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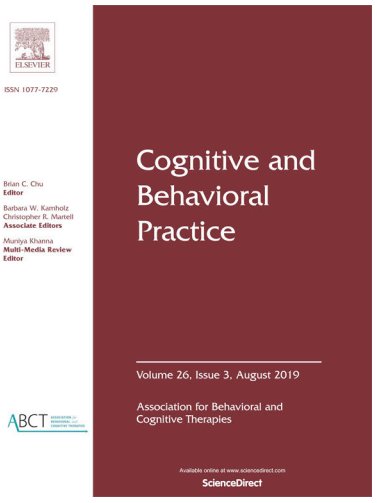

Development, Feasibility, and Acceptability of Single-Session Behavioral Activation for the Treatment of Mild-Moderate Alcohol Use Disorder

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Development, Feasibility, and Acceptability of Single-Session Behavioral Activation for the Treatment of Mild-Moderate Alcohol Use Disorder

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Suggested Running Head: Development, Feasibility, and Acceptability of Single-Session BA for AUD

Keywords: Teletherapy, Behavioral activation, single-session intervention, harm reduction, alcohol-use disorder

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Highlights

- Single-session BA for mild-moderate AUD is feasible and acceptable.
- The intervention mitigated feelings of stigma and avoided reported treatment fears.
- Personalizing booklet activities may increase accountability and adherence.
- Participants accepted the positive reinforcement framework of the intervention.

Abstract

Introduction. Alcohol use disorder (AUD) is a prominent cause of mortality and impaired quality of life. Mild-moderate AUD is widespread, frequently untreated, and causes substantial societal burden. However, there is a dearth of psychosocial treatments for people with mild-moderate AUD who are unlikely to engage in treatment.

Methods. This gap was addressed by the development of an individual, 90-minute, single-session behavioral activation (BA) psychotherapy intervention, derived from previous multi-session BA interventions for substance use disorder (SUD). Harm reduction was a guiding principle for this ultra-brief BA (UBA) treatment, which did not prescribe abstinence as a treatment goal and offered tools to identify, plan, and perform value-based, alcohol-free activities. Twenty individuals with mild-moderate AUD received the intervention, and seventeen completed the feedback interview.

Results. This controlled pilot study reports on the feasibility and acceptability of UBA through the rate of enrollment, self-reported treatment acceptability, and qualitative feedback from semi-structured interviews. Overall, the treatment was feasible and acceptable to the study population. Interview feedback indicated that the positive reinforcement framework of UBA was likely a central pillar for its acceptability. Participants indicated that a follow-up contact could increase accountability and highlighted some difficulties with using the at-home booklet following treatment.

Conclusions. This study demonstrates preliminary feasibility and acceptability of UBA. However, further studies of brief interventions in larger and more representative samples are necessary to uncover how to better motivate behavior change in those reluctant to join treatment and promote implementation in primary care practices. (NCT#: [MASKED FOR REVIEW])

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1 Introduction

Alcohol use disorder (AUD) is characterized by a problematic pattern of alcohol use that leads to significant distress and problems in daily functioning (Carvalho et al., 2019). Nearly one-third of adults will meet DSM-V criteria for AUD at some point in their lifetime (Grant et al., 2015). According to the 2022 National Survey on Drug Use and Health conducted in the United States, almost thirty million individuals aged 12 years and older met the criteria for an AUD in the preceding 12 months. Furthermore, alcohol use is recognized as a leading risk factor for premature death and disability among individuals aged 15-49, with excessive alcohol consumption causing one-tenth of deaths in working-age US adults (Griswold et al., 2018; Sacks et al., 2015). The severe consequences of increased alcohol use are a result of both its co-occurrence with mood and anxiety disorders and aggravation of a wide spectrum of medical conditions, including cardiovascular and gastrointestinal diseases (Donroe & Edelman, 2022; MacKillop et al., 2022).

Despite the high prevalence, significant mortality, and overall public health burden, AUD remains undertreated, with treatment rates that are among the lowest of any psychiatric disorder. The 2022 National Survey on Drug Use and Health reports that an estimated 60% of adults with a major depressive episode received treatment while less than 10% of adults with an AUD received treatment (2022). For individuals who do undergo treatment, rates of abstinent and non-abstinent recovery are less than 20% (Fan et al., 2019). Moreover, AUD often assumes a chronic nature with recurring periods of abstinence and relapse (McKay & Hiller-Sturmhöfel, 2011; Schwippel et al., 2022; Sliedrecht et al., 2019). Taken together, it is critical to both increase access to treatment and improve treatment adherence and efficacy for AUD. Potential barriers in the treatment-seeking process span person-related (attitudinal barriers, stigma, socioeconomic status) and treatment-related (lack of treatment knowledge and options, cost of treatment) factors (Venegas et al., 2021). While the relative relevance of these barriers remains unknown, addressing them is crucial when developing novel treatments for AUD.

1.1 Harm Reduction as a Treatment Goal

One of the main barriers to treatment is a perceived mismatch between personal treatment goals and the expected outcomes of the treatment paradigm. Individuals who experience difficulties with alcohol use often perceive total abstinence as the primary definition of recovery in formal treatment settings (Tucker et al., 2020a; Witkiewitz et al., 2019). People with AUD may wish to regain control over their drinking habits but not to abstain completely. This gap between individual treatment goals and perception of conventional treatment goals may prevent treatment seeking altogether (Henssler et al., 2021; Wallhed Finn et al., 2014). Importantly, abstinence is not the only marker of recovery in AUD treatment. For example, effective treatments for AUD can also focus on improving quality of life and social functioning, with people exerting great control over their alcohol use to achieve these goals. General improvements in social, emotional, and physical well-being can be achieved through a reduction in drinking; thus, developing and implementing paradigms with these goals in mind may promote engagement in treatment for AUD among affected individuals (Witkiewitz & Tucker, 2020).

1.2 Teletherapy for AUD

Compared to in-person psychotherapy, teletherapy is generally recognized to be similarly effective, and remains a common mode of delivery since the COVID-19 pandemic (Davis et al.,

2024; Trusty et al., 2026). Treatment satisfaction and therapeutic alliance ratings are typically comparable between teletherapy and in-person therapy (Jenkins-Guarnieri et al., 2015). Several studies indicate potential benefits and drawbacks of administering treatment in a synchronous virtual format. Teletherapy produced mixed responses regarding accessibility – some participants found teletherapy to be more accessible as it avoids transportation challenges, is more convenient, and the method of receipt is more flexible (Crawford et al., 2025). However, limited access to and affordability of technology or the internet and lack of private locations can prevent some people from accessing teletherapy (Moeller et al., 2022). One advantage of teletherapy is that it can reduce the experience of stigma associated with receiving treatment. People with AUD fear being labeled with stigmatizing language such as “addict” or “alcoholic,” have concerns about breaches of confidentiality, and experience embarrassment when discussing their problems (Finn et al., 2023). Stigma is also negatively correlated with treatment-seeking rates, suggesting that stigma may decrease willingness to seek professional help (Hammarlund et al., 2018). Teletherapy can limit opportunities where patients feel judged by their employers or other people present at a clinic, highlighting the potential of this modality to increase treatment seeking (Girard et al., 2023).

1.3 Behavioral Activation for AUD

To address treatment barriers, we set out to develop a novel single-session intervention for AUD with high acceptability due to its brevity and its focus on supporting clients in reaching their alcohol use goals without requiring abstinence. Behavioral activation (BA) represents an ideal candidate for such an intervention due to its strong evidence base, relative simplicity, and client-centered nature (Kanter et al., 2010a). Key components include a behavioral focus on scheduling and performing value-based activities to increase positive reinforcement. BA for substance use is an evidence-based intervention that was developed to address substance-free reinforcement deficits observed in individuals with substance use disorders (SUD) (MASKED FOR REVIEW). The core of BA for SUD is to identify, schedule, and increase engagement in positively reinforcing and value-aligned substance-free activities, thereby reducing the overall value of and engagement in substance use. To date, BA for SUD has been mostly investigated in in-person and virtual formats in individuals with moderate to severe SUDs who have entered community-based outpatient and residential treatment programs (MASKED FOR REVIEW; Pott et al., 2022). It is unknown if BA is an effective intervention for less severe alcohol and substance use disorders.

1.4 Single-Session BA Intervention

Offering BA as a single-session intervention has the potential to promote positive behavior change while increasing scalability of implementation. Waiting periods for outpatient psychotherapy can last more than 30 days and longer wait times have also been associated with a greater worsening of symptoms (Blech et al., 2017; Furukawa et al., 2014). Single-session interventions (SSIs) may increase the availability of appointments, while also potentially reducing no shows, cancelations, and treatment dropout (Perreault et al., 2023, Lappan et al., 2020). A brief intervention may also reduce the time and financial burden associated with attending multiple treatment sessions and address limitations in the availability of qualitied personnel for the treatment of AUD and SUD (Pullen & Oser, 2014; Schleider & Beidas, 2022). These advantages may be particularly relevant for individuals with AUD who perceive their need for treatment as limited or who seek to reduce rather than completely stop their alcohol use. Thus, a single session

format may provide a low burden opportunity to intiate behavior change while avoiding the commitment required by a longer treatment course.

Given the disconnect in expectations with current treatment options, a brief, action-oriented intervention may be more appealing than a multi-session treatment course to those individuals who want to reduce their alcohol use (Kaner et al., 2018). Motivational interviewing (MI), for example, has been widely studied and disseminated as a brief intervention to foster change in behavior with regard to alcohol use (Rollnick & Miller, 1995). However, MI primarily focuses on resolving ambivalence and strengthening motivation, whereas BA provides a framework for translating motivation into specific behavioral changes. This distinction may be particularly important for individuals who recognize a desire to reduce their alcohol use but may have limited awareness of alternative sources of reinforcement. Similarly, brief alcohol interventions delivered through screening, brief intervention, and referral to treatment (SBIRT) commonly emphasize increasing awareness of alcohol use, discussing associated risks, and facilitating motivation or referral to additional care (Chi et al., 2022; O'Donnell et al., 2014). Although these approaches can support motivation and treatment engagement, they may provide less opportunity to develop a concrete plan for increasing engagement in rewarding alternatives to alcohol. In contrast to MI and SBIRT, behavioral economics-based interventions have reduced alcohol consumption among college students (Murphy et al., 2012) and increased participation in and enjoyment of alcohol-free activities among adults receiving an outpatient intervention for AUD (Meshesha et al., 2020). Together these findings suggest that brief interventions may be more effective when they promote engagement in activities alternative to alcohol.

There exists strong evidence that increasing engagement in valued alcohol-free activities and deriving positive reinforcement from these experiences can shift behavior away from alcohol-use (Acuff et al., 2019; Bickel et al., 2014). BA is grounded in this framework as it aims to help individuals identify and engage in rewarding alcohol-free activities that compete with the positive reinforcement of alcohol, and thus provides a theoretically relevant approach. Prior research has also shown the potential for BA to be effective even in the format of a single-session intervention. For example, in a study of college students who received a single-session BA intervention to reduce depressive symptoms, participants assigned to the intervention experienced a greater decrease in depressive symptoms compared to the control group (Reyes Parra et al., 2019). While this study investigated brief BA for depression, given the need for single session interventions and the utility of BA in increasing engagement in alternative sources of reinforcement, single-session BA may provide patients with practical strategies to reduce alcohol-use. To our knowledge, no study has investigated single-session BA in this population, thus the present study investigates the acceptability of a 90-minute single session BA intervention that focuses on increasing engagement in alcohol-free activities.

1.5 Study Aims

The present study developed a novel 90-minute ultra-brief behavioral activation (UBA) teletherapy intervention specifically tailored for individuals with mild-moderate AUD. This single-session intervention is rooted in harm reduction by focusing on increasing positive reinforcement by developing actionable goals to improve their satisfaction with various life areas through alcohol-free, value-based activities. Here, we describe the development of the UBA intervention and examine the feasibility and acceptability in individuals with mild-to-moderate AUD in a pilot

randomized controlled trial. We report on quantitative and qualitative data from self-report questionnaires and a semi-structured interview on the participant's intervention experience.

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2 Methods

2.1 Study Design

The present study was a double-arm open-label trial that examined a 90-minute, single-session UBA intervention, designed for individuals with mild-to-moderate AUD. UBA was derived from the [TITLE MASKED FOR REVIEW] behavioral activation treatment for substance use disorder (MASKED FOR REVIEW). Participants were randomly assigned to either the UBA intervention arm or an assessment-only arm (n = 20 in each arm). In the control condition, participants attended all study sessions, except for the intervention. UBA interventions were conducted by two clinical psychology doctoral students with prior training and experience in providing BA for SUD in clinical trials ([MASKED FOR REVIEW]) under the supervision of a licensed psychologist who developed BA for SUD (SD). Trained research assistants completed all study procedures remotely over the phone or via secure videoconferencing. The study was approved by the (MASKED FOR REVIEW) and was preregistered on the International Clinical Trials Registry Platform (MASKED FOR REVIEW). The present study only reports on data collected from the intervention feedback interview and intervention-related self-reports at the first follow-up visit 2 weeks after the intervention. Alcohol use outcomes are presented in a separate manuscript (MASKED FOR REVIEW).

2.2 Participants

Participants were recruited primarily from the (MASKED FOR REVIEW) over the course of 12 months. Recruitment methods included mass emails sent to the (MASKED FOR REVIEW) listserv and departmental and program-level listservs at the university. Flyers were posted on the university campus, grocery stores, coffee shops, and other public places. Participants were also recruited over the Internet through social media ads and websites. All recruitment material included basic study details and a link to a pre-screening survey. Participants found pre-eligible through the survey were contacted to further assess study eligibility.

All participants provided informed consent prior to phone screening and enrollment. Inclusion criteria included: (a) at least 18 years old, and (b) diagnosis of mild or moderate AUD as determined by the Mini-International Neuropsychiatric Interview (MINI) (Sheehan, 1998). Exclusion criteria included: (a) psychotic disorder as determined by the MINI, (b) current suicidality as determined by the Columbia Suicide Severity Rating Scale (C-SSRS) (Posner et al., 2011), (c) diagnosis of severe AUD or any other severe SUD as determined by the MINI, (d) receiving concurrent psychotherapy for a mental health-related condition, (e) concurrent use of FDA-approved medications for the treatment of a substance use disorder, (f) change in psychiatric medication in the last four weeks, and (g) inability to provide informed, voluntary, written consent.

2.3 Study Visit Schedule

Following screening, participants completed a baseline assessment consisting of self-reported demographics, self-report questionnaires, and the Timeline Followback interview (TLFB) to record their alcohol and substance use over the past 90 days (Agrawal et al., 2008). After completion of the baseline assessment, participants randomized into the intervention group attended a single 90-minute UBA session by secure videoconferencing. Three follow-up visits were conducted 2 weeks, 1 month, and 3 months after the intervention. At the 2-week follow-up, research assistants also conducted the intervention feedback interview with participants.

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2.4 Intervention

UBA is modeled off the [TITLE MASKED FOR REVIEW] Treatment Manual (MASKED FOR REVIEW), adapted to be delivered as a single 90-minute individual psychotherapy session. The main differences between UBA and [MASKED FOR REVIEW] are the condensing of the intervention to a single session, the shift in focus on alcohol use disorder, the emphasis on positive reinforcement of value-based activities, and the virtual format combined with the physical at-home booklet provided to the participants. The manual is a 19-page document that lists all the items to be covered for each area of focus and provides detailed sample text for the therapist. During the intervention, the therapists used an at-home booklet that was developed for this study to act as both a scaffold for the intervention and empty worksheets to be completed independently by the participant. The at-home booklet was a spiral-bound, letter-sized collection of worksheets with 41 pages that included two pages of introduction to the intervention and a final page that listed the homework for the following two weeks together with an encouraging statement (see Supplementary Material). During the session, the therapist guided the participants in completing the “Your Day” section of the booklet and one or two entries for each remaining section of the booklet (“Your Life,” “Alternative Activities,” and “Your Daily Plan”). Remaining entries were expected to be completed by the participant in the two weeks following the intervention. Below we describe in detail the individual intervention elements and their usage within the session as outlined in the intervention manual developed for this study.

2.4.1 Psychoeducation

Prior to the intervention, participants were provided with the at-home booklet by mail to reference during the session. At the beginning of the intervention, the therapists started with brief introductions to build rapport with the participant and asked several questions to conduct a brief functional analysis of the participant’s alcohol use to identify goals and inform specific behavior changes (Martell et al., 2001). Participants were introduced to the “positive cycle” of rewarding activities (“value-based, enjoyable, important”) and positive mood by explaining that activities that are aligned with individual values create positive emotions and thus drive continued and increased pursuit of these activities (Lewinsohn, 1974). Using this positive cycle, therapists stated the goal of working with the participant to add enjoyable and meaningful activities to their life, while removing those that are less enjoyable. In addition, participants were introduced to the concept that allocation of time and effort to alcohol use hinders the pursuit of meaningful and enjoyable activities.

2.4.2 Enjoyment and Importance of Daily Activities

The therapist then guided the participant to complete the “Your Day” worksheet in the at-home booklet as a method of monitoring daily activities (Lejuez et al., 2001). During this process, participants were asked to list the prior day’s activities hour-by-hour and to provide a numerical rating (one to ten) of importance and enjoyment for each activity. For this and all subsequent activities during the intervention, participants were asked to fill in the at-home booklet while the therapist entered the same information on a digital copy visualized to the participant via screen share functionality. The therapist then guided a conversation with the participant to identify daily activities with low importance or enjoyment as a transition to the value-based activities component of the session.

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2.4.3 Life Areas, Values, and Activities

Once the “Your Day” log was completed and discussed, the therapist transitioned to discussing values across different life areas to identify areas where behavior change can promote personal goals and values (Gaynor & Harris, 2008). For this activity, the “Your Life” worksheet of the at-home booklet was introduced with a brief explanation of the difference between an “activity” (something that is measurable and observable by others) and a “value” (something about life that is personally important). A range of life areas (family, couples and intimate relations, parenting, friends and social life, work, education and training, hobbies and recreation, spirituality, citizenship and community life, physical health, emotional health) was introduced. Participants were asked to identify three life areas that were the most important to them or could use the most improvement. The therapist then worked with the participant to identify at least one value (e.g., be a supportive friend) and activity (e.g., call my friend at least once a week) for each of the chosen life areas. Importantly, up to this point in the treatment session, discussions surrounding alcohol use were not prioritized. Instead, the participants were offered space to understand how they are currently spending their time and the changes they would like to make in terms of adding activities that are congruent with their values.

2.4.4 Role of Alcohol

Following the completion of the life areas and values activity, the therapist encouraged the participant to think about where their alcohol use fits into their life by examining the benefits and harms of alcohol use in the pursuit of their values. This conversation aims to address the participant’s ambivalence for change. To motivate behavior change, participants were encouraged to identify other activities that serve the same values as alcohol. Importantly, the treatment took a harm-reduction stance by explicitly acknowledging the perceived positive effects of alcohol identified by the participant. After acknowledging the perceived benefits of alcohol use, the therapist engaged the client in thinking about how alcohol-free activities can serve the same purpose while also not impeding other values, and function as a way to reduce the reinforcement of alcohol (Lejuez et al., 2001). In addition, to help with specific situations when drinking less alcohol or not drinking alcohol is difficult due to urges, external pressure, or inability to escape the current environment, the therapist worked with the participant to identify “alternative activities” they could perform in the moment (e.g., drinking a “mocktail” instead of an alcoholic drink). These “alternative activities” were formerly referred to as “emergency activities” in BA for SUD protocol (MASKED FOR REVIEW). This exercise was introduced as a tool to help the participant make immediate choices about their alcohol consumption that align with their values.

2.4.5 Scheduling Value-Based Activities

After identifying value-based, alcohol-free activities and in-the-moment alternative activities, the therapist shared the importance of scheduling the previously identified value-driven activities, emphasizing that they should be treated like any other commonly scheduled activity such as work commitments or medical appointments. In the “Your Daily Plan” worksheet, the participant was asked to write down the life area, value, and associated activity, listing when and how they would get completed. The participant was asked to also add the scheduled activities to their usual calendar/scheduling tool such as a personal planner or calendar application on their phone. During the session, at least two activities for the following day were identified and scheduled in this way.

2.4.6 Treatment Conclusion

At the end of the session, the therapist summarized the treatment session and expressed their hope and confidence in the participant's ability to continue using the tools and strategies discussed in the session. The participant was guided to a list of items they were asked to complete in the at-home booklet for the next two weeks. The therapist also encouraged the participant to identify someone else in their life who can support them with making the changes discussed in the treatment session. Finally, the therapist concluded the session with additional encouragement about the participant's progress and contribution to the session.

2.5 Therapists and Fidelity

Two trained clinical psychology doctoral students administered the treatment after reviewing the completed treatment manual and simulating practice sessions. One of the therapists developed the treatment manual, and in a series of meetings the two study therapists reviewed the manual and practiced relevant sessions. Training for this intervention was informal as both student therapists had already completed rigorous training in behavioral activation interventions as part of a previous study in substance use disorders under the same research group (MASKED FOR REVIEW). During training, the therapists were also under the supervision of an experienced psychotherapist and BA substance use researcher who reviewed video clips of practice interventions with each therapist to clarify unclear sections. Throughout the study, therapists completed structured fidelity checklists for each treatment session to ensure that they completed each key component of the treatment and worked through the necessary at-home booklet sections with the participant during the session (see Supplementary Material). Another clinical psychology graduate student on internship trained in this intervention reviewed two randomly selected treatment recordings for each therapist to check for adherence to the treatment protocol based on the same fidelity checklist.

2.6 Measures and Outcome Variables

Acceptability of the UBA treatment was assessed with three self-report questionnaires and a qualitative analysis of a structured treatment feedback interview, all completed during the 2-week post-treatment virtual follow-up visit. The interview was administered using a semi-structured interview with questions and relevant prompts (see Supplementary Material). Questions in the interview guide were designed to gain a holistic understanding of participants' perceptions of the treatment session, therapist, treatment length, and treatment fears. Each interview lasted approximately between 60 and 90 minutes, and only the interviewer and participant were present. Interviews were conducted by a male research assistant with a BA (MASKED FOR REVIEW), and two female clinical psychology pre-doctoral candidates (MASKED FOR REVIEW). Participants did not have a relationship with the interviewer prior to the study, nor were they aware of the interviewer's personal goals. Prior to conducting the interviews, all interviewers were familiarized with the treatment manual and behavioral activation principles and completed mock interviews. Interviewers were encouraged to ask participants follow-up questions using the recommended prompts and, when appropriate, additional questions based on the participant's feedback. Interviewers recorded brief field notes while conducting the interview and repeat interviews were not administered.

The self-report measures assessed participants' experiences of the treatment session and their relationship with the therapist. Only acceptability and feasibility outcomes are reported here. Alcohol use outcomes will be reported in a separate manuscript (MASKED FOR REVIEW).

2.6.1 Self-Report Questionnaires

The CSQ-8 is an 8-item self-report that focuses on satisfaction with services received (Larsen et al., 1979). The range for each item is 1 to 4, with a range of 8 to 32 for the full scale. Items 1, 3, 6, and 7 are reverse coded. The Working Alliance Inventory – Short Form, Revised (WAI) assesses the therapeutic alliance between the participant and the therapist. The WAI specifically measures therapeutic alliance (Bordin, 1979) in terms of the bond between the participant and therapist and agreement on treatment activities and goals (Hatcher & Gillaspy, 2006). The WAI-SR includes 12 items each with a range of 1 to 5) and a full-scale range from 1 to 5 computed as the mean of all the items. The WAI-SR additionally computes three subscales as a mean of specific items (Goal: items 4, 6, 8, 11; Task: items 1, 2, 10, 12; Bond: items 3, 5, 6, 9).

The Treatment Effectiveness Assessment was specifically developed for this study based on a holistic theoretical definition of acceptability with a focus on the constructs of affective attitude, burden, ethicality, intervention coherence, opportunity cost, perceived effectiveness, and self-efficacy (Sekhon et al., 2017; Tetley et al., 2011). This assessment was developed to capture participant perspectives on key components of the intervention, including session length, booklet activities, delivery of intervention, and perceived impact. The assessment comprises 20 questions on a Likert scale with a range of 1 to 5 (“strongly disagree”, “disagree”, “neutral”, “agree”, “strongly agree”; items 7, 11, and 17 reverse coded). The range of the full scale is 20 to 100 computed as the sum of all scored items. One additional, non-scored question asks for the number of days (range: 0 to 14) that the client thought about or used something they had learned in the session. Psychometric analysis of this questionnaire using our data reveals high internal consistency ($\alpha = 0.89$) with an average inter-item correlation of 0.36. The Treatment Effectiveness Assessment is provided in the Supplementary Material.

Some participants did not complete all questions across the questionnaires. Missing item-level responses were handled using mean imputation, where missing responses were replaced with the mean of the corresponding item across participants.

Prior to enrollment, we predefined benchmarks for the CSQ, WAI, and Treatment Effectiveness Assessment. For the CSQ, we set the benchmark as 24 or higher (corresponding with average responses of “mildly positive”), for WAI, we used an average score of 36 (corresponding with average responses of “fairly often”), and for the Treatment Effectiveness Assessment, we used a score of 60 or higher (corresponding with average responses of “neutral”).

2.6.2 Therapist Questionnaires

In addition to self-reports, the therapists rated their perceived acceptability and engagement with the treatment by the participant in a 9-question Therapist Ratings of Acceptability and Engagement by Participant with individual questions on a Likert scale with a range of 1 to 5 (“strongly disagree”, “disagree”, “neutral”, “agree”, “strongly agree”; item 9 reverse coded) and a full-scale range from 1 to 5 computed as the mean of all the items. Two subscores for acceptability and engagement. The therapist completed this assessment based on their perception of the participant’s engagement and did not ask any of the questions directly to the participant. Using our data, psychometric analysis of the acceptability and engagement

subscales revealed strong internal consistency (acceptability: α = 0.83, engagement: α = 0.80) with average inter-item correlations of 0.57 and 0.44 respectively. The Therapist Ratings of Acceptability and Engagement by Participant is provided in the Supplementary Material.

2.7 Analysis

All quantitative measures were analyzed with R version 2023.06.2 (Team, 2021), and qualitative interviews were analyzed with MAXQDA 2024 (VERBI Software, 2023). Mean and standard deviation are reported for all qualitative measures and subscales.

Audio recording of the interviews were collected and transcribed using an intelligent verbatim approach and subsequently reverified against the recordings for accuracy. Filler words, non-verbal utterances, and stutters were removed from the transcriptions, but grammatical errors were not adjusted. A unit of analysis was a segment of approximately 203 sentences corresponding to a participant response to an interview question. Transcripts were not returned participants for correction.

Qualitative interviews were analyzed using a two-stage content analysis approach adapted from guidelines provided by Rädiker and Kuzkartz (2020). The analysis consisted of an initial deductive phase followed by an inductive thematic coding phase. All transcripts were coded by one coder (MASKED FOR REVIEW) using MAXQDA. In the deductive phase, the initial coding framework was developed directly from the domains represented in the semi-structured interview guide. The interview was organized into seven prespecified topics: At-Home Booklet, Impact of Treatment, Relationship with Therapist, Treatment Duration, Treatment Fears, Treatment Session Experience, and Treatment Suggestions. These domains served as the initial hierarchical approach and were selected a priori to correspond with the primary areas of acceptability assessed by the interview.

Following the completion of the initial deductive coding, all coded segments were exported to Excel for a second, inductive round of thematic coding. During this phase emergent themes were identified within each prespecified ropic rather than imposing additional a priori categories. For example, within the “At-Home Booklet” domain, emergent themes included specific booklet components such as values and life areas, activity planning, and alternative activities. Additional cross-cutting themes reflected broader characteristics of participants’ feedback, including feasibility, utility, and satisfaction. These secondary codes were used to characterize the nature of participants’ feedback and determine the proportion of participants who endorsed each emergent theme.

Since qualitative coding was conducted by a single coder, coding discrepancy resolution was not applicable. The coder maintained consistent application of the coding framework throughout the analysis. Participants did not provide feedback on findings. Participant quotations were anonymized and identified using age and gender only.

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3 Results

3.1 Sample Characteristics

Participants receiving the UBA treatment were primarily White (75%) and cisgender women (80%), with a mean age of 45.7 ± 18.1 years. Most participants also attained at least one academic degree after high school (85%), lived with a partner, spouse, or roommate (85%), and were employed (75%). Self-reported demographics and sample characteristics are provided in Table 1. 11 out of 20 participants had previous therapy experience, including individual therapy, couples therapy, and marriage counseling (Table 2). There were no significant differences in demographics between the treatment and assessment-only groups.

3.2 Study Retention and Feasibility

Feasibility was operationalized by meeting the enrollment benchmark of 40 participants within 12 months and completion of the treatment session after randomization. We enrolled 40 participants in 10.39 months, an average enrollment rate of 3.85 participants per month. This favorably compared to our predefined benchmark. Furthermore, all 20 participants randomized into the treatment condition completed the intervention. The treatment feedback interview was administered at the 2-week follow-up, with 17 out of 20 participants (17/20; 0.85, 85%) attending this session and completing the remainder of the study through the three-month follow-up. Out of the three participants who did not attend the follow-up visits, two communicated with study personnel that it was not a good time for them to continue participation without providing more specific reasons, and one participant was lost to follow-up without any information on the reason for drop-out reported (Figure 1). Limited dropout during the study supports the feasibility of this intervention in the context of a research study, however, we were unable to establish the feasibility of UBA as an intervention implemented in clinical practice. A graduate student who did not administer the treatment session found that both therapists had at least 94% adherence to the treatment protocol (47, 48, 48, and 50, rated out of 50).

3.3 Quantitative Data on Treatment Acceptability and Engagement

Participants had a mean score of 27.77 out of 32 on the CSQ, indicating high overall satisfaction with the treatment, which exceeded the predefined acceptability threshold of 24 or higher, corresponding to an average “mildly positive” answer. Additionally, participants had a mean score of 78.62 out of 100 on the Treatment Effectiveness Assessment, indicating that participants experienced UBA as acceptable when measured against the predefined threshold of 60, corresponding to an average “neutral” answer. Participants reported thinking about or using what they learned during the session on 9 out of 14 days on average. Participants also reported generally strong therapeutic alliance with the therapist, as highlighted by a mean WAI score of 4.20 out of 5, indicating that the average response fell between the two most positive options for each question. This also exceeded the predefined acceptability threshold of 3, corresponding to an average “fairly often” response. Data are provided in Table 3.

Generally, therapists conducting the treatment session agreed that participants were glad to have attended the treatment and found it beneficial, scoring an average of 4.18 out of 5 on the acceptability subscale of the Therapist Ratings of Acceptability and Engagement by Participant.

Additionally, the therapists found that participants were engaged for most of the treatment session, scoring an average of 4.1 out of 5 on the engagement subscale. Data are provided in Table 4.

Detailed alcohol use results are presented in a separate manuscript, but at the two week follow-up the intervention group demonstrated non-significant reductions in percent drinking days and anhedonia and increases in behavioral activation and value-consistency (MASKED FOR REVIEW).

3.4 Qualitative Assessment of Treatment Acceptability

3.4.1 Overall Treatment Satisfaction

During the interviews, participants generally reported overall satisfaction with the treatment session experience, noting that the session was a "positive experience *[25-year-old man]*" and "very helpful *[38-year-old woman].*" One participant noted: "If I were paying for that sort of session, I would have felt like I got my money's worth. Of that, I was satisfied *[57-year-old man].*" Participants also identified a wide variety of features they especially liked about the treatment session, which aligned with the critical components of the UBA treatment -- positive reinforcement framework, life areas and values, alternative activities, and scheduled, value-based activities.

3.4.2 Therapeutic Alliance

All participants reported having a positive relationship with their therapist. Participants characterized the therapist as, "super engaging," "warm and encouraging," "non-judgmental," and "comfortable." These comments about the therapist-client relationship were in reference to several components of the session, the explanation of the treatment, the therapists' encouragement of participants' contributions, and the general flow of the conversation. The most common feedback participants had about their relationship with the therapist was about the ease and openness of their conversation. One participant felt that their therapist was adept at helping them speak more openly during the session stating, "My immediate reaction was that [the therapist] was able to elicit information pretty easily. Didn't cause me to get a little defensive or protective, which is a good thing *[74-year-old woman].*"

Another theme that emerged was the encouraging conversations participants had with their therapist, and the balance between reassurance, support , and encouragement during the session:

> [the therapist] was very friendly, very friendly, and warm and encouraging. And not in a way that was like "oh, you did everything right, don't worry, put it out of your mind." It was just very much like, "yeah, I completely understand, tell me more," instead of like, "okay, that is something that happened, continue." Like [therapist] had some emotion to [them], and I really appreciated that just to connect with [them]. [20-year-old woman]

> The thing that I really enjoyed the most actually was how [the therapist] was very encouraging throughout the treatment session. Just pointing out how articulate my

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> thoughts were and that was very encouraging to me. That's what stood out the most to me. [37-year-old man]

Two participants, while they liked their therapist, also mentioned that it was difficult to build a relationship with their therapist due to the time constraint and reduced time dedicated to discussing the participant's history and the root of their alcohol consumption habits. One participant compared this intervention to their previous therapy experiences, stating, "I thought [the therapist] was very engaging, but it's probably slightly less personal, just because I don't know you at all *[30-year-old woman].*" One participant's comments on the relationship with their therapist also connected back to suggestions to add check-in visits following the first treatment session:

> I think therapy is also relationship-building with your therapist and the more you go, you know your therapist knows more about you, you know more about your therapist, and I think it's a usual process of exploring what's going on in your life. [21-year-old man]

3.4.3 Participant Fears Prior to the Intervention

During the semi-structured interview, participants were asked about any concerns they had prior to attending the intervention to identify the treatment initiation barriers they experienced. The main themes emerging from participant responses were: (a) fear of being unable to succeed; (b) worry that the intervention would be solely focused on cutting out alcohol use; and (c) that the therapy experience would not be personalized. These themes are described in more detail below, with example excerpts from participants.

Ability to Succeed. Two participants reported being concerned about their ability to succeed in the intervention. These concerns were related to meeting the intervention goals and being unable to complete tasks during and after the intervention. One participant who had previously attended therapy for individual counseling, but not specifically for alcohol use stated: "I have sort of tried to reduce my alcohol intake previously on my own and felt that it wasn't something that I was able to do. *[38-year-old woman]*". She also reported that, for this reason, she was worried about the intervention, "not [resulting] in a positive outcome in terms of reduction." This fear was not realized, as she felt she was able to change her alcohol consumption because of the intervention. The other participant expressed concern about not being able to meet all the intervention expectations. She stated: "I think there's always the thought of what if there's something maybe that I can't do to be the perfect student *[43-year-old woman]*". However, she found the intervention to be "very manageable."

Focus on Alcohol Reduction. Four participants had pre-treatment concerns related to discussing alcohol consumption, including feelings of shame, and being pressured to stop using alcohol. One participant mentioned that they felt "more of a self-reflection and feeling guilty for drinking alcohol or either an imagined or perceived judgment for the amount or quantity of alcohol [they were or were not] drinking *[45-year-old woman].*" Reflecting on her experience during the intervention she stated that she did not experience such judgement from the therapist during the session:

> I was able to examine it [alcohol use] for myself, by myself. But what didn't come true is, it was a super safe space to talk both with the study coordinators like you, but also the therapist. There just there was no expectation, judgment, anything. It was very much more factual, so I very much appreciated that.

Another participant worried about discussing how much alcohol she had been drinking, and while she said that talking about her alcohol use was difficult, she also stated that she felt no judgment from the research team or the therapist. One participant also hoped for an intervention that was not solely focused on reducing her alcohol use:

> I don't want it to be entirely alcohol-based […] if it were to be like, 'How many times do you drink in a day? Let's make that one instead of three,' instead of a holistic analysis of me and why I view it [alcohol] the way I do and how it impacts my life. [20-year-old woman]

She also found that the session was not like that at all and was, "very much like a conversation." Other participants also commented that the amount of positive conversation with the therapist made the session very enjoyable and motivated them in the following days.

3.4.4 Positive Reinforcement Approach

Six out of 17 participants specifically mentioned the positive reinforcement model during the interview and felt that it was a useful approach and helped them get more value out of the treatment. Reactions included participants stating that it helped them understand why they drink, energized them to make positive changes in their lives, and allowed them to identify the drivers behind certain behaviors. One participant found that the model notably altered their perspective on alcohol, stating that "it was a big tool that was really stellar *[36-year-old man].*" Another participant shared that this tool was very impactful in uncovering their drinking behaviors, stating, "I thought it was very helpful in that sense. Because again it just helped me identify some behaviors and what drives those behaviors *[24-year-old woman].*" They later shared that this was effective in helping them change their alcohol consumption: "I think for me, what works the most is understanding that behavior at its core, and then change follows."

Another participant commented on the concept of positive reinforcement of alcohol and noted that understanding the association allowed her to leverage it to make changes to her alcohol consumption:

> I think because the idea is that you're adding stuff, instead of just taking things away. […] What we figured out is that the issue I have with cutting back on alcohol is that it's about something being taken away from me. And then I'm kind of on autopilot. So, when I think about walking over there last night, I'm like, I don't care if I have a glass [of wine]. It wasn't like I needed a glass, I don't really care. [55-year-old woman]

A main component of the positive reinforcement model is using it to help people replace alcohol as a tool to create positive emotions with other activities that also cause positive emotions. Participants referenced this aspect of the treatment as a feature that helped them improve other aspects of their lives while reducing alcohol consumption:

> It was using positive emotions to try to get people to reduce their alcohol. I thought that was kind of a cool way to tie your self-fulfillment in with reducing alcohol in ways that you can replace your alcohol consumption with activities that will go towards your fulfillment and your happiness. [36-year-old man]

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3.4.5 Activities Implemented During Treatment

All booklet activities completed during the treatment were referenced during interviews with participants. Below we address participant comments for each activity in the order they appear in the booklet.

Participants enjoyed the first activity of the treatment session where they reviewed their daily life in terms of importance and enjoyment and took the time to plan out enjoyable, meaningful activities in their day. One participant mentioned that the hour-by-hour breakdown was a helpful way to visualize this feature of the treatment:

> I certainly found it very interesting, that the sort of activities that we went through were interesting to me and some of them gave me pause in terms of thinking about how much enjoyment I get out of things versus how important they are, like activities in my day. [57-year-old woman]

Participants also reflected on the second activity where they identified important life areas and values and used those insights to find new enjoyable activities. Some participants found this exercise helpful in making their life more enjoyable outside of using alcohol. One participant reflected on this activity stating, “I was losing sight of where my values were, and it was a really great way to ground me *[20-year-old woman]*.”

Four participants specifically mentioned that the third activity of identifying alternative activities were useful as emergency tools to help them reduce their alcohol consumption in situations where it may be difficult. One participant noted a specific instance where they chose to replace their usual alcoholic drink with a non-alcoholic one to reduce their alcohol consumption in individual moments.

> Substituting alcohol for a drink that feels refreshing and has some of the lime juice ingredient that I like in cocktails. […] So, substituting one habit with kind of another was something that was helpful about being part of the treatments. [38-year-old woman]

Another participant created alternative activities that focused less on replacing alcohol consumption, and more on finding tactics to avoid high-pressure drinking situations. They mentioned that while they don’t drink alcohol often, but when they do, it tends to get out of hand and reported frequently drinking to the point of harm and found that alternative activities helped him “manage [his] personal health *[21-year-old man]*.”

> I feel like I got peer pressure to continue drinking or you know, I feel myself having a good time. But I think you know again, thinking about the alternatives I can have, for example, I wrote in the book like that, “Well, I feel like I'm at the tipping point, but like all my friends are pressuring me, I might, you know, hide in the bathroom for like 5 to 10 minutes and go out.”

However, not all participants found creating alternative activities to be a productive use of their time. One participant who frequently visits bars to play trivia mentioned that he’s “going to have a beer *[57-year-old man],*” and found it difficult to come up with alternative activities for these situations. He mentioned that “it’s tricky to come with alternative activities to the things I love doing […] alcohol just sometimes for me, makes those things even more enjoyable.”

The last activity of scheduling value-based activities were specifically mentioned by two participants as a method that helped them prioritize activities that were not work or school-based, giving them personal enjoyment and allowing them to improve their personal relationships. One participant stated, “I think it’s good to plan other stuff that’s not work on this planner. So, for example, give my mom a call, which is nice *[21-year-old man].*”

3.4.6 Experience of a Single-Session Treatment

Eleven out of 17 participants reported that the single-session format of the treatment was an appropriate, beneficial, and well-structured amount of time. The main advantages of a single 90-minute session cited by the participants were (1) the ability for it to be easily integrated into their busy schedules and (2) the fact that the treatment session did not feel like an overwhelming time commitment. One participant noted an especially positive experience during the session in terms of the limited time leading to them getting the chance to work on their own to further use the workbook after having learned how to use it:

> I think that the thing that I liked about the short duration was that we didn't cover all of the completion of the workbook for all of the stuff. We were able to do a little bit and kind of make sure that I understood what the intention was and some examples and set me up for success to continue it. So, all of that was excellent. [45-year-old woman]

Despite only having 90 minutes for the treatment session, 4 of these 11 participants specifically mentioned that the treatment session did not feel rushed, with one participant stating, “I also got the impression that if I wanted to talk more about something, I could have *[30-year-old woman].”*

Of the 11 participants who noted the session was a good length, 6 noted that 30 additional minutes to have a more personal conversation would have been beneficial. One participant noted that a disadvantage of a the 90-minute session was that “there’s not enough time to really discuss [the root of the issues] and the format is not such that it looks at the underlying issues of why I choose to drink, or why I choose to drink as much as I do *[65-year-old woman]*.” One participant who did not have prior therapy experience also mentioned that they would have liked an additional 30 minutes to “calibrate it to people that haven’t ever been to therapy *[36-year-old man]*.”

3.4.7 Experience of Teletherapy

Most participants either found the teletherapy experience to be very convenient or had no significant remarks about that aspect of the treatment experience. Reasons for preferring teletherapy varied but centered around the ease of joining a therapy session virtually and the added comfort of joining the session from a location of their choice. One participant specifically mentioned that they “might have been a little uncomfortable if we were face-to-face *[55-year-old woman]*,” but found that the virtual format allowed them to relax more. Participants also found that joining the intervention online avoided the burden of logistics associated with attending an in-person session:

> I mean I can see that potentially doing it in person would give you, give both people, a better sense, potentially, of who the other person is, but it seems that this is much more efficient and much more practical, so I can understand why it's done this way versus all the driving and logistics, and weather-type things so it didn't bother me. [57-year-old woman]

Although participants were generally satisfied with the virtual therapy experience, one participant noted that some people may prefer an in-person session to help them form a better connection with the therapist.

> I think it's a session that you should open up to someone that you met at the first time. I think having that in-person connection with the person really helps people to open up. For me, I am a person that I can, you know, talk about anything, I feel really comfortable, but in some way, I feel like, it might be really helpful for some people to have that in-person connection and trying to get familiar with the person they're talking to. [21-year-old man]

3.4.8 At-Home Booklet

Participants were divided on their perception of the utility of the at-home booklet. The main themes that emerged during the interview were the usefulness of the booklet as a tool to supplement the intervention, but also that it felt like a chore and was difficult to complete independently. Participants who felt the booklet was useful primarily referred to its use during the intervention, but some participants also found it helpful during the two-week period after the intervention.

> I really appreciated having something physical in my hand and using [the booklet] as a journal or, I don't know, just setting time apart on some days and jotting down a few things for a few minutes. I really appreciated that. [24-year-old woman]

> I think the booklet is, what I mean, it's kind of forcing you to put some of that time in. I think the actual writing just kind of holds you accountable for that and then I do think it's practical to have things, for sure, written down versus just verbal. And to me, there's a big connection with the writing. So yeah, I think the booklet is very helpful. [43-year-old woman]

However, some participants did not have as positive experiences with using the at-home booklet at home. The main concerns participants raised during the interviews were that remembering to use the booklet was difficult and felt, "it was hard for [them] to jump back into it and write out everything […] without the accountability partner *[20-year-old woman].*" One participant noted that it might have been helpful to have a source of external accountability to remind them to use the booklet at home, stating, "So maybe an additional notification, like maybe a text message would have reminded me to go and do that thing *[24-year-old woman].*"

Other participants noted that using the booklet felt like a chore and was time-consuming, which they connected to their dislike for journaling or planning, with one participant stating, "To go through each and every day and try to schedule certain activities is the challenge. *[37-year-old man].*" Participants also mentioned that they "don't usually use additional tools," and that they are not "into tracking stuff," and did not particularly enjoy using the booklet. Participants also felt that their lack of using the booklet every day prevented them from picking the booklet up later in the week.

> While filling out these forms in the booklet, especially since I didn't do it regularly all along, it's somehow aggravating to me. I think if I had started doing, as part of a daily routine, maybe it wouldn't be aggravating, but trying to redo it now has been very aggravating. [74-year-old woman]

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One participant also mentioned the intimidating structure of the booklet and compared the booklet to a “textbook” and didn’t feel as if it was something you could “slip into your pocket.”

> I think intimidating is a good word. It's essentially like, if you're going to write in it, it's going to be a thing where you have to take it out, clear some space, and you have to think, “okay, I'm going write in it.” It's not just like a natural reaction. [25-year-old man]

3.4.9 Increasing Accountability with Follow-Ups

Six participants also felt that having follow-up sessions with the therapist would be beneficial in helping them stick with the at-home booklet portion during the required two weeks after the session with the therapist. The same participant that found the use of time and booklet during the intervention positive, also found that the lack of accountability made it difficult for them to stick with the at-home booklet:

> I think the piece that was a little bit of a challenge with the one session, it's now fully self-accountability […] I want to, you know, use it [the booklet] as a continued springboard because habit changes are hard. So not having that reinforcement or check-in later puts the onus on myself and two weeks in, that's no big deal. But I think more and more weeks without a little bit of external motivation or check-in, it could be a challenge […]. [45-year-old woman]

The frequency preference for follow-up sessions with the therapist varied between participants, but participants recommended anything between once every two weeks to once every two months. One participant also noted that this follow-up session could not only be a way for participants to keep up with the at-home expectations but also allow the therapist to review their progress and help suggest modifications to the original plan to increase the effectiveness of the intervention:

> Like a month down the line, and then she can be like, “okay well, what kind of progress did you make from here? […] well, let's tweak this and then you can go forward with your life.” […] that would have been a cool idea. [20-year-old woman]

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4 Discussion

This study assessed the feasibility and acceptability of an ultra-brief behavioral activation intervention for mild-to-moderate AUD. Overall the study demonstrated high feasibility and acceptability within the context of a research study, with all randomized participants attending the intervention. Qualitative feedback suggests that acceptability was closely related to the intervention's positive reinforcement framework, supportive therapeutic delivery, and low treatment burden. These findings are particularly relevant given established barriers to AUD treatment, including stigma, concerns about abstinence, and structural barriers to accessing care (Cares et al., 2015; Schuler et al., 2015; Tucker et al., 2020a). In particular, participants' favorable responses to the UBA intervention suggests that its focus on positive reinforcement addressed these common fears that prevent engagement with existing treatment modalities. These findings suggest that UBA may have the potential not only as a brief intervention in its own right, but also as an introductory approach for individuals who are initially reluctant to enroll and engage in treatment for AUD. However, given our limited sample, further research needs to be conducted on larger and more diverse sample to determine whether these findings generalize to broader populations of people with AUD.

Qualitative feedback provided insight into potential mechanisms underlying the acceptability of UBA, suggesting that the intervention's framework and delivery are equally important. Participants' responses were consistent with the intervention's emphasis on increasing engagement in value-based, alcohol-free activities and experiencing positive reinforcement from those activities. This approach is supported by evidence from behavioral economic models of AUD, which conceptualize alcohol use as competing with alternative sources of reinforcement and suggest that increasing the availability and relative value of rewarding alcohol-free activities may facilitate reductions in alcohol use (Acuff et al., 2019; Bickel et al., 2024). Furthermore, greater engagement in alcohol-free activities and greater relative reinforcement from these activities has been associated with reductions in alcohol-use and improvements in psychosocial functioning, highlighting the utility of this method (Kuhlemeier et al., 2024). The parent study also observed increases in behavioral activation and value-consistency following UBA. Together, these findings provide a theoretical basis behind participants' positive responses to the UBA framework and suggest that emphasizing rewarding alternatives are particularly relevant to treatment acceptability.

Participants also emphasized the importance of the therapeutic relationship in determining their satisfaction with the intervention. This is consistent with broader substance use treatment literature which identifies the therapeutic alliance and client-centered care as important components of treatment engagement and outcomes (Marchand et al., 2019; Meier et al., 2005). The importance of the therapeutic relationship is particularly relevant for AUD treatment, where perceptions of stigma and judgement can contribute to reluctance to seek and remain in treatment (Schuler et al., 2015; Tucker et al., 2020b). In combination with a WAI score of 4.20 out of 5, participants' descriptions of the therapist were consistent with established characteristics (non-judgement, empathy, respect, and acceptance) of a positive therapeutic alliance (Marchand et al., 2019), indicating that UBA was successful in achieving therapeutic alliance.

Prior research has identified attitudinal barriers to treatment, including perceptions that treatment would be ineffective, previous unsuccessful treatment, and concerns about the ability to benefit from available treatment options (Oleski et al., 2010; Schuler et al., 2015). Participants' concerns that they would be unable to meet the expectations of the interventional may similarly reflect an attitudinal barrier, in which anticipated difficulty to perceived inability to succeed could

discourage treatment engagement. Notably, these participants nevertheless chose to attend the intervention and subsequently reported that their anticipated difficulties were not realized. This discrepancy between anticipated and experienced treatment burden suggests that a low-commitment intervention may reduce the perceived threshold for initially engaging with treatment. Moreover, these findings are consistent with research suggesting that brief interventions may provide a more accessible approach to addressing alcohol use among individuals who are not ready to engage in intensive treatment (Kaner et al., 2018).

Previous literature also points to the stigmatization of alcohol use and feelings of shame as a main reason for avoiding treatment. For example, Chartier and colleagues reported several predisposing factors as barriers to treatment seeking, specifically feelings of embarrassment when discussing alcohol use and a general dislike towards answering personal questions (Chartier et al., 2016). In the present study, participants expressed similar concerns of perceived stigma surrounding alcohol consumption. These concerns are also consistent with evidence that perceived stigma is associated with lower treatment utilization among individuals with AUD, and that self-stigma is associated with reduced alcohol-refusal self-efficacy, which further reduces treatment seeking (Keyes et al., 2010; Schomerus et al., 2011). Participants' concerns may also reflect the broader context in which abstinence has historically been emphasized as the primary goal for AUD treatment. Although abstinence is an appropriate goal for many individuals, previous literature also highlights that abstinence focused conversation can disengage individuals seeking treatment and exacerbate feelings of shame and stigma (Henssler et al., 2021; Wallhed Finn et al., 2014; Witkiewitz & Tucker, 2020). Within this context, UBA's emphasis on increasing engagement in rewarding alcohol free activities, rather than simply reducing alcohol use, may have provided participants with an alternative framework for approaching behavior change. Consistent with this interpretation, participants attributed the lack of shame to the positive reinforcement model of the intervention, which refrained from focusing on the negative aspects of alcohol use. Together, these findings suggest that the positive reinforcement framework may have contributed to creating a treatment experience that participants perceived as less stigmatizing and shame-inducing.

Beyond the UBA session itself, participants provided mixed feedback on the booklet activities. Life areas and values were frequently identified as most meaningful, consistent with behavioral activation models, in which identifying personally meaningful values and increasing engagement in reinforcing activities are central components to treatment (Kanter et al., 2010b; Lejuez et al., 2011). Participants also frequently described feeling overwhelmed with the at-home booklet. Difficulties with between-session adherence are well documented across behavioral and cognitive-behavioral interventions, with systematic reviews identifying client engagement, treatment appraisals, and perceived burden as important considerations in homework adherence (Kazantzis et al., 2017). Moreover, a meta-analysis of cognitive-behavioral therapy found that both the quantity and quality of homework completion were associated with treatment outcomes, suggesting that simply assigning additional activities may be less important than ensuring that activities are feasible, meaningful, and completed with sufficient engagement (Kazantzis et al., 2016). Similar concerns have been identified in behavioral activation, where adherence to at-home assignments can be challenging and requires efforts to incorporate strategies for enhancing motivation and reducing barriers (MASKED FOR REVIEW). Thus, future iterations of UBA could benefit from restructuring the booklet to prioritize individualized and value-consistent activities to reduce the burden associated with maintaining treatment activities independently and subsequently assess use of booklet activities in a follow-up assessment.

Participants also provided feedback about the length of the intervention. Some participants requests for additional follow-ups raise an important question regarding the appropriate length of

UBA. A potential roadmap for the expansion of the utility of UBA is through the incorporation of an optional booster session. Indeed, a study conducted by Schmidt and colleagues identifies the need for follow-ups and a positive correlation between assessment frequency and reductions in alcohol use (Kramer Schmidt et al., 2018). Given the goal of eliciting behavior change through behavioral activation and participant feedback on both the session length and booklet, a brief follow-up assessment could be incorporated to examine participants' at-home engagement with scheduled and alternative activities and determine if there is a true need for a follow-up session or whether this desire is reflective of a need for additional support to promote booklet use.

Previous literature also points to the need for primary care settings to screen for AUD, and given the initially feasibility and acceptability of UBA, this intervention could be used after someone has been screened for AUD to provide an immediately available behavioral intervention (Coulton et al., 2017). Enrolling in a single-session intervention can help individuals overcome behavior change barriers, while still being cost and time-effective for both providers and patients (Schleider & Beidas, 2022). Given the documented barriers to accessing AUD care, including complex treatment pathways, geographic barriers, cost, and wait times, UBA may provide a highly acceptable low-burden entry point following identification of AUD (Wolfe et al., 2023).

Nearly all participants found teletherapy to be convenient and appropriate for the style of treatment they were receiving. While previous studies suggest that virtual formats can inhibit rapport-building between the therapist and the client (Crawford et al., 2025; Grondin et al., 2023), participants were generally able to make a positive connection with their therapist. Furthermore, our findings corroborated previous literature which suggests that teletherapy can reduce barriers to accessing treatment such as the additional time needed to commute, finding a method of transportation, and weather considerations. These findings match previous literature discussing structural barriers to receiving treatment for AUD (Schuler et al., 2015). However, these findings should be interpreted with caution, as our observed feasibility of teletherapy may not be widely applicable as our study population only included participants who had stable internet connections. The present study suggests that teletherapy can be an effective option, but given that previous literature also demonstrates the risk of digital exclusion, and further research is needed to determine how to mitigate accessibility issues (Appleton et al., 2021).

4.1 Limitations

While this study presents findings on the acceptability of an ultra-brief intervention for AUD and its ability to begin mitigating barriers to seeking treatment for AUD, there are limitations. Firstly, three participants who completed the intervention did not attend the two-week follow-up or continue with further study procedures, and these participants' perception of the intervention may be different from those who completed the feedback interview. Furthermore, we did not assess engagement with booklet activities in a structured manner, so future iterations should include a follow-up assessment to investigate participants' use of skills from the intervention during the follow-up period.

From a more technical viewpoint, the study has some limitations that resulted from constrained resources, including the fact that only two sessions per therapist were reviewed for fidelity. Weekly supervision that included a review of therapy recordings was used as the main strategy to maintain consistency and fidelity in the administration of the intervention. Fidelity was also rated by a graduate student who worked with the therapists, which may have introduced bias into the ratings. We also created a therapist questionnaire for this study to capture therapist-rated suitability and satisfaction; however, this metric has not been previously validated and future work

should focus on the development of standardized therapist rating tools. Future studies could consider using the Vanderbilt Therapeutic Alliance Scale (Shelef & Diamond, 2008).

Our sample was also small, mostly women, White, and college-educated, so the feedback about the intervention may not be generalizable to a more representative population. Our sample also contrasts previous findings, which indicate that women are less likely to seek treatment for AUD than men (Gilbert et al., 2019; Venegas et al., 2021). However, without strictly focusing on treatment for AUD, women typically enroll in psychotherapy at greater rates than men (Liddon et al., 2018; Valenstein-Mah et al., 2019), and our sample may be more characteristic of this preference. It is also worth noting in this context that feasibility established within a clinical trial may differ from feasibility in real-world settings, which is a limitation of the current study.

4.2 Conclusions

Ultimately, this study demonstrates that the UBA intervention is feasible and acceptable among a sample of adults with mild-to-moderate AUD. This single-session intervention yielded high positive regard from participants, particularly for the core positive reinforcement framework and supportive, non-judgemental therapeutic approach. Participants also identified challenges with maintaining engagement with booklet activities outside of the session, highlighting the importance of further examining how skills introduced in a single session are translated into sustained behavioral change. Further research should also evaluate UBA in larger and more diverse samples, assess behavioral activation skill use following the intervention, and adjust the implementation of booklet activities to increase accountability. Ultimately, this study contributes to the emerging body of literature investigating value-based, brief behavioral interventions, and support further investigation of UBA as a brief, accessible approach that may complement existing AUD treatment strategies.

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Figures

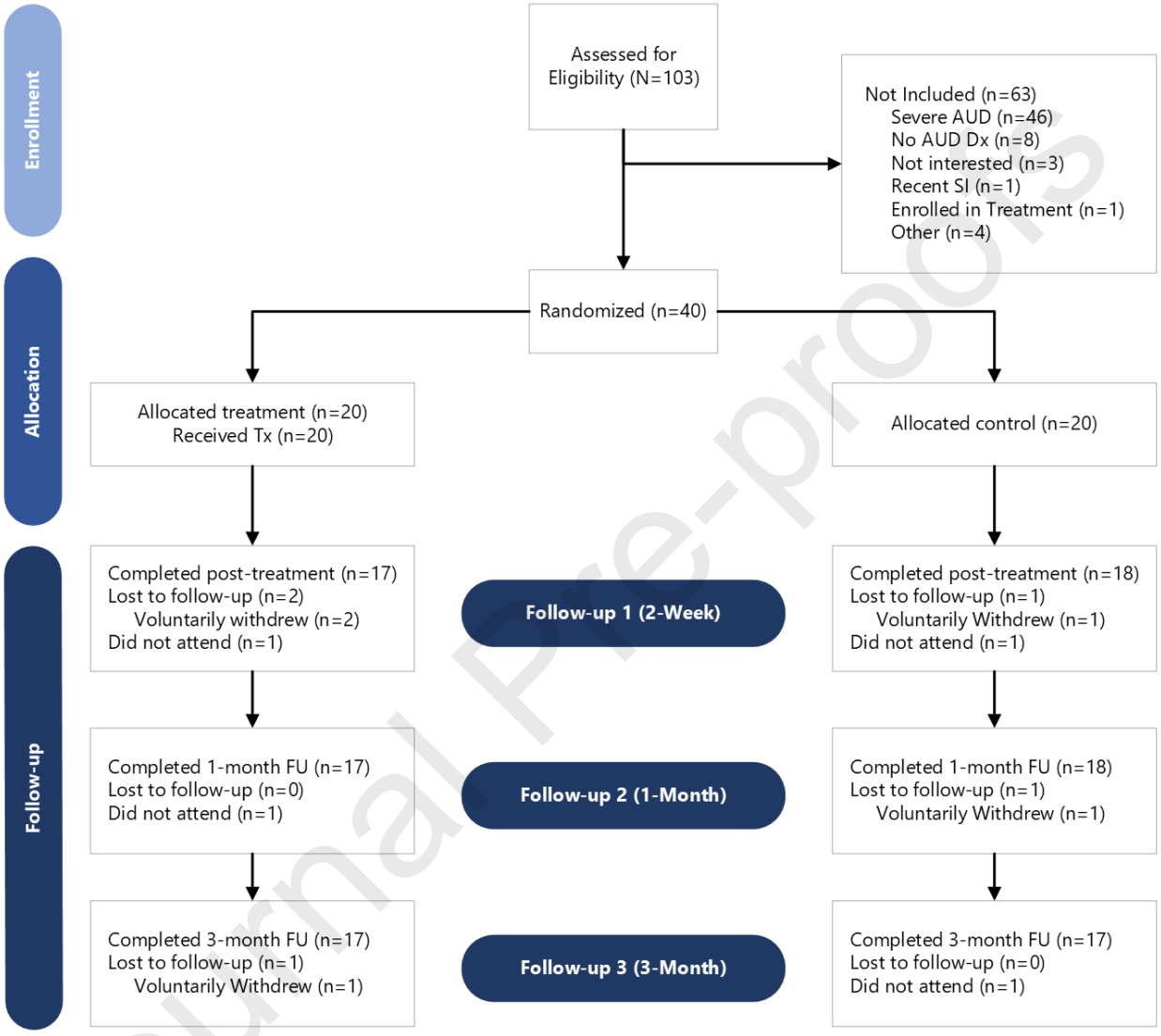

Figure 1. CONSORT Diagram

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Tables

Table 1. Sample Characteristics

Age, *M (SD)*	45.70 (18.06)
Gender # (%)	
Cisgender woman	15 (75)
Cisgender man	5 (25)
Race, # (%)	
White	16 (80)
Asian	2 (10)
Black/African American	1 (5)
Middle Eastern/North African	1 (5)
Education, # (%)	
High School Diploma or Equivalent	1 (5)
Some College	2 (5)
Bachelor's Degree	7 (35)
Some Post-Undergraduate Work	1 (5)
Advanced Degree	9 (45)

Table 2. Past Therapy Experiences

Any therapy, # (%)	11 (55)
Individual therapy	11 (55)
Other	3 (15)
Occurrences, *M (SD)*	2 (1.34)
Reasons for attending, # (%)	
Non-Specific	4 (20)
Depression	3 (15)
Anxiety	4 (20)
Other	6 (30)

Note. n = 20, *M* = mean, *SD* = standard deviation

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Living Conditions, # (%)	
Living with others	17 (85)
Living alone	3 (15)
Work Status, # (%)	
Not working by choice	4 (20)
Seeking employment	1 (5)
Working part-time	3 (15)
Working full-time	12 (60)

Note. n = 20, *M* = mean, *SD* = standard deviation

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Table 3. Participant Ratings of Treatment Satisfaction, Effectiveness, and Alliance

Measure	***M (SD)***	**Score > 4, # (%)**
Client Satisfaction Questionnaire (CSQ) (8-32)	27.77 (3.06)	----------
Working Alliance Inventory (WAI) (1-5)	4.20 (0.85)	13 (76.47)
Goal Subscale (1-5)	4.22 (1.02)	15 (88.23)
Task Subscale (1-5)	4.00 (0.97)	13 (76.47)
Bond Subscale (1-5)	4.36 (0.80)	13 (76.47)
Treatment Effectiveness Assessment (1-100)	78.62 (9.33)	----------
Item 15* (1-14)	9.38 (4.21)	----------

Note. M = mean, *SD* = standard deviation, * this item is not included in the total score. The Goal Subscale includes items 4, 6, 8, and 11 and assesses agreement about goals of therapy. The Task subscale includes items 1, 2, 10, and 12 and assesses agreement about the therapy tasks. The Bond subscale includes items 3, 5, 6, and 9 and assesses the bond and mutual trust between therapist and client.

Table 4. Therapist Ratings of Acceptability and Engagement

Perceptions of Acceptability: The participant…	***M (SD)***	***M (SD)***

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Q1. was glad they attended the session	4.29 (0.61)	
Q2. thought the session was helpful	4.29 (0.61)	
		4.18 (0.57)
Q3. is committed to see this through in the at-home part	4.14 (0.66)	
Q4. was a good fit for this type of treatment	4.00 (0.88)	
Perceptions of Engagement: The participant…	***M (SD)***	***M (SD)***
Q5. demonstrated understanding of the session content	4.57 (0.51)	
Q6. was awake and alert	4.93 (0.27)	
Q7. paid attention	4.93 (0.27)	4.61 (0.43)
Q8. actively engaged by asking questions	4.07 (1.21)	
Q9. raised questions/topics not relevant to treatment	1.43 (0.65)	

Note. *M* = mean, *SD* = standard deviation, *mean score was calculated after reverse scoring Q9. Each item is rated from 1-5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

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Ethics declaration

Informed consent and patient details

Written informed consent to take part in the study and to publish the article has been obtained from all participants or their legal representatives. The privacy rights of participants have been observed.

Studies in Human

This study was performed in compliance with relevant laws, regulatory frameworks and guidelines where the research took place.

This study was approved by the UNC Chapel Hill Institutional Review Board.

(Approval No. 21-1369)

Clinical Trials

The results of this clinical trial and any associated work have been posted in a registry.

This clinical trial was registered with number NCT05086172 (ClinicalTrials.gov).

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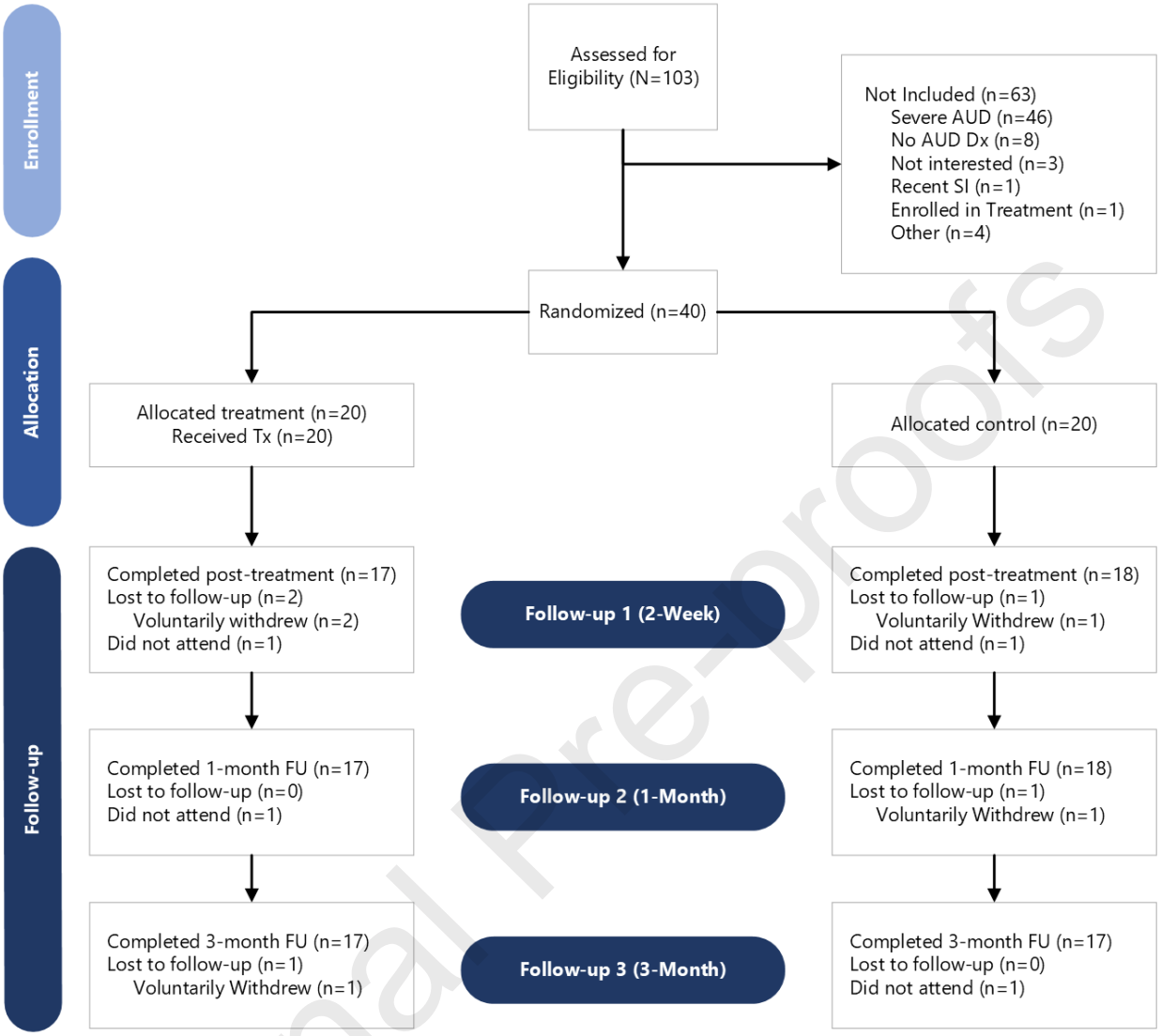

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