DEVELOPING AND ASSESSING THE ACCEPTABILITY AND APPROPRIATENESS OF BRIEF ALCOHOL INTERVENTION MODULES AMONG TRANS AND GENDER-DIVERSE COLLEGE STUDENTS

by

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DISSERTATION ABSTRACT

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Title: Developing and assessing the acceptability and appropriateness of brief alcohol intervention modules among trans and gender-diverse college students

TGD individuals experience elevated levels of stress due to discrimination and oppression and, as a result, many TGD people drink alcohol to cope, resulting in elevated levels of high-risk alcohol use and disproportionate experiences of alcohol-related consequences compared to cisgender peers. TGD college students may be more likely to engage in alcohol use by virtue of typical age-related trajectories for alcohol use and risk factors associated with the college environment, including marginalization. However, there is an absence of extant brief alcohol interventions that serve TGD college students in an affirming way. One type of brief alcohol intervention, a personalized feedback intervention, may be best suited to meeting the needs of TGD college students because they reduce barriers associated with fearing negative interactions with healthcare or counseling personnel. Personalized feedback interventions utilize modules that gather and present different data about a student's alcohol use and related risk factors, as well as presenting psychoeducation to support use of skills to reduce the likelihood of experiencing alcohol-related harms. To increase the likelihood that new intervention materials will be utilized by TGD college students, it is critical to seek feedback from stakeholders on the acceptability and appropriateness of these materials during the development process. This dissertation utilized a community-based research approach to first develop three novel PFI modules addressing marginalization stress, drinking alcohol to cope, and fostering resilience, and then assess the relative acceptability and appropriateness of the modules from the perspective of TGD college students. Acceptability and appropriateness were assessed first through focus group and interview discussions with TGD college student stakeholder consultants and next through an online survey of TGD college students from across the United States. A framework analysis of participants' qualitative responses yielded three main themes: relevance of the material in each module (e.g., topics that were most useful to participants), affirming aspects of the material in each module (e.g., the use of correct pronouns and gender-neutral language), and requests for improvements in the material in each module (e.g., edits to module conciseness and organization). Overall, TGD stakeholders supported the preliminary acceptability and appropriateness of the novel modules, setting the stage for a possible feasibility pilot of the modules as part of a larger, integrated personalized feedback intervention.

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CHAPTER I

INTRODUCTION

Marginalization Stress as an Alcohol Use Risk Factor

Multiple factors contribute to the experience of marginalization stress (i.e.., a pattern of chronically elevated stress that results from the marginalization of individuals on the basis of one or more aspects of their identity) for transgender and gender-diverse (TGD)¹ people, whose gender identity differs from that typically associated with sex assigned at birth, and shape the attendant consequences. For example, the embeddedness of a two-gender binary system in the United States leads to systemic oppression and anti-TGD stigma through legislation that criminalizes, pathologizes, and marginalizes TGD identities (King et al., 2020; Nadal et al., 2012; Prusaczyk & Hodson, 2019; e.g., laws that prohibit TGD peoples' usage of restrooms consistent with their gender identity, Woodford et al., 2017). TGD people face daily microaggressions (Seelman et al., 2017), such as misgendering and dead-naming (Simons et al., 2021) that further increase stress (Singh & McKleroy, 2011). TGD individuals also experience significant physical violence (Stotzer, 2017; Yerke & DeFeo, 2016), which is amplified for TGD people that also hold marginalized racial and ethnic identities (Human Rights Campaign, 2016). Researchers have noted that the stress arising from frequent experiences of discrimination (e.g., McLemore, 2018) is compounded by the stress of anticipating that these stressful events will occur and, for some, efforts to conceal a marginalized identity (Hendricks & Testa, 2012). This

¹ Language used to describe gender, like gender itself, is dynamic and fluid (Nicolazzo, 2016a); there are myriad terms used by individuals to describe their gender identities (see Puckett et al., 2020). This dissertation utilizes the term *transgender and gender diverse (TGD)* to describe a wide array of experiences and identities but by no means should it be assumed that all members of the larger trans community view this term as acceptable. Moreover, any terminology used in the reporting of research, which is inherently static, may not speak to an individual's current experience.

stress is further compounded when negative attitudes and oppression from society are internalized, resulting in self-directed stigma (Hendricks & Testa, 2012; King et al., 2020; Reisner et al., 2015). To make matters more difficult for TGD people, this multiplicative stress is experienced on top of daily stressors experienced by most people regardless of gender identity (Hughto et al., 2015).

Among the numerous possible consequences of marginalization stress to TGD people are severe psychological distress including depressive symptoms (Grant et al., 2011; Rood et al., 2017) and suicidality (Marshall et al., 2016; Newcomb et al., 2020; for a systematic review and meta-analysis see Pellicane & Ciesla, 2022). Viewed collectively, the effect marginalization stress and the stress of its mental health consequences may ultimately reduce a TGD person's resilience to negative events (Hendricks & Testa, 2012), resulting in the use of strategies to cope with that stress, such as alcohol use (Gonzalez et al., 2017). As a coping mechanism for marginalization stress, alcohol use may be considered a way to self-medicate as well as gain social affirmation and communal support through drinking together with peers (Kalb et al., 2018; Peacock et al., 2015). However, alcohol use can lead to other consequences that further exacerbate stress (e.g., interpersonal conflicts, vomiting, memory problems; Read et al., 2006). Moreover, alcohol use can dangerously increase the overall risk of mental health concerns (e.g., by intensifying depressive symptoms) and death by suicide (e.g., by decreasing one's cognitive ability to attend to less salient information, such as the consequences of one's actions and alternative options to achieving one's goals, and reducing inhibitions that might otherwise

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² Alcohol use in response to marginalization stress can be viewed dialectically (Linehan, 2014), adopting the view that individuals are coping as best they can in the moment and potentially avoiding more harmful outcomes (e.g., drinking alcohol to dampen urges for nonsuicidal self-injury) while simultaneously holding that behavior change to reduce risk of harm is a necessary goal.

disrupt behavioral impulses toward self-harm; Gonzalez et al., 2017). Research suggests that TGD people across multiple identities shoulder significant consequences of alcohol use disproportionate to their cisgender peers (Coulter et al., 2015; 2017; Keuroghlian et al., 2015; Rimes et al., 2019; c.f., Dermody et al., 2021 for contrasting findings).

Drinking to Cope

Individuals are described as drinking to cope when they use alcohol "to escape, avoid, or otherwise regulate negative emotions" (Cooper et al., 1995, p. 991) or when alcohol is used as a tool of experiential avoidance in the context of negative affect (Luoma et al., 2020). Drinking to cope is a stronger predictor of high-risk alcohol use (e.g., heavy alcohol use, drinking alone) and associated negative consequences (e.g., mental health concerns) than other motivations such as social enhancement (Cooper, 1994; Kuntsche et al., 2006; McNally et al., 2003), making it an important intervention target. Drinking to cope has also been shown to account for the relationship between proximal stressors (e.g., anticipated stigma, discrimination, and concealment of identity) and high-risk alcohol use within TGD adults (Lindley et al., 2021), consistent with minority stress theory (originally proposed by Brooks [1981], followed by Meyer [2003], and extended to TGD populations [Hendricks & Testa, 2012; Reisner et al., 2015; Testa et al., 2015; 2017]).

Although drinking to cope has not yet been extensively studied among TGD groups, there is a substantial body of literature exploring the connection between experiences of discrimination and the use of alcohol as a coping mechanism across gender identity, sexual orientation, and racial and ethnic backgrounds (e.g., Hatzenbuehler et al., 2011; Le & Iwamoto, 2019; Luoma et al., 2020; Slater et al., 2017). Over 25% of respondents in a large national study of 6,450 TGD individuals (Grant et al., 2011) endorsed using alcohol or other substances to cope with

discrimination. Similarly, Tupler et al. (2017) found that TGD college students were more likely to report drinking alcohol to cope with negative stress compared to cisgender students.

Moreover, some studies of TGD adults in general community samples note associations between holding a marginalized racial or ethnic identity and high-risk alcohol use (e.g., Hotton et al., 2013; Reisner et al., 2014). As a result, TGD individuals who also hold historically marginalized racial and ethnic identities may also be at elevated risk for alcohol-related harms, explained through exposure to and efforts to cope with intersectional experiences of oppression.³

Alcohol Use and Consequences Among TGD College Students

Among TGD individuals, TGD college students may be at elevated risk for alcohol use, independent of stress, as a function of typical developmental trajectories, wherein alcohol use increases at the population level across the span from age 19 to 26 (Schulenberg et al., 2020), an age range typically associated with college attendance. TGD college students may alcohol be at elevated risk for alcohol use, independent of stress, as a function of the college environment. Specifically, the college environment is frequently associated with expectations to drink and the construction of positive narratives about drunkenness (e.g., the movie *Animal House*, which was filmed near and on the campus of the University of Oregon; Stone, 2018), which can serve to promote high-risk drinking (Jackson et al., 2021; Tan, 2012). For example, in comparison to their noncollege-attending peers, more college students report having consumed alcohol in the past month (62.2% vs. 50.1%), having one or more occasions of consuming 5 or more drinks in a row in the past 2 weeks (32.7% vs. 22.3%), and being drunk in the past month (34.8% vs. 27.9%; Schulenberg et al., 2020).

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³ Intersectionality is a nuanced concept that has been described as the interconnected nature of social categorizations such as race, class, and gender as they apply to a given individual or group, which create overlapping and interdependent systems of discrimination or disadvantage (Collins, 2019; Crenshaw, 2017).

Of course, alcohol use may be further elevated by experiences of marginalization stress. Within college and university environments specifically, TGD students note being forced use of binary bathrooms and microaggressions by professors (Seelman et al., 2017; Singh et al., 2013; Woodford et al., 2017). Beyond impacting mental and physical health generally (Hendricks & Testa, 2012), these experiences of marginalization can negatively impact academic outcomes and prolong or jeopardize degree completion (Woodford et al., 2017). Though findings are mixed regarding rates of alcohol use among TGD college students, Tupler and colleagues (2017) found that more TGD college students consumed alcohol in the past 2 weeks than cisgender students (62% vs. 58.3%, respectively) and, of those who drank, they drank more frequently and consumed greater quantities of alcohol per day than cisgender students. Additionally, a separate study found that, compared to cisgender students, TGD college students were more likely to report having experienced alcohol-related consequences like poorer grades and alcohol-related blackouts (Coulter et al., 2015). Importantly, the alcohol use of others also negatively impacts TGD students, resulting in TGD students being the victims of sexual assaults and other physical violence at a greater rate than cisgender peers (Coulter et al., 2015; Tupler et al., 2017).

Brief Alcohol Interventions for College Students

One way to mitigate the harms of alcohol use and drinking to cope is through brief alcohol interventions, which, as defined by Tanner-Smith and Lipsey (2015), can range from 5 minutes to 5 hours over the course of one or more sessions spread out over 4 or fewer weeks. The efficacy of a range of brief alcohol interventions is empirically supported among college students (Cronce & Larimer, 2011; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2019; Tanner-Smith & Lipsey, 2015). A common type of brief alcohol intervention utilized among college students is a *personalized feedback intervention*, which typically includes

electronically-presented feedback (e.g., via a computer or smartphone) with *modules* that present information on students' own alcohol use, their related risk factors (e.g., positive alcohol expectancies, perceived drinking norms), their existing skills to reduce risks (i.e., protective behavioral strategies), and psychoeducation relevant to increasing motivation for changing high-risk behaviors and/or effective use of protective behavioral strategies (e.g., information on the effects of different blood alcohol concentration levels on behavior and functioning to support setting drink limits).

Personalized feedback interventions may be particularly effective in reaching TGD college students compared to extant interventions targeting marginalization stress among sexual minority men and women (e.g., 10-week cognitive-behavioral interventions based on Barlow and colleagues' [2010] Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders; Pachankis et al., 2015, 2020) or other types of brief alcohol interventions, such as brief motivational interventions (i.e., 50-60-minute-long sessions facilitated by trained personnel using a motivational interviewing style to guide discussion of personalized feedback; e.g., Dimeff et al., 1999). Though the style in which brief motivational interventions are delivered has been praised for being a good platform for affirming intervention (e.g., Shorey et al., 2022), not all personnel trained in motivational interviewing may be equal from the perspective of students receiving the intervention. For example, in one study of TGD college students, participants uniformly expressed a preference for mental health and substance use intervention facilitators that were TGD themselves (Ehlinger et al., 2022), likely owing to genderism, cisgenderism, and associated behaviors such as misgendering, pathologizing TGD identity, and medical gatekeeping evident within healthcare systems (Grant et al., 2011; Morris et al., 2020; Puckett et al., 2018). However, TGD personnel (or peers who could be trained as health educators) are

underrepresented across academic and healthcare environments (Reisner, Radix, et al., 2016). As college students are already unlikely to seek services to prevent or treat alcohol misuse (Bourdon et al., 2020; Bruffaerts et al., 2019; Wu et al., 2007), it stands to reason that experiences of discrimination may foster distrust (Bourdon et al., 2020) and further reduce use of in-person alcohol interventions by TGD college students.

Personalized feedback interventions lessen this particular barrier by delivering intervention content remotely and allowing recipients to engage with the material independently. Moreover, personalized feedback interventions are lower cost than cognitive-behavioral and brief motivational interventions (NIAAA, 2019) and may be more scalable across settings due to their fully-online nature, eliminating the need to hire, train, and maintain the fidelity of facilitators to motivational interviewing. Thus, there is greater likelihood of reaching all students who may benefit from the intervention versus only a select few (e.g., those that violate campus alcohol policies; e.g., DiFulvio et al., 2012). However, extant personalized feedback largely focus on filling individual-focused knowledge/skill deficits thought to drive alcohol use and related consequences (Cronce & Larimer, 2011) and may, therefore, not be affirming from the standpoint of TGD college students.

Specifically, a focus solely on alcohol use and consequences divorced from context (i.e., the ecological forces that shape alcohol use behavior) may serve to essentialize alcohol use behavior when applied within TGD college student populations in ways that reinforce and deepen health disparities by suggesting risk is associated with one's identity rather than the lived experience of discrimination (Frost, 2017; Testa et al., 2015). Thus, to avoid further stigmatization and increase likelihood of TGD college students' engagement with a personalized feedback intervention, extant personalized feedback interventions likely need to be tailored to the

specific needs of TGD college students (c.f., Cronce et al., 2022 and Glynn & van den Berg, 2017, which note the absence of existing brief alcohol interventions for TGD people, and TGD college students specifically). Such development efforts need to be grounded in theory and the empirical literature on effective alcohol intervention while simultaneously carefully considering TGD community stakeholders' perspectives and implementation factors, including acceptability and appropriateness, that are essential to intervention uptake after development is complete.

Developing Personalized Feedback Intervention Modules for TGD College Students

Minority Stress Theory would suggest incorporating content that directly addresses experiences of discrimination and marginalization stress that contribute to distress and drinking to cope. This same theory would suggest incorporating content that acknowledges existing and fosters greater individual and community resilience (e.g., self-definition and community pride) to marginalization stress. With one limited notable exception (i.e., the Culturally Adapted Motivational Interviewing intervention for Latinx adults; Lee et al., 2013), extant brief alcohol interventions have not included content that addresses the impact of discrimination and associated stress on alcohol use. Moreover, given that social enhancement is the most commonly reported motivation for alcohol use among college students samples, which largely comprised cisgender individuals (e.g., Armeli et al., 2010; Kuntsche et al., 2005; Mohr et al., 2005), brief alcohol interventions have not typically addressed drinking to cope (for exceptions, see: Terlecki et al., 2012, 2014). However preliminary, existing literature would suggest that addressing marginalization stress and drinking to cope within a personalized feedback intervention for TGD individuals may be beneficial. For example, Lee et al. (2019) showed that participants reporting higher levels of discrimination at baseline showed greater reductions in alcohol-related consequences following the Culturally Adapted Motivational Interviewing intervention versus

the comparison intervention (i.e., motivational interviewing alone). Adding psychoeducation on marginalization stress to explain the association between marginalization stress and alcohol use could help participants understand and reduce inappropriate self-blame for alcohol behaviors. Likewise, providing a trans-affirmative user interface (e.g., using gender-neutral language to describe groups of people) and content detailing resources to build individual and community resilience could result in increased engagement with the intervention by TGD college students as well as increased overall psychological well-being through validation of intervention recipients' identities (Glynn et al., 2016; Sevelius, 2013).

Drawing on extant theory and interventions is a helpful starting point, but it is also essential to engage stakeholders directly to assess the acceptability and appropriateness of an intervention (Hawkins et al., 2017; Hunt, 2011; Reisner, Hughto, et al., 2016). Within a community-based research framework (De Las Nueces et al., 2012; Rodriguez Espinosa & Verney, 2021), many (if not all) stages of the research process are discussed with community stakeholders to reduce risk of pathologizing participant identities (Wilson et al., 2009), to ensure the research focuses on considerations important to the community being studied, and to minimize researcher bias (O'Toole et al., 2003; Rodriguez Espinosa & Verney, 2021). Community-based research can help ensure the relevance of a research topic to the group in question, increase the potential for disseminating findings to diverse audiences and into sustainable practices, and enhance the likelihood of overcoming distrust of the researcher (Racine et al., 2022) that, for some TGD individuals, may exist due to past lived or observed negative, paternalistic experiences with clinical research (Tebbe & Moradi, 2016). Many approaches to intervention development and adaptation exist (e.g., Bartholomew et al., 2011; Collins et al., 2007; French et al., 2012; Hardeman et al., 2005), including Hawkins and

colleagues' (2017) co-production model, which branches from initial literature review (i.e., grounding in theory and existing interventions) through engagement with stakeholders to iteratively fine-tune intervention materials.

Of course, without consciously attending to the acceptability and appropriateness of intervention content during the development stage, it is likely the final product will be sound in theory but fail to reach the intended audience due to poor perceived fit (Hawkins et al., 2017). Acceptability is the perception among stakeholders that a given intervention is agreeable or satisfactory (Proctor et al., 2011). Often acceptability is assessed based on the stakeholder's knowledge of or direct experience with various dimensions of an intervention, including its content or complexity (e.g., Kaplan et al., 2019; Sevelius et al., 2020). In the context of addressing experiences of marginalization within healthcare settings, understanding the extent to which materials are experienced as affirming may be particularly important. More affirming materials may build trust in the information presented and increase the likelihood for behavior change (Ayala & Elder, 2011; Reisner, Hughto, et al., 2016). Appropriateness, or the perceived fit or relevance of an intervention for its intended population, is posited to increase the ultimate effectiveness of an intervention (Proctor et al., 2011). Although related, these outcomes are distinct; an intervention's content may be appropriate for a given population but may not be found to be acceptable. Given the absence of interventions that exist for TGD college students, there is little known to-date about what would be considered acceptable or appropriate for an alcohol-focused intervention among TGD college students (see Cochran et al., 2007, and Ehlinger et al., 2022, for exceptions).

Study Purpose

The purpose of this study was to develop novel personalized feedback intervention modules that would address hypothesized mechanisms of high risk alcohol use among TGD college students (i.e., marginalization stress and drinking to cope) and introduce a more affirming stance than extant personalized feedback interventions by focusing on fostering individual and community resilience. Consistent with a community-based research approach, TGD college students who endorsed drinking to cope were recruited as consultants in the modules' development. An additional purpose of this study was to evaluate the perceived acceptability and appropriateness of the novel personalized feedback intervention modules. Specifically, this study utilized qualitative and quantitative methods to interrogate the following research question: How acceptable and appropriate are a set of novel personalized feedback intervention modules from the perspective of TGD college students who endorse drinking alcohol to cope? Given past research using similar methods (e.g., Hawkins et al., 2017) and preliminary work assessing TGD college students' preferences for alcohol intervention (Ehlinger et al., 2022), I hypothesized that the novel modules developed in collaboration with TGD college student stakeholders would be deemed acceptable and appropriate.

CHAPTER II

METHODS

Personalized Feedback Intervention Module Development Framework

Consistent with Hawkins and colleagues' (2017) co-production model and community-based research framework, I integrated scientific literature with TGD college student stakeholders' knowledge and expertise in an iterative process of intervention development. This iterative process involved four phases to generate and hone three novel personalized feedback intervention modules on the topics of marginalization stress, drinking to cope, and fostering resilience, which were suggested by Minority Stress Theory (Hendricks & Testa, 2012) and the broader alcohol literature to be important prevention and intervention targets. These four phases included:

- Initial module development (i.e., drawing on extant literature, the knowledge of a
 brief alcohol intervention content expert, and other TGD health experts, I created
 draft versions of each of the three planned personalized feedback intervention
 modules).
- Iterative module refinement (i.e., I gathered two rounds of feedback from TGD
 college student stakeholders on the acceptability and appropriateness of, and made
 corresponding iterative improvements to, the three personalized feedback modules).
- Assessment of acceptability and appropriateness (i.e., I gathered feedback on the
 acceptability and appropriateness of the three modules from a new group of TGD
 college students and incorporated their feedback into a final version of the modules).
- Member checking (i.e., I shared the versions of the personalized feedback intervention modules developed in Phase 3 with the same group of TGD college

student stakeholder consultants who participated in Phase 2 to assess how well all stakeholders' feedback had been incorporated into the final version of the modules).

Detailed descriptions of the procedures for each of these four phases are provided in the sections below.

Phase 1: Initial Module Development

Procedures

In Phase 1, I discussed the strengths and limitations of components of an extant personalized feedback intervention (electronic CHECKUP TO GO; Doumas & Andersen, 2009) and a second common brief alcohol intervention (BASICS; Dimeff et al., 1999) with a brief alcohol intervention content expert (J. M. Cronce) and reviewed the broader literature relevant to intervening with TGD college student alcohol use (e.g., Chaudoir et al., 2017; Glynn & van den Berg, 2017; Hendricks & Testa, 2012). Informed by this review, over the course of several weeks, I drafted content for the personalized feedback intervention modules that largely comprised psychoeducation with questions intended to prompt reflection on the material. Over the course of four iterations, these draft modules were refined until the brief alcohol intervention content expert communicated that the modules were ready to share with TGD college student stakeholder consultants and gather feedback via focus groups and individual interviews on the modules acceptability and appropriateness in Phase 2.

Phase 2: Iterative Module Refinement

Participants

A total of 6 participants ($M_{age} = 19.5$ years, SD = 1.52, range 18-22) agreed to serve as stakeholder consultants in the development of the personalized feedback intervention modules. Inclusion criteria for the stakeholder consultants were as follows: (a) at least 18 years old at the

time of study enrollment, (b) self-describing their gender identity as trans or gender-diverse in some way, (c) reporting current enrollment as an undergraduate student at any college or university in the United States (for at least one academic credit), and (d) endorsing one or more items on the coping motives subscale of the revised Drinking Motives Questionnaire (DMQ-2; Cooper 1994).

Procedures

Stakeholder consultants were recruited through flyers (see Appendix A), a blog created specifically for the study (see Appendix B), and via posts distributed via the University of Oregon's LGBTQIA2+ Discord channel with moderator approval (see Appendix C). Each form of recruitment advertisement contained a phone number for the study and an embedded quick response (QR) code. Scanning the QR code opened the hyperlink to an eligibility survey programmed in Qualtrics that included (a) the informed consent document for Phase 2 and Phase 4 study activities and (b) items to establish participant eligibility based on age, TGD identity, college student status, and motivations for drinking (which required first reporting consuming alcohol). Interested individuals were alternatively invited to text "TRANS STUDY" to the study phone number and would receive in reply a hyperlink to the eligibility survey. Participants who were deemed ineligible after answering the eligibility survey items were directed to a screen thanking them for their interest in the study and noting that they are ineligible. Participants who were deemed *eligible* after answering the eligibility survey items were asked to provide contact information including their telephone number, email address, and mailing address through which they would be contacted and compensated by the research team. Eligible participants were further asked to provide more detailed information about their demographics for the purpose of describing the sample. See Table 1 for characteristics of the Phase 2/4 sample.

Participants who met inclusion criteria were contacted by phone and invited to attend a total of three focus group meetings. Due to scheduling conflicts, 1 eligible participant was unable to participate in the first two focus group meetings and, instead, completed individual interviews. All stakeholder consultant meetings occurred over Zoom and were recorded using that platform's software. The first focus group occurred on November 12, 2021, and the first individual interview occurred on November 16, 2021.

During the focus group/individual interview, as the facilitator/interviewer, I introduced myself, my identities, and my motivation for conducting the current research. I also provided a verbal overview of the project and structure of the three planned meetings for Phase 2/4 participants. Consistent with best practices suggested by Bergen and Labonté (2020) to reduce social desirability bias within qualitative research, I devoted the first 10 minutes of the first focus group/individual interview to building rapport with participants. I verbally normalized the provision of constructive criticism and introduced why critiques are necessary for content improvement. I also provided time for participants to ask questions about the research. Once all participant questions were answered, I used the screen-sharing feature of Zoom to show participants each of the personalized feedback intervention modules developed during Phase 1 (v1.0; see Appendix D) in order, pausing after each module to ask 9 questions about the acceptability and appropriateness of the module (i.e., focus group and interview guide). I asked the 9 questions in order, allowing space for participants to share their thoughts. Participants provided feedback verbally and in writing through the chat function of Zoom. If participants provided an answer that was unclear to me or I felt there could be additional context gained by following up with the participant, I asked follow-up questions that were not specified in the focus group and interview guide (e.g., "Would you please expand upon that point?").

Table 1. Sample characteristics of focus group and individual interview participants.

Variable	N (%)
Gender identity	
Woman	1 (17)
Man	1 (17)
Nonbinary	3 (50)
Female-aligned nonbinary	1 (17)
Lived gender	
Woman	1 (17)
Man	1 (17)
Nonbinary	2 (33)
Femme-aligned nonbinary/woman	1 (17)
Declined to answer	1 (17)
Race/Ethnicity	
Black	1 (17)
White	3 (50)
White Latina	1 (17)
Black and Hispanic	1 (17)
Disabilities	
Autism	1 (17)
Major Depressive Disorder	3 (50)
Anxiety	3 (50)
Panic Disorder	1 (17)
Gender Dysphoria	1 (17)
Sexual orientation	
Bisexual	1 (17)
Heterosexual	2 (33)
Queer	1 (17)
Lesbian	1 (17)
Pansexual	1 (17)

Note. All gender, racial, ethnic, disability status, and sexual orientation terms are written as indicated directly from participant report. Some totals may equal >100%, given that demographic questions were open-answer. Percentages are taken from N = 6.

At the end of the first focus group/individual interview, I reminded participants of the second focus group/individual interview, the activities that would occur before the next meeting

(i.e., revising the modules using participant feedback), and that they would be compensated for their participation in the form of an electronic \$25 Visa gift card sent to their email address.

Following the first focus group/individual interview, I revised the personalized feedback intervention modules based on stakeholder consultant feedback. Specifically, edits were made to the graphics, word choice and phrasing of information, and layout of the modules. For example, sections of text were broken up with further bullet points, jargon was removed, and graphics were included such as the trans pride flag image. Language was also added to the drinking to cope and resilience modules to validate the experiences of TGD college students who may feel they are struggling to cope with or be resilient to stress. The goal of adding this language was to acknowledge how students may already be doing the best they can at any given moment to cope with stress while simultaneously providing resources and reflection to encourage more effective coping strategies, similar to the approach noted within dialectical behavior therapy (Linehan, 2014).

The second focus group occurred on November 19, 2021, and the second individual interview occurred on November 23, 2021. At the beginning of the second focus group/individual interview, I invited questions from stakeholder consultants that may had emerged since the first meeting. Like in the first focus group, I shared each module individually (v2.0; see Appendix E) in order and paused after each module to ask the same set of 9 questions about the acceptability and appropriateness of the modules that were asked during the first focus group/individual interview. Also like in the first focus group/interview, if participants provided an answer that was unclear to me or I felt there could be additional context gained by following up with the participant, I asked follow-up questions that were not specified in the focus group and interview guide.

At the close of the second focus group/individual interview, participants were reminded that they would be compensated for their participation in the form of an electronic \$25 Visa gift card sent to their email address. Following the second focus group/interview, further edits were made to the graphics, word choice and phrasing of information, and layout of the modules. For example, the text of each module was made more concise and additional content was added regarding normalization of difficulties in fostering resilience.

Audio and video recordings of both the first and second focus group meetings/individual interviews were kept in an encrypted University of Oregon OneDrive folder until the completion of data collection (to ensure revisions made to the modules were in line with stakeholders' feedback), at which point the recordings were destroyed. To assist with Phase 4 retention and study engagement, I send one follow-up email to participants approximately 2 months after Phase 3 recruitment began with updates on the status of Phase 3 activities and plans for the third and final focus group/individual interview that would occur in Phase 4.

Survey Measures

Demographics. All participants completing the eligibity survey were asked (a) "How old are you?" and presented with a drop-down menu with response options ranging from 1 and 100 years old; (b) "Do you identify as trans or gender-diverse (non-cisgender)?" with the option to respond *yes* or *no*; and (c) "Are you currently registered for at least one credit as an undergraduate student?" with the option to respond *yes* or *no*. Those individuals who meet eligibility based on these three items and the items assessing coping-related drinking motives were further asked to provide information about their sex assigned at birth, gender identity, lived gender, and sexual orientation through open-ended questions with the stem "What is your...?". Race and ethnicity were assessed by two open-ended questions asking, "How do you describe

your race and/or ethnicity?" and "If you would like, please further describe your cultural, ethnic, or regional identity." Participants were also asked, "Do you identify with having any disabilities?" and if participants selected "yes," they were prompted to "Please list, if comfortable." For all open-response items, participants were able to write in whatever responses were appropriate for them. Participants were also asked, "What is your status as a student?" and presented with a drop-down menu of options inclusive of "first-year," "second-year/sophomore," "third-year/junior," and "fourth-year/senior." Participants could also select "other" if they were beyond 4 years of undergraduate study.

Alcohol Use. All participants were asked "Do you drink alcohol?" with the option to respond *yes* or *no*. Only participants who responded affirmatively to this item were shown items assessing coping-related drinking motives.

Coping-related Drinking Motives. Participants were asked the five questions comprising the coping motives subscale of the revised Drinking Motives Questionnaire (DMQ-2; Cooper 1994; Kunstche et al., 2006). Sample items include "Because it helps you when you feel depressed or nervous" and "To forget about your problems." All items requested participants provide a dichotomous response: *yes* (1) or *no* (0). Internal consistency of the overall scale from previously published studies is good (Cronbach's α ranging between .81 and .94; MacLean & Lecci, 2000), with reliability of the factor structure confirmed (Grant et al., 2007). Each participant's responses were summed to create a total score, with higher values representing greater drinking to cope. Participants who responded affirmatively to one or more items (i.e., their total score on the subscale was between 1 and 5) were eligible for the study.

Focus Group and Interview Guide

Module Acceptability. All focus group and individual interview participants were asked 6 questions about how well each module affirmed and acknowledged important aspects of their identities and lives as well as how clearly the information in each module was presented. A specific definition of *affirming* was not provided to participants, so as not to constrain their responses. Items were developed based on extant descriptions of the constructs of acceptability and feasibility (Proctor et al., 2011; Weiener et al., 2017) in consultation with members of my dissertation committee that have expertise in qualitative research. Of note, items 2, 3, and 5 specifically encouraged participants to note areas for improvement. Assessing and reporting what participants consider less acceptable or appropriate about an intervention are important for transparency in the research process (Hunt, 2011; Lee et al., 2011) and to inform future work.

The final items were:

- "What parts of the module you just viewed did you find to be clear and easy to follow?" (item 1).
- "What parts of the module you just viewed did you find to be unclear or confusing?" (item 2).
- "What changes would you suggest we make to this module to make it clearer and/or less confusing?" (item 3).
- "Please describe what parts of the module you just viewed felt more respectful and affirming of meaningful aspects of your identity or experience (e.g., gender, race, ethnicity, disability status)" (item 4).
- "Please describe what parts of the module you just viewed felt less affirming of meaningful aspects of your identity or experience (e.g., gender, race, ethnicity, disability status)" (item 5).

• "What other feedback do you have regarding the overall content and wording in the module that you just viewed?" (item 6).

Module Appropriateness. All focus group and individual interview participants were asked 3 questions about how relevant and useful participants felt the material in the modules was to them. A specific definition for *relevant* and *useful* was not provided to participants, so as not to constrain their responses. I followed the same process to develop items assessing appropriateness as I followed to develop the items assessing acceptability (i.e., consulted the literature on the construct of appropriate, including Proctor et al., 2011 and Weiner et al., 2017; discussion of the items with members of my dissertation committee that have expertise in qualitative research). As with the acceptability items, items 8 and 9 specifically encouraged participants to note areas for improvement in the modules. The final items were:

- "In what ways, if any, does the content in the module that you just viewed feel relevant to your life?" (item 7).
- "In what ways, if any, does the content in the module that you just viewed feel irrelevant to your life?" (item 8).
- "Please share any details you feel comfortable sharing that might help us to revise this module to be more appropriate and inclusive of your experience?" (item 9).

Phase 3: Assessment of Module Acceptability and Appropriateness

Participants

A sample of 10 participants ($M_{age} = 22.8$, SD = 3.54, range 18-33) were recruited to provide an independent assessment of the acceptability and appropriateness of the personalized feedback intervention modules developed with stakeholder consultants during Phase 2. Inclusion criteria for Phase 3 participants were the same as for Phase 2 stakeholder consultants: (1) at least

18 years old at the time of study enrollment, (2) self-describing their gender identity as trans or gender-diverse in some way, (3) reporting current enrollment as an undergraduate student at any college or university in the United States (for at least one academic credit), and (4) endorsing one or more items on the coping motives subscale of the revised Drinking Motives Questionnaire (DMQ-2; Cooper 1994).

Procedures

Recruitment for Phase 3 began in December 2021. Electronic flyers (see Appendix G) were posted on various social media sites (e.g., TGD Facebook groups and college and university LGBTQIA2+ groups (see Appendix H) were sent emails requesting assistance with recruiting at those institutions (see Appendix I). To recruit using Facebook, I searched for groups using the terms "transgender" and "transgender support" and applied for membership to the groups that appeared to have the highest membership numbers. Applications were submitted electronically to the administrators of each group and were approved prior to posting advertisements for the study.⁴ Recruitment was also sought through a post on the American Psychological Association Society for Addiction Psychology (Division 50) listserv. This post was the same format as the email sent to LGBTQIA2+ groups at colleges and universities.

Each online post contained a phone number for the study and an embedded QR code. Scanning the QR code opened the hyperlink to a survey programmed in Qualtrics that included the informed consent document for Phase 3 activities and the same survey items as described for Phase 2. Interested individuals were alternatively invited to text "TRANS STUDY" to the study phone number and would receive in reply a hyperlink to the survey. Participants who were deemed *ineligible* after answering the initial eligibility survey items (i.e., age, gender identity,

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⁴ I removed myself from the groups after Phase 3 recruitment was completed to minimize impact on the security of these online spaces as a cisgender person.

current college or university enrollment, and drinking to cope) were directed to a screen thanking them for their interest in the study and noting that they are ineligible. Participants who were deemed *eligible* after answering the initial eligibility survey items were shown an image of one of the three personalized feedback intervention modules (v3.0; see Appendix F) and a set of questions assessing the perceived acceptability and appropriateness of the module viewed that largely mirrored the focus group and interview guide used in Phase 2. The choice was made for each participant to view only one module to reduce participant burden and fatigue (Sinickas, 2007) and to encourage greater depth of responding to the open-ended questions. Qualtrics was programmed to rotate which module was shown to participants to ensure that a roughly equal number of participants would provide feedback on each of the three modules. Participants were further asked to provide an email address to be compensated by the research team and to provide more detailed information about their demographics similar to Phase 2. See Table 2 for characteristics of the final screened Phase 3 sample.

During Phase 3 data collection, multiple (N = 522) responses were submitted that were considered to be *inauthentic* (i.e., a "bot" or similar automated response, as determined by patterns of responding). Responses were considered inauthentic if fewer than 1/3 of questions answered or singular or one-word responses were given (e.g., "good") to all items or used a series of numbers to answer questions designed to elicit a narrative response. Efforts to reduce automated responses included engaging features of Qualtrics to block multiple submissions from the same IP address and computer, enabling reCAPTCHA bot detection, and using relevantID, which employs an algorithm to determine the likelihood that a respondent is submitting the same questions repeatedly. *Authentic* survey responses were collected until saturation of the data was reached (i.e., the point at which no new information or themes were emerging from the data;

Guest et al., 2006), at which point data collection was halted. Of the 10 submitted surveys deemed authentic, 4, 4, and 2 participants viewed and provided feedback on the marginalization stress module, the drinking to cope module, and the fostering resilience module, respectively. Participants who provided authentic responses and who provided a valid email address were compensated in the form of a Visa gift card of \$25.

Table 2. Sample characteristics of Phase 3 survey participants.

Variable	N (%)
Sex assigned at birth	
Female	9 (90)
Male	1 (10)
Gender identity	
Transmasculine nonbinary	1 (10)
Trans man	1 (10)
Woman	1 (10)
Transgender woman	2 (20)
Trans masculine	3 (30)
Nonbinary	3 (30)
Transgender man	1 (10)
Lived gender	
Nonbinary	3 (30)
Male	2 (20)
Female	1 (10)
Feminine gender-queer	1 (10)
Genderqueer/nonbinary	1 (10)
Nonexistent, but treated like a woman	1 (10)
Transmasc	1 (10)
Race/Ethnicity	
White	5 (50)
White (Jewish)	1 (10)
African American	2 (20)
Latino (Colombian)	1 (10)
East Asian (Korean)	1 (10)

Table 2. (continued)

Variable	N (%)
Sexual orientation	
Bisexual	2 (20)
Gay	1 (10)
Pansexual	2 (20)
Homosexual	1 (10)
Lesbian	2 (20)
Queer	1 (10)
Decline to answer	1 (10)
Disabilities	
Chronic pain	2 (20)
Depression	1 (10)
Anxiety	1 (10)
Attention Deficit and Hyperactivity Disorder	1 (10)
Autism	1 (10)
Reasons for drinking alcohol	
To forget your worries	3 (30)
Because it helps you when you feel depressed/nervous	5 (50)
To cheer you up when you are in a bad mood	4 (40)
Because you feel more self-confident and surer of yourself	6 (60)
To forget about your problems	3 (30)
Student status	
First year	1 (10)
Second year	3 (30)
Third year	3 (30)
Fourth year	2 (20)
Other	1 (10)

Note. All gender, racial, ethnic, sexual orientation, and disability terms are written as indicated directly from participant report. Some totals may equal >100%, given that demographic questions were open-answer. Percentages are taken from N=10.

Survey Measures

Demographics. Same as described in relation to Phase 2 study activities.

Alcohol Use. Same as described in relation to Phase 2 study activities.

Coping-related Drinking Motives. Same as described in relation to Phase 2 study activities.

Module Acceptability. Same as described in relation to Phase 2 study activities. All questions were presented in the form of a programmed Qualtrics survey with open-response text boxes. There were no character limits imposed on participants' responses.

Module Appropriateness. Same as described in relation to Phase 2 study activities with one additional quantitative item regarding the perceived trustworthiness of the module that was viewed, with response anchors of 0 = not at all trustworthy and 10 = extremely trustworthy:

• "How much do you trust the information presented in the module that you just viewed would actually be useful if you made the choice to change your alcohol consumption?" (item 9).

Item 9 noted in Phase 2 ("Please share any details you feel comfortable sharing that might help us to revise this module to be more appropriate and inclusive of your experience?") became item 10 in the Phase 3 survey. All questions, with the exception of the trustworthiness item, were presented in the form of a programmed Qualtrics survey with open-response text boxes. There were no character limits imposed on participants' responses.

Qualitative Data Analytic Strategy

Given its flexibility and pragmatism with respect to research questions, data types, and sample sizes, I selected *framework analysis* (Ritchie & Spencer, 1994; Srivastava & Thomson, 2009) to analyze the qualitative data gathered during Phase 3. Originally designed to draw on multiple methods and traditions in qualitative inquiry, framework analysis is an inherently comparative form of thematic analysis that employs an organized structure of inductively- and deductively-derived themes (i.e., a framework) to conduct cross-sectional analysis using a

combination of data description and abstraction (Ritchie & Spencer, 1994; Spencer et al., 2014). The main focus of framework analysis is to identify, describe, and interpret patterns and themes within and across the data (Ritchie & Spencer, 1994).

Framework analysis involves sifting, charting, and sorting data in accordance with key themes in a multi-stage process (Ritchie & Spencer, 1994):

- 1. Familiarization with the data (i.e., reviewing the qualitative data multiple times and noting any preliminary themes, observations, and patterns in the responses).
- 2. Identifying a thematic framework (i.e., using notes taken during the familiarization stage and foci suggested by a priori research questions to identify the key concepts and themes to filter and classify the data).
- 3. Indexing (i.e., identifying portions or sections of the data that correspond to a particular theme) and charting (i.e., arranging specific pieces of data that have been indexed into charts of the themes).
- 4. Mapping and interpretation (i.e., outlining the analysis of key characteristics in the charts).

Familiarization. The aim of this stage of framework analysis is to gain extensive knowledge of and familiarity with the "feel" of the data. Because framework analysis is designed to help researchers summarize themes from a small subset of their data, it is not necessary within the context of framework analysis to review all of the data that are collected (Srivastava & Thomson, 2009). However, due to the relatively small set of data gathered in Phase 3 of this study, I elected to engage with responses from all participants. As each participant responded, I downloaded the raw qualitative data from Qualtrics and then re-typed those responses into a Microsoft Excel spreadsheet. This allowed me to view responses to each question in relation to a

given personalized feedback intervention module across all of the different participants who viewed that module. Next, I copied and pasted those retyped responses into separate Microsoft Word documents, one for each of the three personalized feedback intervention modules, and then I uploaded these documents into Dedoose qualitative analysis software (SocioCultural Research Consultants, LLC, 2021). I repeated these four steps (i.e., downloading the raw data, retyping the data into the Microsoft Excel spreadsheet, copying/pasting the responses into the relevant Microsoft Word document, and uploading that document into Dedoose) each time a new response was received. Working systematically, I reviewed each participant's responses individually and noted initial codes in Dedoose. Codes can describe anything within the data that seems to be of potential interest and significance, including any ideas or observations that the investigator might have in light of the research question. In the current study, codes reflected aspects of the data that highlighted any type of response to the research question: How acceptable and appropriate are a set of novel personalized feedback intervention modules from the perspective of TGD college students who endorse drinking alcohol to cope? This approach to the familiarization stage was modeled, in part, after the approach used by Parkinson and colleagues (2016) in their framework analysis examining young peoples' experiences of depression. In both Parkinson and colleagues' (2016) study and the current study, the familiarization stage was considered complete once each of the transcripts had been reviewed at least three times and initial codes had been determined for all responses.

Identifying a Thematic Framework. The aim of this stage of framework analysis is to organize data in a meaningful and manageable way for subsequent retrieval, exploration, and examination during the final mapping and interpretation stage (Ritchie & Spencer, 1994).

Creating a thematic framework is informed by a priori research questions as well as any

emergent issues from the earlier familiarization step (Baskerville et al., 2016; Parkinson et al., 2016). The degree to which each is used in the development of the framework depends on the needs of the individual study. This ability to incorporate a priori interests with new concepts emerging from the data is what makes framework analysis the most appropriate analytical technique to answering the specific research question in this study.

To create a thematic framework, I considered the a priori constructs of acceptability and appropriateness outlined by the study's research question and the codes determined through the iterative process of repeatedly reviewing participants' responses during the familiarization stage. Codes that had similar content were grouped together and these grouped codes effectively led to the articulation of a thematic framework. Codes were not mutually exclusive; the same code could be considered both relevant and affirming if the participant stated explicitly that an aspect of the intervention was relevant and affirming in their response. Overall, if a code referred to a concept directly (e.g., stating that a certain aspect of the intervention module was affirming, relevant, needed to be improved, etc.), it was counted in that category. Given the exploratory nature of this study, I noted clusters of codes that had large numbers of associated responses as I reviewed each participant's responses, including codes focused on areas for growth and future directions for module development. I never received more than one set of responses per day; thus, I completed coding each set of responses before moving to a new set of responses. Inclusion of constructive feedback is important for future work on improving the modules and is consistent with approaches to framework analysis adopted by other researchers (e.g., Goldsmith et al., 2021). Data were subjected to analysis and responses coded on a rolling basis (i.e., as each participant completed the survey), with saturation being determined when no new themes appeared to be emerging from the data. A specific number of interviews, focus groups, or

responses is not needed to determine saturation of findings (Guest et al., 2006), and I noted saturation occurred after the analysis of the tenth set of survey responses.

Indexing and Charting. The purpose of indexing is to organize and apply the data into the thematic framework developed during earlier stages of analysis (Ritchie & Spencer, 1994). There is no standard way to index data in framework analysis, like there is for page numbers in a book's table of contents (Goldsmith et al., 2021). Rather, I indexed by the unit of analysis: individual participants. This choice to index by participant was made as this study emphasized students' perspectives. I indexed the data using Dedoose, working through the transcript of all responses for a given module and deciding to which category (or categories) from the thematic framework each piece of text should be assigned.

The purpose of charting is to view the data in summary (Goldsmith et al., 2021). Thus, once indexing was completed, I created data summaries in tabular form, which displayed each framework category along with its respective codes (similar to the methodology used by Walsh et al., 2018). The charting stage was relatively brief, as the indexing stage and charting stage both sought to arrange the survey responses and associated codes into an organized layout that would allow for systematic reporting of the participants' responses.

Mapping and Interpretation. The final stage of mapping and interpretation involved comparing and contrasting participants' responses to search for patterns, including clusters of data that "hang" together (Goldsmith et al., 2021; Ritchie & Spencer, 1994). Interpretation can be demonstrated in a variety of ways, including identifying and describing key concepts taken from participant data, which was the approach taken for this study.

Phase 4: Member Checking

Participants

All 6 of the stakeholder consultants recruited for Phase 2 were retained and engaged in Phase 4 study activities.

Procedures

Following completion of the framework analysis, the personalized feedback intervention modules developed in Phase 2 were revised based on improvements suggested by Phase 3 participants. Revisions included alterations to the text to improve clarity, remove any remaining jargon, and add final illustrations commissioned from illustrator Tori Hong (see https://nxtoo.art) in response to suggestions by Phase 3 participants. Additionally, font size was increased in some areas of all three modules and revisions to content and organization were made to areas recommended by Phase 3 participants, including recognizing the impact of familial alcohol use on drinking behaviors and moving lists of books and resources closer together. These revised personalized feedback intervention modules (v4.0) were shown to the stakeholder consultants to ensure the final products were reflective of all participants' feedback (i.e., member checking; Hunt, 2011). As in Phase 2, 1 participant was unable to attend the scheduled focus group time and they completed an individual interview. Both the focus group and one individual interview were conducted on March 29, 2022.

At the start of the final focus group/individual interview, I re-introduced myself and provided an overview for the meeting, including what questions I would be asking. I reminded participants how Phase 3 activities were conducted and then used the screen-sharing feature in Zoom to show participants the revised modules. I read each module out loud to participants in order, emphasizing the changes made to the modules after Phase 3. After reading each module, I paused to ask participants the same 9 acceptability and appropriateness questions asked of them in Phase 2 and allowed participants space to share their reactions. Like in previous focus groups

and interviews, I asked follow-up questions when participant responses were unclear or I felt additional context about a participant's answer would be helpful in understanding their response.

At the end of the third focus group/interview, I reminded participants that they would be compensated for their participation in the form of an electronic \$100 Visa gift card sent to their email address and obtained verbal permission from participants to retain their email address to share the a summary of the work (or the dissertation itself, if participants desired).

Focus Group and Interview Guide

Module Acceptability. Same as described in relation to Phase 2 study activities.

Module Appropriateness. Same as described in relation to Phase 2 study activities.

Researcher Positionality

To understand the lens brought to each stage of analysis and personalized feedback intervention module development, it is important to describe my positionality as a researcher and that of my dissertation chair. I am a cisgender, queer White man with Northern, Western, and Central-European ancestry. I am able-bodied (with a vision disability) and was born into an upper-middle class family in the Upper-Midwest of the United States. I was 30 years old at the time this project was completed. The chair of my dissertation committee, whose guidance shaped each step of the study, identifies as a White, heterosexual, cisgender, able-bodied woman with Northern and Western-European ancestry. She was born into a working-class family in the rural Pacific Northwest of the United States and was the first in her family to receive a bachelor's degree and, subsequently, a doctorate. At the time of writing, she was 45 years old. We each resided in Eugene, Oregon at the time this study and the writing of the dissertation was completed.

CHAPTER III

RESULTS

To guide the reporting of this project and its results, I followed the *Consolidated Criteria* for Reporting Qualitative Research guidelines (COREQ; Tong et al., 2007) and the American Psychological Association's Journal Article Reporting Standards for Qualitative Research (Levitt et al., 2018).

Module Acceptability and Appropriateness

In total, 45 different codes were noted during the data familiarization stage of the framework analysis, with some codes being applied more than once to the same participant responses. See Table 3 for the thematic framework developed to index and chart the data including example codes. Participants' perspectives on the acceptability and appropriateness of each of the personalized feedback intervention modules are discussed below in relation to the three major themes that emerged out of the framework analysis.

Relevance of the Material in Each Module

The majority of Phase 3 survey participants expressed positive perceptions of the personalized feedback intervention module they viewed. All participants indicated that at least one aspect of the module they viewed was relevant to their lives or the lives of other TGD college students in their social groups. Relevance (a dimension of appropriateness) was dependent on each individual participant's experiences, although common groupings of content emerged. For example, participants noted the significance of the social environment within colleges and universities and how these environments impact their drinking.

Table 3. Thematic framework developed to index and chart qualitative data.

Themes	Example codes	
1.0. Relevance of the material in	1.1. Relevant examples provided	
each module	1.2. Relevance for participant who formerly drank to cope	
	1.3. Resources provided were relevant	
2.0. Affirming aspects of the	2.1. Inclusion of intersectionality was validating	
material in each module	2.2. Disability acknowledgment was affirming	
	2.3. Language in modules was affirming	
3.0. Requests for improvements in	3.1. More information on generational trauma desired	
the material in each module	3.2. Request for acknowledging familial alcohol use	
	3.3. Stylistic suggestions	

One participant (1) who reviewed the marginalization stress module noted how gender prejudices and discrimination interacts with the dominant college drinking culture:

I have noticed the trend of alcohol abuse as a coping strategy for many college students, but often this is amplified by existing gender and sexuality struggles. When in a homophobic environment, or an environment that does not largely accept or appreciate someone's existence it can be hard to be yourself. Dominant culture and misunderstandings about trans people can be really draining to be forced to assimilate to.

Participants noted that the marginalization stress module attended to this type of dynamic through noting examples of external and internal stressors. Other participants, like Participant 1, confirmed the relevance of alcohol as a coping mechanism for dealing with stress. One such participant (10) who reviewed the drinking to cope module concisely stated, "I no longer drink as much but it used to be a major coping mechanism...I know I've observed such [drinking] behaviors and motivations in peers." Another participant (6) who reviewed the drinking to cope module stated, "I need to figure out better ways to cope than drinking alcohol."

Relevance of the module materials was also established through other content groupings, including praise for coping strategy suggestions (e.g., urge surfing and mindfulness, seeking community support) and TGD-specific resources (e.g., books and other print material) provided in the fostering resilience module. One participant (7) who reviewed the drinking to cope module noted, "The suggested coping mechanisms are all coping mechanisms that have been suggested to me in therapy for anxiety." Although the participant did not specify explicitly whether the strategies listed in the module or those provided in therapy were perceived as useful or effective in managing anxiety (and any attendant use of alcohol to cope with that anxiety), this feedback was given in response to questions asking about what felt relevant. Thus, although it is important not to over-interpret, it may be appropriate to assume that the individual was providing this feedback in support of the utility of the strategies. Another participant (9) who had reviewed the fostering resilience module noted feeling the text presented about self-compassion was relevant to them: "I have trouble practicing self-compassion so these tools for compassion and resilience feel applicable. Especially knowing how often I'll support others without supporting myself." Another participant (5) who reviewed the fostering resilience module reiterated the importance of providing appropriate resources and tools, such as those included in the module: "I think it's

relevant in providing lists of resources for queer/trans/gender-diverse people to access ideas on how to improve their resiliency."

Overall, this first theme within the framework speaks to the relevance of the draft personalized feedback intervention modules through approval of and interest in the specific content. Establishing overall relevance of the materials for *all* TGD college students is not the goal of this individual theme, even if it is the overall goal of this program of research. However, the feedback from the TGD college students who participated in Phase 3 of this project overwhelmingly noted specific aspects of the modules that they perceived as relevant to them. Key aspects that were noted as relevant included the suggested cognitive coping strategies (e.g., mindfulness and urge surfing), the focus on developing self-compassion, and lists of resources (e.g., workbooks and histories written by TGD and queer authors).

Affirming Aspects of the Material in Each Module

The second theme that emerged from the framework analysis concerned the specific aspects of the modules that participants considered affirming. Affirming material relates to both acceptability and appropriateness of the intervention. Aspects of the personalized feedback intervention modules that participants noted as affirming included the use of gender-neutral pronouns and overall language (e.g., the use of "folks" to describe a group of people), and acknowledgements of various identities that participants may hold (e.g., gender identity, race, ethnicity, disability status).

As one participant (1) who reviewed the marginalization stress module stated, "The minority stressors chart was helpful and illustrative. The reflection questions are insightful. The part about intersecting identities is absolutely vital to the handout," highlighting that including information on internal and external marginalization-related stressors and corresponding

reflection questions felt affirming. This response was consistent with the goal of these questions, which was to personalize the intervention by helping participants interactively deepen their understanding of marginalization stress and awareness of its possible effects on their own lives and drinking choices.

Multiple participants who reviewed the drinking to cope and fostering resilience modules noted the importance of the language used to discuss alcohol use and how wording of the content within the modules showed respect for the intended audience. Among those who viewed the drinking to cope module, participant (10) noted, "I appreciate how accessible the wording was without being infantilizing...I believe the lack of gendered language was very accessible," which was echoed by participant (7) who stated "I loved that the entire text is non-gendered."

Of those who viewed the fostering resilience module, participant (9) stated "I felt affirmed by the use of the word queer as it's often left out of conversations," and participant (8) stated "The language all seemed affirming of queer identities to me." Focus on queer identity was common in the participant responses across all three modules.

Some participants also noted clarity and ease of understanding of the material. A participant (1) who reviewed the marginalization stress module noted the information in the module "seems pretty clear, good definitions."

Overall, this second theme within the framework pointed to specifics about the language and content and what was experienced as affirming to participants. Notably, multiple participants pointed to the use of gender-neutral, jargon-free language, and the use of "queer" as key as affirming elements.

Requests for Improvements in the Material in Each Module

The third theme in the framework included responses that emphasized areas for improvement with respect to the acceptability and appropriateness of each personalized feedback intervention module. Some participants felt that the material they viewed was not directly relevant to them individually yet noted the perceived importance of the module content for other TGD college students. For example, one participant (4) who viewed the marginalization stress module stated, "[Because] I am someone who does not have a disability, I didn't quite relate to that part, though it should stay so others can feel seen by it."

Given that TGD college students are a heterogeneous group, breadth of experience was also noted in some participants' responses. In response to viewing the drinking to cope module, one participant (5) suggested that there was not enough emphasis on the complexities of how familial alcohol use and modeling may impact the development of high-risk drinking and drinking to cope among TGD college students, stating "I think [describing drinking to cope as harmful] could come off as a little demeaning to people who have a lot of experience with familial alcohol abuse." Another participant (1) encouraged greater vigilance in ensuring the language and content in the modules reflect the experiences of TGD students of color, stating "Just make sure you are catering to POC trans and non-binary people as well." This participant did not include any additional context or indicate specific ways they experienced the module as centering whiteness. However, this comment underscores the importance of gathering feedback from samples that reflect the heterogeneity of the TGD population.

Some participants noted specific edits that they felt would be helpful in clarifying and formatting the modules. For example, one participant (9) who viewed the fostering resilience module stated, "The module felt very straight forward, my only suggestion might be putting resources and books closer together." Another participant (2) who viewed the marginalization

stress module stated, "The progress flag was nice to see, but the text was small and the colors of the flag kept drawing my eye as I tried to read it. I would consider an outline and larger font."

Participant feedback on areas for improvement was relatively sparse compared to the number of responses that addressed aspects of the modules considered relevant or affirming. This distribution of data suggests participants largely considered the content to be acceptable and appropriate, pending edits to formatting and specific revisions to the content.

Module Trustworthiness

Quantitative data on the perceived trustworthiness of each module (a dimension of appropriateness) were loaded into Microsoft Excel and subjected to descriptive analysis (i.e., mean, standard deviation, range of responses). The average trusthworthiness scores for the marginalization stress module, drinking to cope module, and fostering resilience module were $7.75 \ (SD = 1.5; \text{ range} = 6-9), 7.75 \ (SD = 3.3; \text{ range} = 3-10), \text{ and } 5 \ (SD = 0; \text{ range} = 5),$ respectively. The overall combined average trustworthiness score across all three modules was $7.2 \ (SD = 2.4)$.

Member Checking

Stakeholder consultants noted that the revised materials (v4.0) were more acceptable and appropriate than the prior iteration, which was presented to Phase 3 survey participants (v3.0). Addressing the participant recommendations from Phase 3 allowed the intervention to grow and gain additional acceptability and appropriateness through continuing the iterative process of codevelopment. Final versions of the modules can be seen below in Figures 1 through 3. Among the feedback provided in the third focus group/individual interview, participants commented on the illustrations. For example, one participant (2) stated "It looks a lot better and I like the graphic style a lot," while another participant (1) stated:

I really like how you commissioned it with different skin tones and body sizes...I think that is really great and relatable and people can see themselves in the body types and skin tones and tattoos and expression, that's positive feedback.

This same participant went on to say:

I think a lot of other programs, as far as imagery, has a lot of negative connotations. And

I feel like this is good because it is showing some life in the queer community instead of it

feeling kind of heavy which it very easily could talking about addiction issues.

One participant (5) noted improvement in the content of the marginalization stress module, specifically, stating "I think especially with hypervigilance, it's not something that is often talked about seriously, and so I think it's helpful including those examples." Another participant (3) specifically noted positive changes in the drinking to cope module, stating "I think this version is definitely improved from the original versions." Another participant (2), reflecting on the overall acceptability and appropriateness of the modules stated "I just want to say that it has come a really long way."

It was notable that no contrary perspectives were noted by participants during the final focus group. All participants agreed that the final versions were of sufficient acceptability and appropriateness to warrant continuing the intervention development process in the future.

Participants did, however, mention that it would be helpful to see the modules in an electronic format, similar to the context in which they would be administered in practice (e.g., via the web).

Figure 1. Final draft of marginalization stress module (v4.0).

What is *minority stress*?

- Minority stress theory is one way that researchers and mental health providers have explored why trans and gender-diverse people experience mental and physical health disparities.
 - A disparity is an unequal burden of something within a community, such as alcohol use. The minority stress model acknowledges that the higher incidence of health challenges and negative health outcomes documented among trans and gender-diverse folks is because of the hostile environment that trans and gender-diverse folks are subjected to in daily life because of their gender identity and/or presentation.

There are two main types of minority stressors:

External Stressors

Some emerge from outside the individual, like discrimination. Discrimination may include being unable to access legal documents, medical care, or use the bathroom because of being trans or genderdiverse.

 Other kinds of external stressors include non-affirmation of identity, like when someone is misgendered or deadnamed, or racism and antiblackness which can compound gender-related stress.

Internal Stressors

- Some emerge from the individual, like the expectation and fear of experiencing violence and discrimination, as well as being super alert to sources of potential threat.
- This feeling of being 'super alert' is sometimes called *hypervigilance*.
- *Dysphoria*, or a state of dissatisfaction, can occur internally as a result of external stressors.

Systems of oppression connected to socially-constructed identities are interlocking. For example, a White, affluent, queer, able-bodied trans woman may experience gender-based violence, heteronormativity, and femme erasure, and these experiences may be magnified or experienced in unique ways if that person is also Black, disabled, or poor.

Figure 1. (continued)

Reflection questions:

- 1) How do you see gender-related stress linked to drinking alcohol in your life, if at all?
- 2) In what ways, if any, does the information about minority stress theory match with your experience?
- 3) Often students report the college environment may not be very affirming of gender identity (e.g., through micro-aggressions, misgendering by instructors). How do you feel the college environment contributes to your stress levels?
- 4) At the same time, there may be aspects of being a college student that you feel lower your stress related to discrimination, such as being around other trans and gender-diverse peers. How do you feel the college environment helps with your stress levels?
- 5) Alcohol is a common substance used by folks trying to cope with stress, since it is often believed that alcohol can cause a temporary reduction in feelings of anxiety, lowered inhibitions, and desensitization from the self. When you feel the urge to drink alcohol, take a pause. What, if anything, do you notice happening in your life that is stressful immediately before you feel the urge to drink? What about earlier that day?

Figure 2. Final draft of drinking to cope module (v4.0).

First of all, what is *coping*?

- *Coping* is a way of managing stress using internal (e.g., strategies like mindfulness, challenging your thoughts) and external (e.g., talking with friends, using substances like alcohol or cannabis) strategies to lower or avoid unwanted feelings. These strategies are sometimes called *coping mechanisms*.
- Some coping mechanisms are more helpful than others in the short- vs. long-term. For example, alcohol may sometimes be perceived as having short-term benefits (like feeling less stressed temporarily) but can have long-term harms like negative impact on relationships, academic stress, or even legal consequences like DUIs or serious physiological effects.

What does it mean to use alcohol to cope?

- People often expect that alcohol will do certain things for them. For example, some
 people think drinking alcohol will make them more attractive to a sexual partner or will
 make them funnier or that it will be easier to interact with others socially. Expectations
 often do not line up with reality and drinking alcohol can actually cause additional
 challenges.
- Often folks will report using alcohol to try to escape, avoid, or otherwise regulate unwanted emotions, *expecting* that alcohol will help them relax or feel peaceful. This way of using alcohol is sometimes called "self-medicating."
- Sometimes folks will have been exposed to a lot of alcohol use when they were living with others, including family. When stress hits, you might model your behavior off those you have observed drinking.

Why might using alcohol to cope be less helpful?

- O Using alcohol to cope can actually increase unwanted emotions due to *alcohol myopia* (a narrowing or "short-sightedness" of one's abilities to attend to all available information). Starting at a blood-alcohol concentration (BAC) of .06, alcohol intensifies thoughts and feelings you may be having by decreasing your ability to pay attention to information that might counter those thoughts and feelings. For example, if you are feeling stressed or hurt before you start drinking, you may find yourself feeling more stressed or hurt as your BAC rises, because you will be less able to attend to information (e.g., validation or support from a friend) that might counter those feelings
- o Sometimes folks use multiple substances to cope (e.g., alcohol and cannabis; alcohol and medication, both prescribed and unprescribed). There can be serious physiological and psychological consequences for combining substances; effects of the individual substances can be magnified (i.e., 1 + 1 is *greater than* 2), which increases potential for harm.

Figure 2. (continued)

Reflection questions:

- 1) What expectations might you have about how alcohol will impact the stress you feel?
- 2) What are some occasions when drinking alcohol increased the stress you were feeling? What was different about those occasions?

Skill building: How can we reduce drinking to cope? Let's look at bodily sensations.

Sometimes it can be hard to identify when you may be feeling an urge to drink to cope with stress. One way to explore urges to drink is through 'urge surfing.' When you feel a craving or desire to drink coming up for you, notice all the things happening in the present moment – are you experiencing stressful thoughts? Any bodily sensations? What do you notice? Approaching those sensations and thoughts with a nonjudgmental attitude and watching as they come and go is one way to see other options instead of drinking that maybe were less visible before. Let's practice!



If you were to make the choice not to drink when you're feeling stressed, what are other ways you

could decrease feelings of anxiety (i.e., worries about the future) or other unwanted feelings? [include a blank open-answer spot for students to write their own answers, then have a button for 'not sure where to start' and provide the following examples in a drop-down list:]

- Mindfulness
- Social network support (e.g., friends, family, chosen family you trust)
- Body movement that feels good
- Watching TV or a movie that elicits positive feelings
- Reaching out to a therapist you trust

Figure 3. Final draft of fostering resilience module (v4.0).

What is resilience?

- Broadly, resilience can be thought of as overcoming adversities—*being resilient* is something you *do*.
- Different things can make it more challenging to be resilient, and no one is resilient 100% of the time. **It is okay** if you have bad days or feel like you struggle with building resilience. This information hopefully can help you keep working at it!
- When you have a greater sense of well-being and more resources, both internal and communal, it can be easier to make choices about alcohol use that fit for you and your life.

What kinds of resilience are there?

Individual/Internal Resilience	Group/Community Resilience
Having an internal sense of worth and value as a person; having a positive view toward being trans or gender-diverse (sometimes called <i>identity pride</i>)	Social support from friends, family, partners (whether a larger group of trans or gender-diverse folks, a small group of close friends or partners, or even a single friend or partner); feeling community-connectedness; feeling acceptance from others
 Self-acceptance and connection with the self as a multi-faceted being (e.g., sexual embodiment, emotional connection with self) 	Feelings of pride in the community
 Self-definition – using your own words to describe yourself, your identities, and your body. This may grow and evolve as you get older! 	Participating in activism, which, in addition to helping the community, can help you locate legal and financial aid as well as gain social support from others who are interested in similar causes
Being sure of yourself and having confidence in your decisions about your identities	Knowledge about resilience transmitted across generations by trans and gender- diverse communities
Developing a more optimistic view about what might be possible in your life – having hope!	Being a role model to other trans and gender-diverse people

Here are a couple books on queer, trans, and gender-diverse histories written by queer folks that communicate generational resilience. The list is not exhaustive!

- Transgender History by Susan Stryker.
- Trap Door: Trans Cultural Production and the Politics of Visibility by Tourmaline.
- We are Everywhere: Protest, Power, and Pride in the History of Queer Liberation by Matthew Reimer and Leighton Brown.

Figure 3. (continued)



Reflection questions:

- 1) What are you already doing to take care of yourself and build up your internal store of skills?
- 2) How do or might your social connections and the people you hang out with help you if you decide to reduce your alcohol use?
- 3) What other ways of building resilience do you feel might be helpful for you?

Here are some additional ways of building resilience!

- Learn more about queer-focused resources and support services available to you (e.g., https://www.thetrevorproject.org/)
- ii. Connect with community resources and groups that celebrate trans and gender-diverse identities (e.g., https://translifeline.org/resource/support-groups-trans-community/).
- iii. Read books about self-acceptance (e.g., Sonya Renee Taylor's book about Radical Self-Love, *The Body is Not an Apology*)
- iv. Read books about identity (e.g., Testa, Coolhart, & Peta, 2015: *The Gender Quest Workbook: A Guide for Teens and Young Adults Exploring Gender Identity*; Singh, 2018: *The Queer and Transgender Resilience Workbook: Skills for Navigating Sexual Orientation and Gender Expression*).
- v. Self-exploration and development (e.g., moving your body; trying new hobbies/activities; consensual, safer sexual play and exploration alone or with partner[s]).
- vi. Attend group or individual therapy, if available.
- vii. [INCLUDE ANY UNIVERSITY-SPECIFIC RESOURCES HERE]

CHAPTER IV

DISCUSSION

Principal Findings and Implications

The current study iteratively developed and assessed the acceptability and appropriateness of the first set of trans-affirmative alcohol personalized feedback intervention modules developed specifically for TGD college students. The focus of the three modules were marginalization stress, drinking to cope, and fostering resilience, with each module designed to expand upon existing modular personalized feedback interventions for college students (NIAAA, 2019). Although important with any population (Racine et al., 2022), engaging stakeholders in the intervention development process may be especially important for individuals who hold marginalized identities and may experience greater barriers to utilizing health care interventions (see Ayhan Balik et al., 2020 for a review). Thus, modules were developed in collaboration with TGD college student stakeholder consultants during Phase 2 of the study, to maximize acceptability and appropriateness, and then evaluated on these dimensions by a separate group of TGD college students in Phase 3 of the study. The primary result of the module development process was that Phase 2/4 stakeholders reported excitement about the materials and remained engaged, with no attrition among the focus group and interview participants. Results from Phase 4 member checking, as well as statements from stakeholders collected anecdotally throughout the first two focus groups and interviews, demonstrated that stakeholders were enthusiastic about the development of the intervention, recognized that there was a need within their community, and were open to the content and methodology of the project.

Examining the acceptability and appropriateness of the module content during Phase 3, participants' feedback was organized into a thematic framework comprising (a) relevance, (b)

affirming aspects, and (c) requests for improvements related to the material in each module. On the whole, Phase 3 and Phase 4 participants found the modules to be acceptable and appropriate. Elements of the modules that Phase 3 participants reported were particularly relevant included recognition of individuals' context (e.g., experiences of marginalization stress) and how context may impact alcohol use, inclusion of lists of trans-affirmative resources and readings, discussion of self-compassion, and suggestions of strategies for coping with stress, including urge-surfing and mindfulness. Phase 3 participants highlighted intentional use of inclusive language (i.e., nongendered use of "folks," explicitly acknowledging queer identities) and naming the potential impact of oppression as especially affirming aspects of the modules.

This feedback reinforces what TGD college student focus group participants in a study by Ehlinger and colleagues (2022) suggested would be desirable in alcohol prevention programming, particularly feeling represented and affirmed by those leading or developing interventions. The results from this dissertation project add an important and novel perspective to the exciting, growing body of TGD-specific interventions that set precedent in this area (e.g., Budge et al., 2021; Israel et al., 2020; Merrill, 2021). For example, these results are similar to Mirabito's (2021) Discussing Identity, Substance Use, Coping, and Useful Strategies for Sexual and Gender Minorities (DISCUSS) intervention, in which participants noted that social and language support were affirming aspects of the intervention as well as an area for future growth. Participants in Mirabito's (2021) study also noted how his intervention could include greater discussion of intersectionality and associated stressors, consistent with feedback from participants in the current study. The intervention developed in this dissertation also shares similarities with and builds upon principles from TransCOPE, an online intervention focused on supporting greater coping among TGD adults (Merrill, 2021). TransCOPE incorporated

psychoeducation, skill building, and reflective exercises about marginalization stress, coping, and fostering resilience and framed the marginalization stress module as necessarily introductory to discussion of drinking to cope and resilience. The modules developed in this dissertation move beyond those in TransCOPE by *specifically* addressing how marginalization stress and other forms of stress influence alcohol use, an important addition given the prevalence and impact of alcohol use on TGD college students (e.g., Coulter et al., 2015). Further, the results reiterate the importance of overtly addressing oppression and marginalization within TGD-focused interventions (c.f., Budge et al., 2021).

Beyond the overall similarities to my results, there are some notable differences. In particular, TransCOPE included interactive components (i.e., videos and pre-recorded messages). Interactive components are also an element of Israel and colleagues' (2020) brief intervention targeting mechanisms hypothesized within minority stress theory to contribute to internalized negativity about being TGD. Interactive components, in particular, gamification of intervention content have been shown in some research to amplify intervention effects (Boyle et al., 2017). Thus, future iterations of the modules developed in this dissertation may benefit from the addition of interactive elements; although this was not specifically noted as an area for improvement by participants in the current study.

Phase 3 participants did, however, point to specific areas for improvement within the modules. One aspect participants requested was to add a statement to the drinking to cope module about how family modeling of alcohol use can impact later drinking habits. Adding such information may validate the experiences of TGD participants who have internalized norms about alcohol use from parents who drank to cope with stress or other life events (see Brody et al., 2000 for a discussion of the impact of familial alcohol norms). Phase 3 participants also

noted the importance of representing non-White racial and ethnic identities in intervention materials as well as increasing readability. Feedback to increase racial and ethnic representation within the intervention materials echoes a larger lack of TGD representation in college and university learning materials more broadly (Beemyn, 2003, 2005; Nicolazzo, 2016a). By comparison, participants in Phase 4 described the intervention illustrations as being appropriately representative, and 3 participants of color noted that they felt "seen" by the artist and final illustrations in a way not present in earlier iterations (i.e., the illustrations had not yet been completed at the time of review by Phase 3 participants).

Separate from themes extracted from the qualitative data, participants provided quantitative ratings of the trustworthiness of the modules (an aspect of acceptability). Although a very small sample, it is worth considering why the average trustworthiness score for the fostering resilience module was 5 out of 10 (with 10 being most trustworthy) whereas the average rating for each of the other two modules was 7.5 out of 10. Participants noted that alcohol use was not mentioned frequently within the fostering resilience module (since it was discussed at length in the preceding two modules, outside the knowledge of participants who only saw the fostering resilience module), and this may have led to lower trust, as the stated purpose of the module was to prevent high-risk alcohol use. Another hypothesis may be that by presenting the fostering resilience module without first describing what participants might be resilient to (i.e., marginalization stress), participants may not have fully understood the purpose of the module's content, thus rating its perceived trustworthiness lower. Another possible explanation for these lower scores might be historical experiences of marginalization of TGD people in clinical research (Obasi et al., 2012; Serano, 2009; Tebbe & Budge, 2016) and not knowing the specific identities of the researchers. Suggestions for building resilience may have felt more trustworthy

if incorporated as direct suggestions from members of the community (e.g., inclusion of testimonials or recommendations by TGD college students on how they've maintained and increased resilience).

Strengths

With few notable exceptions (i.e., the Culturally Adapted Motivational Interviewing intervention for Latinx adults; Lee et al., 2011), extant brief alcohol interventions have not included content that addresses the impact of discrimination and associated stress on alcohol use. Moreover, studies of brief alcohol interventions among college students, specifically, have not typically addressed drinking to cope (for exceptions, see Terlecki et al., 2012, 2014) given the more frequently reported motivation of drinking for social enhancement reported by predominantly cisgender samples (e.g., Armeli et al., 2010; Kuntsche et al., 2005; Mohr et al., 2005) and such interventions generally do not include stakeholder feedback in their development (see NIAAA, 2019, for compliation of references to individual brief alcohol intervention studies). Thus, this community-based research project represents one of the first studies to focus on developing and evaluating components of a brief alcohol intervention from the perspective of TGD college students and is, to my knowledge, the first to gather information from TGD college students who endorse drinking to cope, a motivation for alcohol use associated with elevated risk for alcohol-related negative consequences (e.g., Grant et al., 2007; McNally et al., 2003).

Additionally, consistent with calls in the literature for more nuanced assessment of TGD identities (e.g., Gilbert et al., 2018; Singh & dickey, 2016), I asked about gender identity and expression in an open-response, non-categorical way that allowed for participant self-definition, an important aspect of building rapport and to help participants feel affirmed in their identities (Sevelius, 2013). Allowing participants the flexibility to self-define may assist with enhancing

overall acceptability of the intervention through providing a more affirming, less prescriptive space (Sevelius, 2013). I was also largely successful in recruiting a diverse sample with respect to gender identity and expression, race, ethnicity, and current student status (e.g., first-year student, second-year student), which was broader than some past qualitative studies that included or focused on TGD college students (e.g., Ehlinger et al., 2022; Mirabito, 2021; Swanbrow Becker et al., 2017), potentially reflecting perspectives that speak to a wider spectrum of experiences of privilege and oppression (Nicolazzo, 2016b; Singh & McKleroy, 2010). By ensuring more representative samples in alcohol intervention research, those participants who experience an especially high burden from alcohol use but low benefits from extant research are likely to be better served (Dilworth-Anderson et al., 2020; Wesp et al., 2019).

Another strength of this study is that all stakeholder consultants from Phase 2 were retained across the three focus group meetings and individual interviews, which allowed me to best assess how the acceptability and appropriateness of the modules changed across all iterations, which is ideal from an implementation science standpoint (Proctor et al., 2011). Had there been attrition, this could have decreased validity of the results by introducing bias at different points of the development process. For example, because the member checking process is an important aspect of many forms of qualitative research, losing those stakeholders between Phase 2 and Phase 4 would have meant fewer checks on accuracy and reduced the internal validity of the results (Hunt, 2011).

Limitations

As with any study, certain limitations must be considered when interpreting and applying the findings to our understanding of brief alcohol interventions among TGD college students. As is true of most qualitative research, the findings are constrained by the perspectives of the

recruited sample, but were never meant to generalize across all TGD college students (Guest et al., 2020). Instead, consistent with my methodology, my goal was to provide a rich, contextualized understanding of my participants' views on acceptability and appropriateness of the intervention modules (Polit & Beck, 2010). Of course, it is important to note that the feedback shared by participants during the development of the modules were situated at a particular moment in each participant's life (e.g., occurring during the COVID-19 pandemic and shifting public safety policies at colleges and universities that may have affected alcohol use and coping responses). Moreover, geographically, the Phase 2/4 participants were all from Western Oregon, which often differs in political perspective than other parts of the United States. This concern was partially mitigated by Phase 3 participants hailing from locations across the United States, but participants' feedback does not speak to the perspectives of TGD college students in other cultural contexts. Relatedly, to reduce participant burden of completing a lengthy survey, no data was collected on employment, income, or other socio-economic factors. Thus, it is unknown if or how participants may have differed in these domains that are frequently correlated with alcohol use (e.g., Karriker-Jaffe, 2011; McKee et al., 2011) and may influence coping through differential access to resources (Ehlinger et al., 2022; Kwok et al., 2016).

Similarly, to reduce participant burden and hopefully promote richer responses, each Phase 3 participant was only shown one of the three intervention modules, which is *not* how the modules will likely be viewed in subsequent efficacy trials (i.e., all three modules viewed in sequence, as an adjunct to an existing personalized feedback intervention), and this may have influenced participants' perceptions of acceptability and appropriateness (i.e., individual modules may have seemed more or less acceptable or appropriate in the context of the other two modules). Additionally, Phase 3 participants were asked how much they trusted the information

presented in the module they viewed using a Likert-type scale (responses ranging from 0 to 10, with 10 being the highest level of trust), but there was not an option for participants to provide a qualitative explanation for their rating. Thus, it may be that the quantitative differences in trustworthiness ratings across modules are actually not clinically meaningful, especially if participants who reported lower trustworthiness ratings did not request any edits to the module content (i.e., level of trust may not have been related to specific intervention content). Moreover, I did not set an a priori benchmark to evaluate if the modules achieved a level of trustworthiness that was comparable to or greater than similar interventions. One reason for this is that, to the best of my knowledge, this is the first intervention of its kind for TGD college students. However, future research could set benchmarks based on personalized feedback interventions or interventions that included similar content across different populations or interventions that focus on serving TGD individuals that may have content overlap as a starting point.

Importantly, although I sought input from TGD college students during most stages of the current study, bias exists in the research process. As a queer mental health provider with both research and clinical foci in this area, I regularly engage in self-education and reflection regarding TGD experiences; however, given my positionality, there may have been missed opportunities to identify missteps in the intervention development process. For example, my own identities as a researcher may have impacted Stage 2/4 participants' feedback. Specifically, given my visible privileged identities as the facilitator (i.e., White, cisgender, male, doctoral graduate student), participants in the focus groups/individual interviews may have felt compelled to present themselves in a way that they perceived would be socially acceptable (i.e., social desirability bias; Nederhof, 1985) versus wholly reflective of their true opinions of the modules (Bergen & Labonté, 2020). I attempted to mitigate this through use of well-established measures

for reducing social desirability in qualitative research (Bergen & Labonté, 2020); however, there is no way of knowing for sure if this was fully successful. Moreover, even if social desirability was minimized, participants' feedback, having been filtered through my analysis and inherent biases, may not fully encapsulate the experiences or full perspectives of all participants.

Although bias within the interpretation process is somewhat somewhat mitigated through member checking (Phase 4), additional research establishing the acceptability and appropriateness of the modules is warranted.

Future Research Directions

Future research may consider using other methods of assessing acceptability and appropriateness, particularly ones that may allow comparison across studies with different interventions or may elicit richer data. For example, Weiner and colleagues (2017) developed the Acceptability of Intervention Measure and Intervention Appropriateness Measure, which collectively assess these constructs in relation to practitioners' perspectives on adopting a given evidence-based practice (e.g., "This EBP is good enough" [p. 5]). These measures might be adapted to assess participants' perspectives on receiving an intervention to better discern when a specific intervention module may be considered acceptable but not appropriate and vice versa (Weiner et al., 2017). Measures of overall satisfaction with the intervention rated on Likert-type scales as in Lee et al. (2011) and asking for a narrative explanation of any quantitative ratings may increase confidence in the clinical relevance of observed mean differences in such ratings (Neuert et al., 2021; Singer & Couper, 2017).

As noted, participants may have provided different perspectives on the acceptability and appropriateness of individual modules if viewed in the context of the full set of three modules (see Diebold et al., 2020 or Merrill, 2021, for examples of this approach). Future research

showing all three modules in tandem could provide the opportunity for participants to comment on the overall flow of the content and provide suggestions for ways to improve the intervention as a whole rather than its constituent parts. To test these questions, researchers could randomize the order of modules shown to participants to see if there are any order effects. Researchers could also integrate the modules into an extant personalized feedback intervention and ask participants to comment on the acceptability and appropriateness of the modules both on their own *and* within the context of a larger intervention to help understand any impact of juxtaposition with other modules on individual module's and the whole intervention's acceptability and appropriateness.

The current study attempted to acknowledge the impact of identity through language included in each of the modules (i.e., by explicitly naming how identities are socially-constructed and interlocking when describing marginalization stress). As Wesp and colleagues (2019) describe in their theoretical paper on intersectionality within TGD health research, "Intersectionality-informed health research is explicit in defining which of these concepts (i.e., processes, categories, identities) are being studied and why, as well as how they are rooted in structures of domination" (p. 289). Thus, future researchers should continue to directly consider intersectionality in both the process of module refinement and collecting and analyzing data from TGD college students (see Huang et al., 2020; Kelly, 2009; and Wesp et al., 2019 for examples and suggestions) while acknowledging the structural roots of the health disparities researchers intend to ameliorate. One possible consideration in the process of developing the current intervention would be to create an additional module specifically about intersectionality (see Merrill, 2021 for a possible example) that provides students with psychoeducation to better understand the dynamic, simultaneous systems that bring with them privilege and oppression

over time (Huang et al., 2020). This module could be displayed before the other three or in conjunction with the marginalization stress module.

Moreover, holding intersecting identities necessarily impacts lived experience and, therefore, how intervention content is experienced (e.g., How much does someone without a physical disability notice either a lack or abundance of content that speaks to someone with a disability?) (Collins, 2019; Field et al., 2019; Kelly, 2009; Reisner, Hughto, et al., 2016), and some voices within TGD student communities are particularly seldom heard (e.g., Black, Indigenous and other TGD students of color). Because TGD college students are a heterogeneous group and have historically been marginalized in psychological research due, in part, to systemic racism and anti-Blackness (Association of Black Psychologists, 2022; Obasi et al., 2012), future research would benefit from extra attention to building community relationships with, recruiting, and fairly compensating Black, Indigenous, and other TGD students of color within alcohol intervention development research for their roles as collaborators and experts on their own lived experience. In a similar line of reasoning, future assessments of the acceptability and appropriateness of the modules developed as part of this dissertation would specifically benefit from seeking out additional disability perspectives (c.f., Berne et al., 2018), beyond the presence of mental health conditions, and the perspectives of "first generation" TGD college students to help identify areas in which the largely able-bodied research team and TGD stakeholders may have missed attending to disability justice or differences in institutional knowledge (DeRosa & Dolby, 2014). Using methods other than Facebook and listservs, such as TikTok or Instagram, may increase recruitment of younger TGD individuals, including TGD college students. Instagram also has more users who identify as Black or Hispanic than White, possibly allowing greater reach to these disenfranchised communities (Pew Research Center, 2021).

Future researchers may also wish to inquire specifically about additional cultural context of alcohol use within TGD college student communities that may have bearing on the fostering resilience module, specifically. For example, during the process of reviewing the final draft modules in Phase 4, a stakeholder consultant noted surprise at the lack of discussion from Phase 3 survey participants of queer spaces such as bars, which have historically been places of community resilience accompanied by alcohol (Green & Plant, 2007; McKirnan & Peterson, 1989). Future research could explore potential age effects, wherein younger TGD students may be gravitating away from bars and alcohol-focused settings toward more social interaction and partner-seeking online (for a larger discussion, see Gieseking, 2017), as well as larger societal changes, such as increasing urban gentrification, which may be affecting the presence and utilization of queer bars (e.g., Doan et al., 2011). Although I am not aware of any studies that have examined this change in detail, if younger TGD individuals are gravitating away from established bars and the social support they may provide and instead are drinking more frequently alone, this could increase risk for alcohol-related consequences (e.g., Christiansen et al., 2002). Future research may also wish to query participants about their academic majors, as academic disciplines and contexts vary in how TGD-affirming of a climate they create, which can impact the level of stress and marginalization that a TGD college student experiences (Trenshaw et al., 2013). This may potentially impact their need for coping, their alcohol consumption, and their response to interventions that address these topics.

Though theory (Brooks, 1981; Hendricks & Testa, 2012; Meyer, 2003) and available data on TGD college students' desires for alcohol-related interventions (Ehlinger et al., 2022; Goldberg et al., 2019) suggest that the personalized feedback intervention modules developed through this project are necessary and important adaptations, it should be noted that tailoring

interventions can inadvertently reinforce stereotypes that essentialize alcohol use based on identity. For example, in the development of a brief alcohol intervention, Kypri and colleagues (2012) consulted with Māori college students who requested the intervention *not* be tailored, such that a different version of the intervention would be delivered to Māori college students than other students, to avoid reinforcing a deficit-focused view. Rather, Māori student stakeholders worked with the researchers to develop an intervention that served the needs of Māori and non-Māori students with equal efficacy. This underscores the importance of considering if it is necessary to adapt or augment an intervention for a given population in which its efficacy and effectiveness has not been evaluated (Lau, 2006). Adaptation was undertaken in the current study because there were theorized population-specific mediators (i.e., marginalization stress and related use of drinking to cope) that, if left unaddressed, might limit the utility of the intervention (Barrera & Castro, 2006). However, future research should assess how TGD college students might perceive receiving an augmented personalized feedback intervention as well as the relative efficacy of a standard personalized feedback intervention in comparison to one with the additional three modules developed in this dissertation.

Consistent with this, this project hopes to set the stage for an efficacy trial of the personalized feedback modules developed in this project in association with standard personalized feedback interventions shown to be efficacious in prior trials (NIAAA, 2019). In practice, an integrated intervention might incorporate these three modules as a sequence within the larger set of modules, with the marginalization stress, drinking to cope, and resilience modules following any initial introduction to alcohol use and motivations for drinking.

Additional changes may have to be made to standard personalized feedback intervention content (e.g., normative perceptions of drinking) to minimize the usage of binary sex and gender

language. Specifically, alcohol interventions may seek alternative measures of high-risk alcohol use (e.g., noting drinking in risky contexts and negative consequences of drinking) in place of more traditional markers of consumption, such as BAC, which rely on obsolete binary measures of sex and gender (Gilbert et al., 2018). Further, an integrated intervention may also benefit from experimenting with more interactive elements (e.g., psychoeducational videos, pre-recorded messages) like those utilized by Merrill (2021) and Israel et al. (2020) as a way to engage participants and encourage active reflection. Integrating these elements into the existing modules and then re-evaluating their acceptability and appropriateness could be a way to evaluate if these technological pieces further boost the acceptability and appropriateness of the modules developed in this dissertation. Finally, although the modules were not reviewed with participants by facilitators trained in Motivational Interviewing as part of the current study (as would be true in a brief motivational intervention, such as BASICS; Dimeff et al., 1999), future research may wish to evaluate the acceptability and appropriateness of the modules when discussed with a facilitator (i.e., in the context of a brief motivational intervention) as well as add a measure of working alliance (such as the one used by Budge et al., 2021) to explore how this may moderate or mediate alcohol-related outcomes.

Conclusions

Taken as a whole, this study established the preliminary acceptability and appropriateness of three novel personalized feedback intervention modules aimed at altering drinking to cope and fostering resilience to marginalization stress among TGD college students. TGD college student stakeholders provided widely positive feedback on the content, organization, and approach used in the project and these modules may be a solid foundation for future testing and continued development of TGD-affirming interventions. Although the focus of this project was to create

TGD-affirming brief alcohol intervention content, the modules may also have benefit for college students more broadly, by increasing understanding of marginalization stress, drinking to cope, and how to foster resilience. Educating cisgender college students on the systemic challenges that face their TGD peers may foster increased empathy (Boccanfuso et al., 2021) and interest in alleviating these disparities (e.g., Becker & Jones, 2021), and anyone may drink to cope with trauma and stress (e.g., Tupler et al., 2017).

Beyond addressing the dearth of interventions, it should be noted that increasing representation of TGD people in the fields of psychology broadly and high-risk alcohol use prevention specifically is necessary (dickey et al., 2016; Puckett & Matsuno, 2021). Increasing representation of TGD identities within psychological and addiction research would be of direct benefit to TGD communities by improving researchers' understanding of the community, providing role models to aspiring TGD scientists, and lowering the chance of cis-centered bias that may further invalidate or erase the voices of TGD people within research meant to serve them. To avoid mischaracterizations, misunderstandings, and other possible harms, it is important for cisgender researchers to collaborate with TGD researchers and clinicians in the process of clinical research designed to serve TGD populations and to appropriately compensate them for their effort and expertise (see Puckett & Matsuno, 2021 for further recommendations).

While the ultimate aim of advocacy should be to reduce marginalization stress on a systemic, societal level, improved, more acceptable and appropriate interventions may benefit the wellbeing of TGD people in the present. Taken as a whole, my results point toward the idea of the intervention as a form of advocacy, and, ultimately, I hope this dissertation and others that follow it will stimulate continued efforts among researchers and mental health professionals to

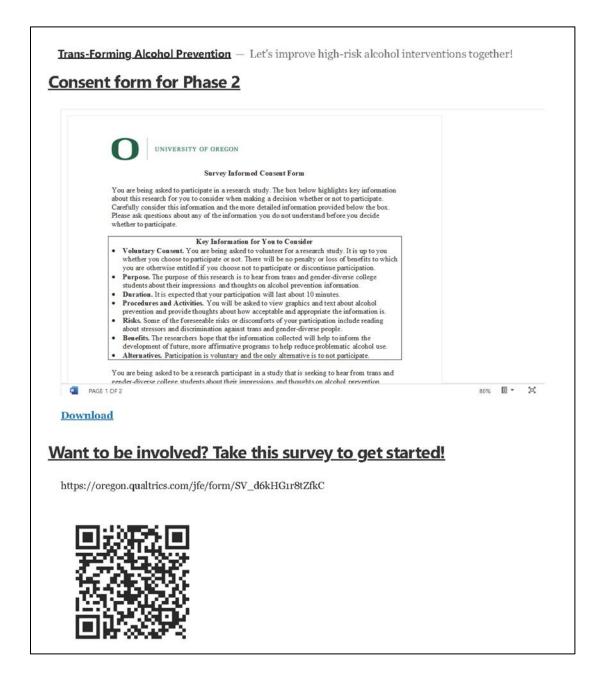
work toward greater involvement of TGD college students and larger TGD communities in the process of healing the effects of marginalization stress.

APPENDIX A: RECRUITMENT FLYER FOR PHASE 2



APPENDIX B: RECRUITMENT BLOG FOR PHASE 2

Blog hyperlink: https://blogs.uoregon.edu/transforming/



APPENDIX C: RECRUITMENT SCRIPT FOR SOCIAL MEDIA SITES FOR PHASE 2

Hello, my name is Pete Ehlinger (pronouns he/him) and I am a doctoral student at the University of Oregon. I'm here to talk to you about my dissertation research study. This a study to learn from trans and gender-diverse college students about the acceptability and appropriateness of materials used in alcohol prevention programs. I am seeking participants who identify as transgender or gender-diverse in some way who are at least 18 years old and who are enrolled in a college or university as an undergraduate student.

If you decide to participate in this study, you will be part of three, up to 1-hour small group discussions on Zoom with up to 7 other trans and gender-diverse college students from around the country to discuss your thoughts and perspectives about some alcohol prevention materials that will be shown to you. I will lead us in this discussion, which is called a focus group. If you participate in the focus group, you will receive \$25 for each of the first two discussions, and \$100 for the third discussion. If fewer than 3 people show up to the group, I may ask to conduct an individual interview with you instead.

This is completely voluntary. You can choose to be in the study or not and can withdraw your consent at any time. If you would like to participate, please contact me at [CONTACT INFORMATION] or you can go to [Qualtrics survey URL].

In social media posts only, there will be an [image of the QR code]

APPENDIX D: PERSONALIZED FEEDBACK INTERVENTION MODULES (V1.0)

Minority Stress Module Draft

What is *minority stress* and how might it help us understand alcohol disparities?

- What is minority stress theory?
 - Minority stress theory is one way that researchers have explored why trans and gender-diverse people experience mental and physical health disparities.
 - A disparity is an unequal burden of something within a community, such as alcohol use.
 - The minority stress model acknowledges that the higher incidence of health challenges and negative health outcomes documented among trans and gender-diverse folx is because of the hostile environment that trans and gender-diverse folx are subjected to in daily life because of their gender identity and/or presentation.
 - O There are two main types of minority stressors:
 - Ones that are external to the individual, like discrimination (i.e., being unable to access legal documents, medical care, or using the bathroom because of being trans). These kinds of stressors also include experiences of non-affirmation such as when someone is misgendered or deadnamed.
 - Ones that emerge from within the individual, such as the expectation and fear of experiencing violence and discrimination as well as being super alert to sources of potential threat. This feeling of being super alert is sometimes called *hypervigilance*.

Reflection question:

- How do you see gender-related stress linked to drinking alcohol in your life, if at all?
- Systems of oppression connected to socially-constructed identities are interlocking. For example, a White, affluent, queer, able-bodied trans woman may experience gender-based violence, heteronormativity, and femme erasure, and these experiences may be magnified or experienced in unique ways if that person is also Black, disabled, or poor.

Reflection questions:

- In what ways, if any, does the information about minority stress theory match with your experience?
- Often students report the college environment may not be very affirming of gender identity (e.g., through micro-aggressions, misgendering by instructors). How do you feel the college environment contributes to or helps with your stress levels?
- At the same time, there may be aspects of being a college student that you feel lower your stress related to discrimination, such as being around other trans and gender-diverse peers. How do you feel the college environment helps with those stress levels?

- Alcohol is a common substance used by folks trying to cope with stress, since it is often believed that alcohol can cause a temporary reduction in feelings of anxiety, lowered inhibitions, and desensitization from the self.
- When you feel the urge to drink alcohol, take a pause. What, if anything, do you notice happening in your life that is stressful immediately before you feel the urge to drink? What about earlier that day?

Drinking to Cope Module Draft

What does it mean to drink alcohol to cope?

- First of all, what is *coping*?
 - Oping is a way of managing stress using internal (e.g., strategies like mindfulness, challenging your thoughts) and external (e.g., talking with friends, using substances like alcohol or cannabis) strategies to lower or avoid unpleasant feelings. These strategies are sometimes called *coping mechanisms*.
 - O Some coping mechanisms are more helpful than others in the short- vs. long-term. For example, alcohol may sometimes be perceived as having short-term benefits (like feeling less stressed temporarily) but can have long-term harms like negative impact on relationships, reduced academic engagement (e.g., missing class) or performance (e.g., getting lower grades), or even legal consequences like DUIs or serious physiological effects.
- What does it mean to use alcohol to cope?
 - Often folks will report using alcohol to try to escape, avoid, or otherwise regulate negative emotions. This way of using alcohol is sometimes called "selfmedication."
 - This strategy can actually increase negative emotions due to *alcohol myopia*. Myopia means short-sightedness. Starting at a blood-alcohol concentration (BAC) of .06, alcohol intensifies thoughts and feelings you may be having. For example, if you are feeling stressed or hurt before you start drinking, you may focus more on those feelings as your BAC rises.
 - Alcohol use is one way that trans and gender-diverse college students report coping with minority stressors.
- Why might using alcohol to cope be less helpful?
 - Drinking to cope is a predictor of higher-risk patterns of alcohol use and can increase risk for other negative consequences.
 - Sometimes folks use multiple substances to cope (e.g., alcohol and cannabis, or alcohol and prescription medication, both prescribed or unprescribed). There can be serious physiological and psychological consequences for combining substances; effects can be magnified, increasing potential for harm.
 - Alcohol expectations
 - People often expect that alcohol will do certain things for them. For example, some people think drinking alcohol will make them more

- attractive to a sexual partner or will make them funnier or that it will be easier to interact with others socially.
- Expectations do not line up with reality and drinking alcohol can actually cause additional challenges related to these situations.

Reflection questions:

- What expectations might you have about how alcohol will impact the stress you feel?
- What are some occasions when drinking alcohol increased the stress you were feeling? What was different about those occasions?

• Skill building: How can we reduce drinking to cope? Let's look at bodily sensation.

Sometimes it can be hard to identify when you may be feeling an urge to drink to cope with stress. One way to explore urges to drink is through 'urge surfing.' When you feel a craving or desire to drink coming up for you, notice all the things happening in the present moment – are you experiencing stressful thoughts? A physiological sensation in your stomach? Tightness in your chest? What do you notice? Approaching those sensations and thoughts with a nonjudgmental attitude and watching as they come and go is one way to see other options instead of drinking that maybe were less visible before (for example, going for a walk, reading a book, or calling a friend instead of drinking).

• Let's practice!

- What sort of body cues do you experience when you experience discrimination?
- o If you made the choice not to drink when you're feeling stressed, what are other ways you could decrease feelings of anxiety (i.e., worries about the future) or other unpleasant feelings? [include a blank open-answer spot, then have a button for 'not sure where to start' and provide the following examples:
 - Mindfulness
 - Opposite action
 - Behavioral activation
 - Social network support (e.g., friends, family, chosen family you trust)
 - Body movement that feels good
 - Watching TV or a movie that elicits positive feelings
 - Reaching out to a therapist you trust

Resilience Module Draft

What is *resilience*?

- Broadly, resilience can be thought of as overcoming adversities—*being resilient* is something you *do*.
- What kinds of resilience are there?
 - Internal/individual resilience
 - o Having an internal sense of worth and value as a person; having a positive view toward being trans or gender-diverse is sometimes called *identity pride*.
 - Self-acceptance (e.g., Sonya Renee Taylor's Radical Self-Love, *The Body is Not an Apology*) and connection with the self as a multi-faceted being (e.g., sexual embodiment, emotional connection with self).
 - o Self-definition—using your own words to describe yourself, your identities, and your body. This is always evolving as you grow and get older.
 - Having or developing a more optimistic view about the future and what might be possible in your life; having hope.
 - Social and/or medical transitions.
 - Group/community resilience
 - Social support from friends, family, and partners; community-connectedness (whether that is with a larger group of trans or gender-diverse folks, a small group of close friends or partners, or even a single friend or partner); feeling acceptance from others.
 - o Feelings of pride in the community
 - Participating in activism, which, in addition to helping the community, can help you locate legal and financial aid, as well as gain social support from others who are interested in similar causes.
 - Knowledge about resilience transmitted across generations by trans and gender-diverse communities.
 - Some books on queer, trans, and gender-diverse histories written by queer folks that communicate generational resilience:
 - *Transgender History* by Susan Stryker.
 - Trap Door: Trans Cultural Production and the Politics of Visibility by Tourmaline.
 - We are Everywhere: Protest, Power, and Pride in the History of Queer Liberation by Matthew Reimer and Leighton Brown.
 - o Being a role model to other trans and gender-diverse people.
 - Reflection questions:

When you have a greater sense of well-being and more resources, both internal and communal, it can be easier to make choices about alcohol use that fit for you and your life.

- How do or might your social connections and the people you hang out with help you if you decide to reduce your alcohol use?
- What are you already doing to take care of yourself and build up your internal store of skills?

- What other ways of building resilience do you feel might be helpful for you?
 - Some additional options include:
 - o Attending group therapy.
 - o Joining larger LGBTQIA2+ groups or trans and gender-diverse-focused groups.
 - Reading books about identity (e.g., Testa, Coolhart, & Peta, 2015: The Gender Quest Workbook: A Guide for Teens and Young Adults Exploring Gender Identity; Singh, 2018: The Queer and Transgender Resilience Workbook: Skills for Navigating Sexual Orientation and Gender Expression).
 - Connecting with community resources and groups that celebrate trans and gender-diverse identities.
 - Self-exploration and development (e.g., moving your body, trying new hobbies/activities, consensual, safer sexual play and exploration alone or with partner(s)).

APPENDIX E: PERSONALIZED FEEDBACK INTERVENTION MODULES (V2.0)

Minority Stress Module Draft

What is minority stress theory?

- Minority stress theory is one way that researchers and mental health providers have explored why trans and gender-diverse people experience mental and physical health disparities.
 - A disparity is an unequal burden of something within a community, such as alcohol use. The minority stress model acknowledges that the higher incidence of health challenges and negative health outcomes documented among trans and gender-diverse folks is because of the hostile environment that trans and genderdiverse folks are subjected to in daily life because of their gender identity and/or presentation.

There are two main types of minority stressors:

External Stressors Internal Stressors Some emerge from outside the Some emerge from the individual, like individual, like discrimination. the expectation and fear of Discrimination may include being experiencing violence and unable to access legal documents, discrimination, as well as being super medical care, or use the bathroom alert to sources of potential threat. because of being trans or genderdiverse. This feeling of being 'super alert' is sometimes called *hypervigilance*. Other kinds of external stressors include non-affirmation of identity, like when someone is misgendered or deadnamed.

Systems of oppression connected to socially-constructed identities are interlocking. For example, a White, affluent, queer, able-bodied trans woman may experience gender-based violence, heteronormativity, and femme erasure, and these experiences may be magnified or experienced in unique ways if that person is also Black, disabled, or poor.

Reflection questions:

- How do you see gender-related stress linked to drinking alcohol in your life, if at all?
- In what ways, if any, does the information about minority stress theory match with your experience?
- Often students report the college environment may not be very affirming of gender identity (e.g., through micro-aggressions, misgendering by instructors). How do you feel the college environment contributes to your stress levels?

- At the same time, there may be aspects of being a college student that you feel lower your stress related to discrimination, such as being around other trans and gender-diverse peers. How do you feel the college environment helps with your stress levels?
- Alcohol is a common substance used by folks trying to cope with stress, since it is often believed that alcohol can cause a temporary reduction in feelings of anxiety, lowered inhibitions, and desensitization from the self. When you feel the urge to drink alcohol, take a pause. What, if anything, do you notice happening in your life that is stressful immediately before you feel the urge to drink? What about earlier that day?

Drinking to Cope Module Draft

First of all, what is coping?

- Coping is a way of managing stress using internal (e.g., strategies like mindfulness, challenging your thoughts) and external (e.g., talking with friends, using substances like alcohol or cannabis) strategies to lower or avoid unpleasant feelings. These strategies are sometimes called *coping mechanisms*. Some coping mechanisms are more helpful than others in the short- vs. long-term. For example, alcohol may sometimes be perceived as having short-term benefits (like feeling less stressed temporarily) but can have long-term harms like negative impact on relationships, academic stress, or even legal consequences like DUIs or serious physiological effects.

What does it mean to use alcohol to cope?

- Often folks will report using alcohol to try to escape, avoid, or otherwise regulate unwanted emotions. This way of using alcohol is sometimes called "self-medication."
- People often expect that alcohol will do certain things for them. For example, some
 people think drinking alcohol will make them more attractive to a sexual partner or will
 make them funnier or that it will be easier to interact with others socially. Expectations
 often do not line up with reality and drinking alcohol can actually cause additional
 challenges

Why might using alcohol to cope be less helpful?

- Sometimes folks use multiple substances to cope (e.g., alcohol and cannabis, or alcohol and medication, both prescribed or unprescribed). There can be serious physiological and psychological consequences for combining substances; effects of substances can be magnified, which increases potential for harm.
- This strategy can actually increase negative emotions due to alcohol myopia. Myopia means short-sightedness. Starting at a blood-alcohol concentration (BAC) of .06, alcohol intensifies thoughts and feelings you may be having. For example, if you are feeling stressed or hurt before you start drinking, you may focus more on those feelings as your BAC rises.

Reflection questions:

- 1) What expectations might you have about how alcohol will impact the stress you feel?
- 3) What are some occasions when drinking alcohol increased the stress you were feeling? What was different about those occasions?

Skill building: How can we reduce drinking to cope? Let's look at bodily sensations.

Sometimes it can be hard to identify when you may be feeling an urge to drink to cope with stress. One way to explore urges to drink is through '*urge surfing*.' When you feel a craving or desire to drink coming up for you, notice all the things happening in the present moment – are you experiencing stressful thoughts? Any bodily sensations? What do you notice? Approaching those sensations and thoughts with a nonjudgmental attitude and watching as they come and go is one way to see other options instead of drinking that maybe were less visible before.

Let's practice!

If you were to make the choice not to drink when you're feeling stressed, what are other ways you could decrease feelings of anxiety (i.e., worries about the future) or other unwanted feelings? [include a blank open-answer spot for students to write their own answers, then have a button for 'not sure where to start' and provide the following examples in a drop-down list:]

- Mindfulness
- Social network support (e.g., friends, family, chosen family you trust)
- Body movement that feels good
- Watching TV or a movie that elicits positive feelings
- Reaching out to a therapist you trust

Resilience Module Draft

What is resilience?

- Broadly, resilience can be thought of as overcoming adversities—being resilient is something you do.
- Remember, **it is okay** if you have bad days or feel like you struggle with building resilience. This information hopefully can help you keep working at it!
- When you have a greater sense of well-being and more resources, both internal and communal, it can be easier to make choices about alcohol use that fit for you and your life.

What kinds of resilience are there?

Individual/Internal Resilience	Group/Community Resilience
Having an internal sense of worth and value as a person; having a positive view toward being trans or gender-diverse (sometimes called <i>identity pride</i>)	Social support from friends, family, partners (whether a larger group of trans or gender-diverse folks, a small group of close friends or partners, or even a single friend or partner); feeling community-connectedness; feeling acceptance from others
 Self-acceptance and connection with the self as a multi-faceted being (e.g., 	Feelings of pride in the community

sexual embodiment, emotional connection with self) • Self-definition – using your own words to describe yourself, your identities, and your body. This may grow and evolve as you get older!	Participating in activism, which, in addition to helping the community, can help you locate legal and financial aid as well as gain social support from others who are interested in similar causes
Being sure of yourself and having confidence in your decisions about your identities	Knowledge about resilience transmitted across generations by trans and gender-diverse communities
Developing a more optimistic view about what might be possible in your life – having hope!	Being a role model to other trans and gender-diverse people

Here are a couple books on queer, trans, and gender-diverse histories written by queer folks that communicate generational resilience. The list is not exhaustive!

- Transgender History by Susan Stryker.
- Trap Door: Trans Cultural Production and the Politics of Visibility by Tourmaline.
- We are Everywhere: Protest, Power, and Pride in the History of Queer Liberation by Matthew Reimer and Leighton Brown.

Reflection questions:

- 2) What are you already doing to take care of yourself and build up your internal store of skills?
- 3) How do or might your social connections and the people you hang out with help you if you decide to reduce your alcohol use?
- 4) What other ways of building resilience do you feel might be helpful for you?



Here are some additional ways of building resilience!
[DROP-DOWN OR WRITTEN LIST]

- i. Learn more about queer-focused resources and support services available to you (e.g., https://www.thetrevorproject.org/)
- ii. Connect with community resources and groups that celebrate trans and gender-diverse identities (e.g., https://translifeline.org/resource/support-groups-trans-community/).

- iii. Read books about self-acceptance (e.g., Sonya Renee Taylor's book about Radical Self-Love, *The Body is Not an Apology*)
- iv. Read books about identity (e.g., Testa, Coolhart, & Peta, 2015: The Gender Quest Workbook: A Guide for Teens and Young Adults Exploring Gender Identity; Singh, 2018: The Queer and Transgender Resilience Workbook: Skills for Navigating Sexual Orientation and Gender Expression).
- v. Self-exploration and development (e.g., moving your body; trying new hobbies/activities; consensual, safer sexual play and exploration alone or with partner(s)).
- vi. Attend group or individual therapy, if available.
- vii. [INCLUDE ANY UNIVERSITY-SPECIFIC RESOURCES HERE]

APPENDIX F: PERSONALIZED FEEDBACK INTERVENTION MODULES (V3.0)

Minority Stress Module draft

What is minority stress theory?

- Minority stress theory is one way that researchers and mental health providers have explored why trans and gender-diverse people experience mental and physical health disparities.
 - A disparity is an unequal burden of something within a community, such as alcohol use. The minority stress model acknowledges that the higher incidence of health challenges and negative health outcomes documented among trans and gender-diverse folks is because of the hostile environment that trans and gender-diverse folks are subjected to in daily life because of their gender identity and/or presentation.

There are two main types of minority stressors:

External Stressors

Some emerge from outside the individual, like discrimination. Discrimination may include being unable to access legal documents, medical care, or use the bathroom because of being trans or genderdiverse.

 Other kinds of external stressors include non-affirmation of identity, like when someone is misgendered or deadnamed, or racism and antiblackness which can compound gender-related stress.

Internal Stressors

- Some emerge from the individual, like the expectation and fear of experiencing violence and discrimination, as well as being super alert to sources of potential threat.
- This feeling of being 'super alert' is sometimes called *hypervigilance*.
- *Dysphoria*, or a state of dissatisfaction, can occur internally as a result of external stressors.

Systems of oppression connected to socially-constructed identities are interlocking. For example, a White, affluent, queer, able-bodied trans woman may experience gender-based violence, heteronormativity, and femme erasure, and these experiences may be magnified or experienced in unique ways if that person is also Black, disabled, or poor.

Reflection questions:

- 6) How do you see gender-related stress linked to drinking alcohol in your life, if at all?
- 7) In what ways, if any, does the information about minority stress theory match with your experience?

- 8) Often students report the college environment may not be very affirming of gender identity (e.g., through micro-aggressions, misgendering by instructors). How do you feel the college environment contributes to your stress levels?
- 9) At the same time, there may be aspects of being a college student that you feel lower your stress related to discrimination, such as being around other trans and gender-diverse peers. How do you feel the college environment helps with your stress levels?
- 10) Alcohol is a common substance used by folks trying to cope with stress, since it is often believed that alcohol can cause a temporary reduction in feelings of anxiety, lowered inhibitions, and desensitization from the self. When you feel the urge to drink alcohol, take a pause. What, if anything, do you notice happening in your life that is stressful immediately before you feel the urge to drink? What about earlier that day?

Drinking to Cope Module Draft

First of all, what is coping?

- *Coping* is a way of managing stress using internal (e.g., strategies like mindfulness, challenging your thoughts) and external (e.g., talking with friends, using substances like alcohol or cannabis) strategies to lower or avoid unwanted feelings. These strategies are sometimes called *coping mechanisms*. Some coping mechanisms are more helpful than others in the short- vs. long-term. For example, alcohol may sometimes be perceived as having short-term benefits (like feeling less stressed temporarily) but can have long-term harms like negative impact on relationships, academic stress, or even legal consequences like DUIs or serious physiological effects.

What does it mean to use alcohol to cope?

- People often expect that alcohol will do certain things for them. For example, some
 people think drinking alcohol will make them more attractive to a sexual partner or will
 make them funnier or that it will be easier to interact with others socially. Expectations
 often do not line up with reality and drinking alcohol can actually cause additional
 challenges
- Often folks will report using alcohol to try to escape, avoid, or otherwise regulate unwanted emotions, *expecting* that alcohol will help them relax or feel peaceful. This way of using alcohol is sometimes called "self-medicating."
- Sometimes folks will have been exposed to a lot of alcohol use when they were living with others, including family. When stress hits, you might model your behavior off those you have observed drinking.

Why might using alcohol to cope be less helpful?

O Using alcohol to cope can actually increase unwanted emotions due to *alcohol myopia* (a narrowing or "short-sightedness" of one's abilities to attend to all available information). Starting at a blood-alcohol concentration (BAC) of .06, alcohol intensifies thoughts and feelings you may be having by decreasing your ability to pay attention to information that might counter those thoughts and

- feelings. For example, if you are feeling stressed or hurt before you start drinking, you may find yourself feeling more stressed or hurt as your BAC rises, because you will be less able to attend to information (e.g., validation or support from a friend) that might counter those feelings
- O Sometimes folks use multiple substances to cope (e.g., alcohol and cannabis; alcohol and medication, both prescribed and unprescribed). There can be serious physiological and psychological consequences for combining substances; effects of the individual substances can be magnified (i.e., 1 + 1 is *greater than* 2), which increases potential for harm.

Reflection questions:

- 1) What expectations might you have about how alcohol will impact the stress you feel?
- 4) What are some occasions when drinking alcohol increased the stress you were feeling? What was different about those occasions?

Skill building: How can we reduce drinking to cope? Let's look at bodily sensations.

Sometimes it can be hard to identify when you may be feeling an urge to drink to cope with stress. One way to explore urges to drink is through 'urge surfing.' When you feel a craving or desire to drink coming up for you, notice all the things happening in the present moment – are you experiencing stressful thoughts? Any bodily sensations? What do you notice? Approaching those sensations and thoughts with a nonjudgmental attitude and watching as they come and go is one way to see other options instead of drinking that maybe were less visible before. Let's practice!

If you were to make the choice not to drink when you're feeling stressed, what are other ways you could decrease feelings of anxiety (i.e., worries about the future) or other unwanted feelings?

[INSERT IMAGE OF PERSON SITTING MEDITATING AND ONE PERSON WALKING OUTSIDE]

[include a blank open-answer spot for students to write their own answers, then have a button for 'not sure where to start' and provide the following examples in a drop-down list:]

- Mindfulness
- Social network support (e.g., friends, family, chosen family you trust)
- Body movement that feels good
- Watching TV or a movie that elicits positive feelings
- Reaching out to a therapist you trust

Resilience module draft

What is resilience?

- Broadly, resilience can be thought of as overcoming adversities—*being resilient* is something you *do*.

- Different things can make it more challenging to be resilient, and no one is resilient 100% of the time. **It is okay** if you have bad days or feel like you struggle with building resilience. This information hopefully can help you keep working at it!
- When you have a greater sense of well-being and more resources, both internal and communal, it can be easier to make choices about alcohol use that fit for you and your life.

What kinds of resilience are there?

Individual/Internal Resilience	Group/Community Resilience
 Having an internal sense of worth and value as a person; having a positive view toward being trans or gender- diverse (sometimes called <i>identity</i> pride) 	Social support from friends, family, partners (whether a larger group of trans or gender-diverse folks, a small group of close friends or partners, or even a single friend or partner); feeling community-connectedness; feeling acceptance from others
 Self-acceptance and connection with the self as a multi-faceted being (e.g., sexual embodiment, emotional connection with self) 	Feelings of pride in the community
Self-definition – using your own words to describe yourself, your identities, and your body. This may grow and evolve as you get older!	Participating in activism, which, in addition to helping the community, can help you locate legal and financial aid as well as gain social support from others who are interested in similar causes
Being sure of yourself and having confidence in your decisions about your identities	Knowledge about resilience transmitted across generations by trans and gender-diverse communities
Developing a more optimistic view about what might be possible in your life – having hope!	Being a role model to other trans and gender-diverse people

Here are a couple books on queer, trans, and gender-diverse histories written by queer folks that communicate generational resilience. The list is not exhaustive!

- Transgender History by Susan Stryker.
- Trap Door: Trans Cultural Production and the Politics of Visibility by Tourmaline.

- We are Everywhere: Protest, Power, and Pride in the History of Queer Liberation by Matthew Reimer and Leighton Brown.

[INSERT IMAGE OF A GROUP OF PEOPLE THAT ILLUSTRATES JOY/COMMUNITY HERE]

Reflection questions:

- 4) What are you already doing to take care of yourself and build up your internal store of skills?
- 5) How do or might your social connections and the people you hang out with help you if you decide to reduce your alcohol use?
- 6) What other ways of building resilience do you feel might be helpful for you?



Here are some additional ways of building resilience!

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- iv. Read books about identity (e.g., Testa, Coolhart, & Peta, 2015: *The Gender Quest Workbook: A Guide for Teens and Young Adults Exploring Gender Identity*; Singh, 2018: *The Queer and Transgender Resilience Workbook: Skills for Navigating Sexual Orientation and Gender Expression*).

- v. Self-exploration and development (e.g., moving your body; trying new hobbies/activities; consensual, safer sexual play and exploration alone or with partner(s)).
- vi. Attend group or individual therapy, if available.
- vii. [INCLUDE ANY UNIVERSITY-SPECIFIC RESOURCES HERE]

APPENDIX G: RECRUITMENT FLYER FOR PHASE 3



APPENDIX H: LIST OF SOCIAL MEDIA RECRUITMENT SITES FOR PHASE 3

- The University of Oregon LGBTESS Discord Channel
- Facebook groups dedicated to community support for TGD individuals
- University sexual and gender minority centers at the following colleges and universities (alphabetical by first word in title):
 - o Boston University
 - o Case Western
 - o Georgetown University
 - Harvard University
 - o Lawrence University
 - o MSU Denver
 - o Oregon State University
 - Pacific University
 - o Portland State University
 - o St. Cloud State University
 - o University of Central Florida
 - University of Iowa
 - o University of Massachusetts, Amherst
 - University of Michigan
 - University of Minnesota
 - University of Nebraska
 - University of North Texas
 - University of Oregon
 - o University of Tennessee, Knoxville
 - University of Utah
 - o University of Washington
 - o University of Wisconsin, Madison
 - Vanderbilt University

APPENDIX I: RECRUITMENT SCRIPT FOR SOCIAL MEDIA SITES FOR PHASE 3

Recruitment script for Phase 3

Hello, my name is Pete (he/him) and I am a doctoral student at the University of Oregon. I am looking for participants to take a brief (10 minute) online survey about their impressions and thoughts on some alcohol prevention information. This a study to learn from trans and gender-diverse college students about the acceptability and appropriateness of materials used in alcohol prevention programs. I am seeking participants who identify as transgender or gender-diverse in some way who are at least 18 years old and who are enrolled in a college or university as an undergraduate student.

If you decide to participate in this study, you will take an approximately 10-minute survey on Qualtrics to share your thoughts and perspectives about some alcohol prevention materials that will be shown to you. If you complete the survey and provide a valid email address, you will be sent a \$25 Visa gift card code.

This is completely voluntary. You can choose to be in the study or not and can withdraw your consent at any time. If you would like to participate, please follow the QR code or URL below:

[image of the QR code]

[study URL]

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