Sher, 1991; Sirey et al., 2001) and relapse (Wiechelt & Sales, 2001). Acceptance-based interventions offer a promising approach to breaking the cycle of stigma, shame and poor self-judgment by encouraging acceptance of hardships and a commitment to making necessary positive changes to move forward. In Acceptance and Commitment Therapy (ACT), for example, individuals are encouraged to observe their feelings of shame, remove attachment to the feelings and focus their attention on actions that create self-worth. In a randomized control trial of 133 patients of a substance use inpatient treatment program, it was found that treatment that included ACT reduced feelings of shame and led to fewer days of substance use and higher treatment attendance than treatment as usual (Luoma, Kohlenberg, Hayes & Fletcher, 2012). Interventions that apply Shame Resilience Theory (SRT), which focuses on increasing awareness of shame and its sociocultural triggers, have also effectively reduced feelings of shame and improved treatment outcomes (Hernandez & Mendoza, 2011). Phoenix facilitates a similar cognitive diffusion process in which individuals served are encouraged to shift their identities from "exiled addict" to "supportive friend" and to focus on the positive changes they are making in their life in recovery.

Meaningful Life – Research has shown that individuals who engage in volunteerism have 60% lower mortality rates than those who do not (Oman, Thoresen, & McMahon, 1999). Likewise, in studies of older adults, providing instrumental or emotional support to friends, neighbors and relatives lowered mortality rates by 50% during the study period (Brown, Nesse, Vinokur, & Smith, 2003). Thus, living a meaningful life in which your actions give you a sense of purpose may play an important role in overall well-being. There is evidence linking low purpose in life with alcohol (Robinson et. al., 2007), cocaine (Kinnier, et. al., 1994), and poly-substance abuse (Krentzman, Farkas & Townsend, 2010) and the Substance Abuse and Mental Health Services Administration (SAMHSA) has identified increasing purpose in life as a critical aspect in recovery (Del Vecchio, 2012). Generally speaking, for individuals with substance use disorder having any sober activities to participate in that provide direction and structure protect against relapse (Best, et. al., 2012). Every day of the week, Phoenix provides a wide variety of active events for individuals in recovery to participate in. Beyond just filling a calendar, however, engaging with the Phoenix community provides opportunities to give back to others in a meaningful way. Through a system of mutual aid, individuals who have sustained their sobriety are able to support those new to recovery, gaining a sense of purpose and direction in return.

Empowerment - In their study of a group treatment program for alcohol-dependent men and women, Litt, Kadden, Cooney, & Kabela (2003) found that those with higher baseline self-efficacy, or the confidence one has in their ability to successfully achieve a behavioral outcome, predicted more

improvements in coping during treatment and, in turn, predicted a higher likelihood of maintaining a stable remission. Increased self-efficacy after treatment has also been independently identified as a principal determinant of sustained recovery (Moos & Moos, 2006; Moos, 2007). Bandura's (2004) describes self-efficacy, as "a focal determinant because it affects health behavior both directly and by its influence on the other determinants" and in his pioneering research of self-efficacy (Bandura, 1977) identified successful performance attainment as a fundamental strategy linked to improved self-efficacy. Phoenix leads active events across many disciplines, which allows members to set attainable goals that are supported in an ongoing way by instructors and other members of the community, facilitating successful achievement and fostering greater self-efficacy.

Achieving sustained remission is not a linear process, and relapse may happen at any point in a person's lifetime. However, with regard to the recovery process, it is reasonable to assume that individuals new to recovery are working towards growing in each of the domains of the CHIME framework in order to begin the recovery process, while those who have already lived in recovery for some time are working to sustain their recovery and often looking for a way to give back to the recovery community. Accordingly, the Phoenix model assumes individuals new to recovery may have a more difficult time sustaining their sobriety, but as they continue to engage with the Phoenix community they will experience significant growth in each of the domains of the CHIME framework, resulting in greater motivation to stay sober. Phoenix members in long-term recovery serve as a network of peers and mentors that the entire community can turn to for support. These members also continue participating to maintain the gains they have made in their time in recovery.

RESULTS

As part of its ongoing monitoring and evaluation strategy, Phoenix emails a survey to all members three months after participating in their first event. The survey measures participants' perceptions of emotional safety they have experienced with the Phoenix community over the first three months, how much change occurred in each of the domains of the CHIME framework, motivation to stay sober and health status, as well as self-reported relapse. New scales were developed to measure perceptions of emotional safety and hope. All other questions used are derived from validated instruments, including the Social Connectedness Scale-Revised (Lee, Drape, & Lee, 2001) to measure connectedness, Rosenberg's (1965) Self-Esteem Scale to measure positive identity, the Purpose-in-Life Scale (Robbins & Francis, 2000) to measure meaningfulness in life and the General Self-Efficacy Scale (Chen, Gully & Eden, 2001) to measure empowerment. All measures were pilot tested, refined and validated using responses collected from a sample of members in 2016 and 2017. More details about the development of the survey tool and the Phoenix evaluation framework can be found in Appendix A.

Using evaluation data collected in 2018-19, Wyker & Hillios (2019) tested the principal theory underlying the Sober Active Community model that creating an emotionally safe community drives personal growth in recovery. They found that, in fact, greater attendance at Phoenix events increased members' sense of emotional safety and the sense of emotional safety increases hope, social connectedness and empowerment. In turn, hope, connectedness and empowerment predicted greater motivation to stay sober and improved mental and physical health. While this research illuminated the mechanism for change at work for The Phoenix, little has been reported on the outcomes of participation. Here we present results from our assessment of the changes reported by Phoenix members after three months of participation.

Data used for this analysis included all data collected with the Phoenix evaluation survey from individuals who enrolled between May 26, 2018 through October 31, 2019. During this period, 9,824 individuals completed new member enrollment forms and attended at least one event. In total, 366 of these individuals responded to the evaluation survey and it was assumed that each member of the population had an equal chance of being selected for the survey (simple random sampling). Given this assumption, 366 surveys are sufficient to generate estimates about the entire population of new members, with a 5% margin of error (Kadam & Bhalerao, 2010). However, it was found that survey respondents differed from the total population of new members enrolled during this period in several key demographic areas, self-identified recovery status and in their level of participation (see Table 1 for specific differences), suggesting that there may have been a selection bias in how surveys were collected. To correct for the imbalances between the survey sample and the population, inverse probability weighting was used to generate a weight for each respondent. When applied to analyses, those who were under or overrepresented in the survey (based on their demographics, recovery status and level of participation) represented more or less of the total population (Mansournia & Altman, 2016). Survey respondents were asked if they consider themselves to be a "member" of Phoenix. As the purpose of this study was to assess the outcomes of participation in Phoenix programming, only those who consider themselves to be active members were included in the analyses (n=299). Using the Phoenix logic model as a guide, reported here are changes in the short-term outcomes (each domain of the CHIME framework) and the intermediate outcomes of motivation to stay sober, sustained sobriety and self-reported health of these members after three months of participation. Results are stratified by self-identified recovery status, given the hypothesized difference in outcomes. During the data collection period, approximately 55% of new members in recovery consider themselves to be new to recovery, while 45% consider themselves to be in long-tern recovery.
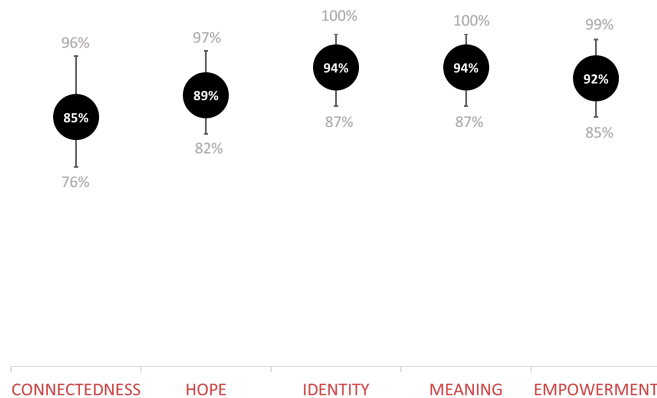
TABLE 1: DEMOGRAPHICS, RECOVERY STATUS & PARTICIPATION
SAMPLE VS. POPULATION

	% Survey Respondents (Sample)	% All New Members (Population)
Age		
38 +	50%	35%
Gender		
Female	43%	39%
Race		
White / Caucasian	84%	76%
Ethnicity		
Hispanic	9%	15%
Sexual Orientation		
Prefer not to answer	6%	11%
Recovery Status		
New to recovery	66%	58%
Participation		
Frequent Attendance*	64%	46%

* Total number of days attended during the study period were divided by the total days since enrollment. Those in the top third of the proportion distribution considered "frequent."
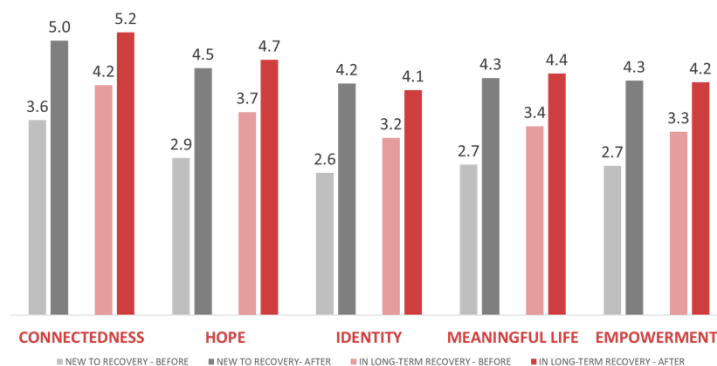
Chart 1 shows the estimated percentage of members new to recovery who reported making an improvement in each domain of the CHIME framework after their first three months of participating in Phoenix programming (with 95% confidence intervals). Across all domains, nearly 9 out 10 members reported making gains in the five common characteristics of a successful recovery process. Moreover, 70% of members who were new to recovery reported they were more motivated to stay sober and it was found that growth on each of these domains was positively associated with the increased motivation to stay sober.

CHART 1: PERCENT OF MEMBERS NEW TO RECOVERY
REPORTING THREE MONTH IMPROVEMENT IN CHIME DOMAINS

|				
96%	97%	100%	100%	99%
85%	**89%**	**94%**	**94%**	**92%**
76%	82%	87%	87%	85%
CONNECTEDNESS	HOPE	IDENTITY	MEANING	EMPOWERMENT

Connectedness was rated on a 1 to 6 scale and all other outcomes were rated on a 1 to 5 scale, where 1 was the lowest rating and 5 or 6 was the highest rating. Chart 2 shows the average rating for each CHIME domain when joining Phoenix and three months later, for members new to recovery and for those in long-term recovery. The change on all outcomes for both those new to recovery and those in long-term recovery was statistically significant ($p < 0.05$). As expected, those new to recovery had lower ratings on all CHIME domains when they joined Phoenix than those who identified as being in long-term recovery and reported a greater amount of change in these domains. Nevertheless, members who were in long-term recovery also reported growth in each domain, suggesting that participation helped these individuals maintain or grow in areas that support their recovery.

CHART 2: MEAN RATINGS ON CHIME DOMAINS BEFORE AND AFTER JOINING PHOENIX
NEW TO RECOVERY VS. IN LONG-TERM RECOVERY

CONNECTEDNESS   HOPE   IDENTITY   MEANINGFUL LIFE   EMPOWERMENT
■ NEW TO RECOVERY - BEFORE   ■ NEW TO RECOVERY- AFTER   ■ IN LONG-TERM RECOVERY - BEFORE   ■ IN LONG-TERM RECOVERY - AFTER

While overall participants at the Phoenix report 87% remaining sober after 3 months, we naturally see some differences between new-to-recovery and long-term recovery individuals. Chart 3 shows the percentage of members who reported relapsing (with 95% confidence intervals) by recovery status. As expected, members who identified as being in long-term recovery were less likely to relapse, with only 6% reporting any substance use in the past three months. While 19% of members new to recovery reported that they had relapsed, nearly three-quarters (74%) had returned to sobriety and reported Phoenix helped them do so. Overall, fewer than 20% of members had relapsed during the first three months of participation.

CHART 3: SELF-REPORTED THREE-MONTH RELAPSE RATES
NEW TO RECOVERY VS. IN LONG-TERM RECOVERY
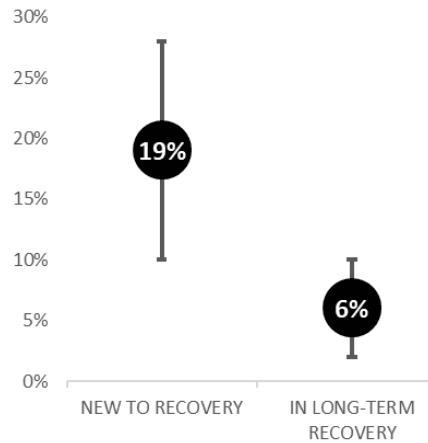
Finally, self-rated health status was examined to assess the potential impact that participation in Phoenix programming may have on reducing drug-related healthcare cost in the U.S. Self-rated health status is a single-item measure of health-related quality of life included in several large-scale national health studies as an indicator of a population's overall well-being. Across these studies, lower self-rated health status has consistently been associated with mortality, adverse health events and health care utilization (Idler & Benyamini, 1997). Thus, those who rate their health as "fair" or "poor" are predicted to add significantly to the nation's healthcare costs. Data collected through the Behavioral Risk Factor Surveillance System in 2019 show that, nationally, 18% of Americans rate their health as "fair" or "poor" (CDC, 2019). By comparison, 57% of Phoenix members rate their health on their first day at Phoenix as "fair" or "poor." However, after three months of participating, this number dropped to only 4%, a rate roughly four times lower than the national average.

CHART 4: SELF-REPORTED FAIR OR POOR HEALTH STATUS
PHOENIX MEMBERS VS. GENERAL POPULATION
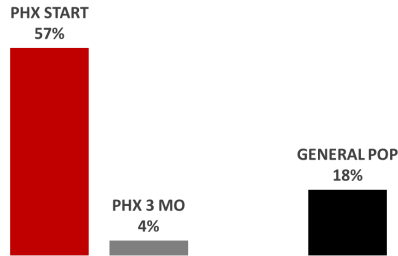
CONCLUSION

Services and supports during the critical period after treatment and across the life course of a substance use disorder are markedly absent from the continuum of care. Through Phoenix programming, individuals with a substance use disorder are able to engage in meaningful activities alongside peers with lived experiences, all within a culture that is healing focused. Those new to recovery are able to make connections and improve their self-perceptions in ways that are critical to a successful recovery process, while members who have sustained their recovery continue to thrive by contributing to the greater recovery community. Consequently, thousands of individuals are able to sustain their remission from substance use, improve their health and lessen the burden of drug and alcohol related healthcare cost in the U.S.

APPENDIX A: PHOENIX EVALUATION METHODS

Phoenix emails a survey to all members three months after participating in their first event. The survey measures participants' perceptions of emotional safety they have experienced with the Phoenix community over the first three months, how much change occurred in each of the domains of the CHIME framework, motivation to stay sober and health status, as well as self-reported relapse. As an incentive, individuals who completed the survey were entered into a monthly drawing for a $25 gift card to a retail store or $50 credit toward Phoenix merchandise.

All measures were pilot tested, refined and validated using responses collected from a sample of members in 2016 and 2017. Items were evaluated and either removed or retained based on the following psychometric benchmarks:

- Internal consistency of scale, Cronbach's Alpha >=.70
- Excluded items that increased Cronbach's Alpha when removed
- Item "difficulty," or the mean/ # response ideally between 0.20 and 0.80
- Item discrimination, Correlated Item Total Correlation >=.40
- Factor loading >.70 with items of the same domain on one factor

New scales were developed to measure perceptions of emotional safety and hope. All other questions used are derived from validated instruments, including the Social Connectedness Scale-Revised (Lee, Drape, & Lee, 2001) to measure connectedness, Rosenberg's (1965) Self-Esteem Scale to measure positive identity, the Purpose-in-Life Scale (Robbins & Francis, 2000) to measure meaningfulness in life and the General Self-Efficacy Scale (Chen, Gully & Eden, 2001) to measure empowerment.

To measure perceptions of psychological safety, members were asked to rate how frequently they experience various displays of psychological safety while participating in events (e.g., respected, valued, etc.). Response options were scored on a five-point scale, ranging from "never" (1) to "always" (5). Outcomes related the CHIME domains, motivation to stay sober, physical health and mental health were measured as perceived change in each outcome over the first three months of participation. As members participated in Phoenix programming, they may have changed their understanding of the recovery-related outcomes being measured and pre-post participation assessments could be limited by a ceiling effect in the data collection process. For example, all members must have 48 hours of sobriety before attending events. Therefore, members who are new to recovery, particularly those who have recently completed treatment programs, are likely to have high self-ratings on baseline measures of recovery-related outcomes the first day they attend an event, as they have been able to successfully keep their substance use disorder in remission. These "baseline" measures speak more to the benefit of services used (or not used) prior to coming to Phoenix than the start of the recovery process. To account for the high potential for "response shift" before and after participation (Levinson, Gordon, & Skeff, 1990) and to provide more variability in responses, a retrospective design was utilized in the evaluation survey. To measure changes in the CHIME domains, motivation to stay sober, overall health, physical health, and mental health, members were asked to rate how well items related to each domain and how they described themselves on the first day they started participating and how these items describe themselves currently. Response options for items related to hope, identity, meaningful life and empowerment were scored on a five-point scale, ranging from "not at all" (1) to "completely" (5), while response options for the social connectedness items were scored using the SCS-R six-point scale of "strongly disagree" (1) to "strongly agree" (6). Following the format of the widely-used single indicator

of Self-Rated Health (Idler and Benyamini, 1997), response options for single item questions regarding physical health, mental health and motivation ranged from "Excellent" [1] to "Poor" [5] and were reversed coded during the analysis to align with the response options of all other items included in the survey. A different score was calculated for each item by subtracting the rating given for the first day from the rating given for the current day. The data were, therefore, not treated as absolute ratings of pre and post participation. Rather, they are treated as cross-sectional data points that allow for relative comparisons.

REFERENCES

Anglin, M. D., Hser, Y. I., & Grella, C. E. (1997). Drug addiction and treatment careers among clients in the Drug Abuse Treatment Outcome Study (DATOS). Psychology of Addictive Behaviors, 11, 308 – 323.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. Psychological review, 84(2), 191.

Bathish, R., Best, D., Savic, M., Beckwith, M., Mackenzie, J., & Lubman, D. I. (2017). "Is it me or should my friends take the credit?" The role of social networks and social identity in recovery from addiction. Journal of Applied Social Psychology, 47(1), 35-46.

Becker, M. H. (1974). The health belief model and sick role behavior. Health education monographs, 2(4), 409-419.

Best, D. (2012). *Addiction recovery: a movement for social change and personal growth in the UK*. Brighton: Pavilion Publishing.

Best, D., Gow, J., Knox, T., Taylor, A., Groshkova, T., & White, W. (2012). Mapping the recovery stories of drinkers and drug users in Glasgow: Quality of life and its associations with measures of recovery capital. Drug and Alcohol Review, 31(3), 334-341.

Best, D., & Lubman, D. (2017). Friends matter but so does their substance use: The impact of social networks on substance use, offending and wellbeing among young people attending specialist alcohol and drug treatment services. *Drugs: Education, Prevention and Policy*, *24*(1), 111-117.

Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. Psychological science, 14(4), 320-327.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. Organizational research methods, 4(1), 62-83.

Chou, K. L., Liang, K., & Sareen, J. (2011). The association between social isolation and DSM-IV mood, anxiety, and substance use disorders: wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions. The Journal of clinical psychiatry, 72(11), 1468-1476.

Centers for Disease Control and Prevention (CDC). Drug Overdose Death Data, 2018. Available at: https://www.cdc.gov/drugoverdose/data/statedeaths.html

Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data, 2019. Available at: https://www.cdc.gov/brfss/brfssprevalence/.

Dingle, G. A., Cruwys, T., & Frings, D. (2015). Social identities as pathways into and out of addiction. Frontiers in psychology, 6, 1795.

Del Vecchio, P. (2012). SAMHSA's working definition of recovery updated. *Substance Abuse and Mental Health Services Administration (SAMHSA)* Retrieved from https://www.samhsa.gov/recovery

Esser, M. B., et. al, (2020). Deaths and years of potential life lost from excessive alcohol use—United States, 2011–2015. Morbidity and Mortality Weekly Report, 69(30), 981.

Ferrari, J. R., Stevens, E. B., Legler, R., & Jason, L. A. (2012). Hope, self-esteem, and self-regulation: Positive characteristics among men and women in recovery. Journal of Community Psychology, 40(3), 292-300.

Forbes, D., Lockwood, E., Phelps, A., Wade, D., Creamer, M., Bryant, R. A., & Donnell, M. (2014). Trauma at the hands of another: Distinguishing PTSD patterns following intimate and nonintimate interpersonal and noninterpersonal trauma in a nationally representative sample. Journal of Clinical Psychiatry, 75(2), 147–153.

Garami, J., Valikhani, A., Parkes, D., Haber, P., Mahlberg, J., Misiak, B., Frydecka, D. & Moustafa, A. A. (2019). Examining perceived stress, childhood trauma and interpersonal trauma in individuals with drug addiction. Psychological reports, 122(2), 433-450.

Hernandez, V. R., & Mendoza, C. T. (2011). Shame resilience: A strategy for empowering women in treatment for substance abuse. Journal of Social Work Practice in the Addictions, 11(4), 375-393.

Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: a review of twenty-seven community studies. Journal of health and social behavior, 21-37.

Kadam, P., & Bhalerao, S. (2010). Sample size calculation. International journal of Ayurveda research, 1(1), 55.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of management journal, 33(4), 692 -724.

Kelly, J. F., Bergman, B., Hoeppner, B. B., Vilsaint, C., & White, W. L. (2017). Prevalence and pathways of recovery from drug and alcohol problems in the United States population: Implications for practice, research, and policy. Drug and Alcohol Dependence, 181, 162-169.

Kessler, R. C. (1994). The national comorbidity survey of the United States. International Review of Psychiatry, 6(4), 365-376.

Kinnier, R. T., Metha, A. T., Okey, J. L., & Keim, J. (1994). Adolescent substance abuse and psychological health. Journal of Alcohol and Drug Education.

Korcha, R. A., Polcin, D. L., Bond, J. C., Lapp, W. M., & Galloway, G. (2011). Substance use and motivation: a longitudinal perspective. The American Journal of Drug and Alcohol Abuse, 37(1), 48-53.

Krentzman, A. R., Farkas, K. J., & Townsend, A. L. (2010). Spirituality, religiousness, and alcoholism treatment outcomes: A comparison between black and white participants. Alcoholism Treatment Quarterly, 28(2), 128-150.

Kushner, M. G., & Sher, K. J. (1991). The relation of treatment fearfulness and psychological service utilization: An overview. Professional Psychology: Research and Practice, 22(3), 196.

Leamy, M., Bird, V., Le Boutillier, C., Williams, J., & Slade, M. (2011). Conceptual framework for personal recovery in mental health: systematic review and narrative synthesis. The British Journal of Psychiatry, 199(6), 445-452.

Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. Journal of counseling psychology, 48(3), 310.

Lincoln, A. K., Liebschutz, J. M., Chernoff, M., Nguyen, D., & Amaro, H. (2006). Brief screening for co-occurring disorders among women entering substance abuse treatment. Substance Abuse Treatment, Prevention, and Policy, 1, 26–26

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. Annual review of Sociology, 27(1), 363-385.

Longabaugh, R., Wirtz, P. W., Zywiak, W. H., & O'malley, S. S. (2010). Network support as a prognostic indicator of drinking outcomes: The COMBINE study. Journal of Studies on Alcohol and Drugs, 71(6), 837-846.

Lubans, D., Richards, J., Hillman, C., Faulkner, G., Beauchamp, M., Nilsson, M., ... & Biddle, S. (2016). Physical activity for cognitive and mental health in youth: a systematic review of mechanisms. Pediatrics, 138(3).

Luoma, J. B., Kohlenberg, B. S., Hayes, S. C., & Fletcher, L. (2012). Slow and steady wins the race: A randomized clinical trial of acceptance and commitment therapy targeting shame in substance use disorders. Journal of consulting and clinical psychology, 80(1), 43.

Mansournia, M. A., & Altman, D. G. (2016). Inverse probability weighting. Bmj, 352, i189.

Oman, D., Thoresen, C. E., & McMahon, K. (1999). Volunteerism and mortality among the community-dwelling elderly. Journal of Health Psychology, 4(3), 301-316.

Pekmezi, D. W., Carr, L. J., Barbera, B., & Marcus, B. H. (2012). The role of physical activity in treatment of substance use disorders. In Physical activity across the lifespan (pp. 171-191). Springer, New York, NY.

Perlick, D. A., Rosenheck, R. A., Clarkin, J. F., Sirey, J. A., Salahi, J., Struening, E. L., & Link, B. G. (2001). Stigma as a barrier to recovery: adverse effects of perceived stigma on social adaptation of persons diagnosed with bipolar affective disorder. Psychiatric services, 52(12), 1627-1632.

Robinson, E. A., Cranford, J. A., Webb, J. R., & Brower, K. J. (2007). Six-month changes in spirituality, religiousness, and heavy drinking in a treatment-seeking sample. Journal of Studies on Alcohol and Drugs, 68(2), 282-290.

Robbins, M., & Francis, L. J. (2000). Religion, personality, and well-being: The relationship between church attendance and purpose in life. Journal of Research on Christian Education, 9(2), 223-238.

Rosenberg, M. (2015). Society and the adolescent self-image. Princeton university press.

Sirey, J. A., Bruce, M. L., Alexopoulos, G. S., Perlick, D. A., Friedman, S. J., & Meyers, B. S. (2001). Stigma as a barrier to recovery: Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. Psychiatric services, 52(12), 1615-1620.

Sobell, L. C., Cunningham, J. A., & Sobell, M. B. (1996). Recovery from alcohol problems with and without treatment: prevalence in two population surveys. American journal of public health, 86(7), 966-972.

Stevens, M., Hubbard, E., & Leutwyler, H. (2020). Tools You'll Have for the Rest of Your Life: A Qualitative Evaluation of a Fitness and Vocational Training Program for Substance Use Recovery. Substance Use & Misuse, 55(4), 628-635.

Wiechelt, S. A. (2007). The specter of shame in substance misuse. Substance Use & Misuse, 42(2-3), 399-409.

Wiechelt, S. A., & Sales, E. (2001). The role of shame in women's recovery from alcoholism: The impact of childhood sexual abuse. Journal of Social Work Practice in the Addictions, 1(4), 101-116.

Wyker BA, Hillios JS. (2019) Psychological safety as a mediator for personal growth and social connection: An assessment of the Sober Active Community model. In: Garets M, Archer S, Kitchens C, Cochran G, Gordon AJ. The 2019 Addiction Health Services Research Conference: Insights, review, and abstracts. Substance Abuse, 40(4):469-472 (supp 192).

Zhang, Y., Fang, Y., Wei, K. K., & Chen, H. (2010). Exploring the role of psychological safety in promoting the intention to continue sharing knowledge in virtual communities. International Journal of Information Management, 30(5), 425-436.