Research article

GROUPS 4 HEALTH FOR REFUGEES: A PILOT FEASIBILITY AND ACCEPTABILITY TRIAL OF A SOCIAL IDENTITY INTERVENTION FOR FORCED MIGRANTS

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Forced migrants around the globe often suffer from high levels of social isolation and loneliness with severe repercussions for their health, well-being, and sociocultural adjustment. However, the development of theory-based interventions explicitly addressing these issues has lagged behind. In the current non-randomised pre-post open trial study, Groups 4 Health for Refugees (G4H-REF)—a social identity intervention that targets social disconnection and loneliness—was pilot-tested in a sample of refugees and asylum-seekers in Greece (N = 15). G4H-REF was found to be feasible and acceptable among the sample. Participants demonstrated medium to large improvements in sociocultural adjustment, life satisfaction, loneliness, and connectedness with multiple group memberships immediately upon treatment completion and at 4-month follow-up. In contrast, scores of a no-treatment historical control group of asylum-seekers (N = 37) remained constant over a 4-month period. Exploratory indicators of group processes suggested that participants experienced G4H-REF as an emerging, supportive group identity, consistent with its social identity–based rationale. Taken together, these findings suggest that G4H-REF can potentially serve as a viable treatment option to target social disconnection and loneliness in forced migrants. However, high attrition raises concerns about internal validity and generalisability. We outline key considerations for future adequately powered randomised controlled trials, including stronger methodological safeguards, enhanced retention strategies, and in-depth process evaluation to build on these preliminary findings.
Keywords: groups 4 health, forced migrants, loneliness, social identity intervention, social identity approach to health, social cure

1. Introduction

Forced migrants[1] exhibit high levels of social isolation and loneliness (i.e., perceived or unwanted isolation) in their everyday life (Stewart et al., 2015; Strijk et al., 2011; Wicki et al., 2021), even when compared to other migrant groups (Löbel et al., 2022). Among more than 5,000 forced migrants in Germany, 56% declared they had no more than two people with whom they had close contact, while 14% stated they had none (Siegert, 2019). Based on their

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[1] We use the term "forced migrants" to refer to refugees and asylum-seekers, namely, individuals who have been granted or applied for international protection in a country other than the country of their nationality (or habitual residence, if stateless) due to fears of persecution.

accounts, they express the need to engage in community activities and have a more active social role (Wells et al., 2016).

Considering that even voluntary and positive life changes can disrupt one's social life (Praharso et al., 2017; Seymour-Smith et al., 2017), experiencing isolation and loneliness seems reasonable during their initial relocation. Nevertheless, poor social integration (that leads to feelings of loneliness; Belau et al., 2021), a sense of loss and homesickness, social disconnection, and feelings of loneliness in host countries seem to persist even decades after settlement (Berthold et al., 2019; Schick et al., 2016; Sulaiman-Hill & Thompson, 2012). These outcomes may be attributed to a range of factors such as family separation, multidimensional trauma, interpersonal distrust, language and cultural difficulties, unemployment, financial hardship, and fear of discrimination (Entringer et al., 2021; Nickerson et al., 2019; Strijk et al., 2011; Tessitore & Margherita, 2020; Wicki et al., 2021).

Importantly, being poorly integrated and socially isolated in the host society may increase their risk for psychopathology (Laban et al., 2005), psychiatric severity and comorbidity (Teodorescu, Heir, et al., 2012), and interfere with post-traumatic growth (Teodorescu, Siqveland, et al., 2012). Further, social disconnection among forced migrants has been linked to an increased risk for chronic health conditions such as diabetes (Wagner et al., 2015) because those who are isolated have fewer sources of support and are more likely to confront barriers to obtaining health care (Hynie et al., 2011; Quinn, 2014). Similarly, among forced migrants, loneliness is not only associated with poor mental health (Silove et al., 1997) and low health-related quality of life (Belau et al., 2021) but also potentiates the adverse effects of pre-migration trauma on their psychological health (Chen et al., 2017). Relatedly, loneliness may interfere with their sociocultural adjustment due to decreased social interaction with the host society (Wang & Sun, 2009).

Chen et al.'s study (2019) underlines the profound and long-lasting effects of loneliness and social integration barriers on forced migrants' adjustment. Increased loneliness and social integration issues among recently settled forced migrants in Australia were related to physical and mental health problems over three years, even if they managed to address these issues over this same period. Further analysis of the same cohort of participants revealed that loneliness was the most potent determinant of poor mental health 3 to 5 years following settlement after controlling for the effects of other pre- and post-migration stressors (Wu et al., 2021).

In light of the above, being a member of and identifying with social groups should play a prominent role in supporting forced migrants' adjustment and protecting their health and well-being. In a range of populations, including voluntary migrants and international students, social group memberships and social identities have been found to promote psychosocial functioning and well-being (Cruwys, Ng, et al., 2021; Iyer et al., 2009; Jetten et al., 2018; for a review, see Jetten et al., 2017). Regarding forced migration in particular, Smeekes et al. (2017) showed that Syrians in Turkey who were members of multiple social groups before migration were more likely to retain a feeling of belonging to some of these pre-migration groups. In turn, this sense of social identity continuity was predictive of greater life satisfaction and less depressive symptomatology. Similarly, in Çelebi et al.'s (2017) study, Syrian forced migrants reported less depressive and anxiety symptomatology to the extent that their ethnic identity provided them with a sense of belonging and continuity—instead of disconnectedness and loss. In the same study, where their Syrian identity provided a sense of control, distinctiveness, and meaningfulness, this protected forced migrants from the harmful effects of perceived ethnic discrimination on health. In a longitudinal study, Panagiotopoulos and Pavlopoulos

(2024) also found that forced migrants who had maintained more pre-migratory group memberships and had joined more post-migratory groups had better sociocultural, health-related, and psychological outcomes 8 months later (see also Panagiotopoulos et al., 2022).

Further evidence stems from findings showing that social capital and social support—two constructs sharing much theoretical and empirical overlap with social group memberships and social identification (Richardson et al., 2022)—are protective factors for forced migrants' adjustment (see also Hawkes et al., 2020). Among different forced migrant populations, ethnic community and family support satisfaction have been related to better mental health (Birman & Tran, 2008; Böge et al., 2020; Schweitzer et al., 2006), increased life satisfaction (Birman & Tran, 2008; Colic-Peisker, 2009), lower levels of loneliness, and better social integration (Stewart et al., 2011). Likewise, higher levels of social participation and trust in others mitigate the negative effects of post-migration stressors on their mental health (Lecerof et al., 2016; Villalonga-Olives et al., 2022).

Explaining why social group memberships and social identification may promote forced migrants' adjustment and have curative effects on their health, steers the discussion toward the social identity approach to health and well-being.

1.1 Social Identity Approach to Health as a Theoretical Framework for Developing a Treatment Program for Refugees

Established on the foundations of social identity theory (Tajfel & Turner, 1979) and self-categorisation theory (Turner et al., 1987), the social identity approach contends that a person's self-concept is dependent upon their idiosyncratic characteristics or personal identities as well as their group memberships or social identities. If emotionally valued, social groups are psychologically internalised and shape peoples' beliefs, values, and actions. The approach was traditionally used as a framework for understanding intergroup relations, yet in recent years, it has been applied to new domains, including health and well-being (Jetten et al., 2017). According to the social identity approach to health, group memberships—via their corresponding social identities—act as social cures. They facilitate health and well-being by unlocking important psychological resources (e.g., a sense of connectedness, support, meaning, and agency) which enhance a person's ability to cope with stress and adversity.

Informed by the social identity approach to health, the social identity model of identity change (SIMIC; Haslam et al., 2021) is a particularly suitable framework that can explain why forced migrants are especially vulnerable to increased risk for social isolation and loneliness, and most importantly how we can intervene to improve their social connectedness and sense of belonging to support their adjustment. SIMIC specifies four group processes that support health and well-being during a major life change (however, note that these processes are pertinent in bringing about group-based health benefits in general; Haslam et al., 2016): (a) belonging to and identifying with multiple social groups, (b) social identity continuity (by maintaining social groups over time), (c) social identity gain (by joining new social groups), and (d) social identity compatibility (i.e., the extent to which the groups share similar norms and values). First, identifying with multiple social groups has cumulative health and well-being benefits because people will have more sources to derive the psychological resources needed in times of change (Cruwys et al., 2013; Iyer et al., 2009; Jetten et al., 2015). Second, maintaining existing social group memberships after a life transition (and generally over time) gives rise to a sense of social identity continuity that protects health and well-being (Haslam et al., 2008; Sani et al., 2008; Smeekes et al., 2017), partly because it fulfils the human need

for self-continuity (Smeekes & Verkuyten, 2015). Third, if old group memberships and identities cannot be maintained or are unhelpful instead of beneficial for one's life change, building new group ties and identities counteracts the harmful effects of this loss (Dingle et al., 2015; Greenaway et al., 2016; Haslam et al., 2018). Finally, higher perceived compatibility between maintained and new social groups (and more broadly among one's social identities) leads to higher levels of well-being because it protects against the stress that results from discrepancies in one's self-concept (Brook et al., 2008; Iyer et al., 2009; Jetten et al., 2008).

Thus, by determining the underlying social processes that bring about the cure effects of groups in the context of life change, SIMIC offers specific intervention targets for supporting forced migrants during their transition to a new land. That is all the more important when considering that most psychosocial interventions targeting forced migrants' social relations and connectedness are not embedded within theories of psychosocial group processes (Villalonga-Olives et al., 2022; Wachter et al., 2021)—that are arguably much better placed to manage social disconnection and loneliness (Haslam et al., 2016).

The social processes postulated by SIMIC have recently been applied in developing a group-based social identity intervention, Groups 4 Health (G4H). G4H is a five-module, manualised program targeting loneliness by fostering group belonging. Evidence suggests that it has long-term benefits not only for loneliness but also for anxiety, depression, and well-being (for the current evidence base see Cruwys, Haslam, et al., 2021; Cruwys, Haslam, Rathbone, et al., 2022; Haslam et al., 2016; Haslam et al., 2019). Thus, being rooted in a sound theory of group processes, evidence-based, and scalable, G4H is an ideal treatment to increase forced migrants' sense of connectedness and promote their adjustment.

1.2 Groups 4 Health: Modules and Delivery

Each of the five G4H modules involves a number of activities and topics for discussion that tap into the distinct group-based processes of SIMIC (Haslam et al., 2016). Module 1 (*Schooling*) aims to educate participants about social groups, the psychological resources they provide, and how these resources can benefit their health and well-being. Module 2 (*Scoping*) invites participants to visually represent their current group memberships and social identities that comprise their social self (social identity map; see Cruwys et al., 2016). The goal is to stimulate participants to reflect on who they are, the group-based resources at their disposal, and directions for advancing their social worlds. Module 3 (*Sourcing*) targets the SIMIC social identity continuity pathway. The discussion and activities centre around how participants can preserve and get the most out of their existing group memberships and how they can reconnect with old valued groups. Following the social identity gain pathway, Module 4 (*Scaffolding*) encourages participants to map out a specific social plan to join new groups that align with their self-concept (i.e., identity compatibility). In that respect, it capitalises on the G4H group itself, which operates as an experiential stage that portrays the process of connecting with a new group. Module 5 (*Sustaining*) acts as a 1-month follow-up session intended to manage any obstacles participants encountered in executing their social plans and review the evolution of their social identity maps. Each module corresponds to a 1-hour session run by a facilitator supported by one co-facilitator. Typically, a group size of around eight participants is recommended. The first four sessions take place weekly over 1 month.

1.3 Groups 4 Health for Refugees

Groups 4 Health for Refugees (G4H-REF) was adapted for the current study. Like the standard version, G4H-REF seeks to improve health and well-being by developing and strengthening social identification with groups. For feasibility reasons, the fifth (booster) session was removed, while the remaining modules were completed within 2 weekly sessions (i.e., Modules 1 and 2 in one session; Modules 3 and 4 in one session). The overall structure and content of the program were maintained. This included the aims of each module, the sequence of modules, the order of discussion topics and activities within each module, and the delivery of each topic and activity. The adaptation process concentrated on language use and contextualising the content to reflect the life-changing experience of our sample (i.e., Sub-Saharan African forced migrants living in Athens; see participants section below). This involved simplifying and refining the wording and phrasing to ensure it was clear and accessible to participants, and aligning examples to their life transition and cultural background. For instance, in explaining what social groups are, participants were given relevant examples such as groups based on nationality (e.g., Congolese or Cameroonians), beliefs (e.g., refugee rights, Muslims, Christians), a community (e.g., church group, an NGO's day centre group), and an occupation (e.g., agricultural workers). Similarly, when discussing the importance of social groups for health and well-being, the discussion involved information on how belonging to groups contributes to sleeping better, more motivation and hope, and less bad thoughts and sadness, instead of simply stating that group belonging is related to lower rates of anxiety and depression. These language and context-based changes to the program were driven by 16 semi-structured interviews with Sub-Saharan African asylum-seekers in Greece, which focused on their migration experiences (Panagiotopoulos et al., 2025; note that the interviews were part of another study and did not ask for direct feedback on the program).

1.4 The Present Study

A non-randomised pre-post open trial design was implemented to pilot test G4H-REF in a sample of forced migrants in Greece. The principal aim was to investigate its feasibility and acceptability. The second aim was to provide preliminary evidence on its efficacy in improving forced migrants' adjustment outcomes at completion and 4-month follow-up. In line with the latter aim, the effects of G4H-REF on adjustment outcomes at 4-month follow-up were compared with change observed in a sample of no-treatment historical controls of forced migrants who were followed over 4 months.

2. Method

2.1 Sample Size

A sample of $N = 10$ had been planned for a target effect size of the main trial of $0.3 \leq d < 0.7$ with a power of 80%. These estimates were based on sample size guidelines for pilot studies (Bell et al., 2018) and Haslam et al.'s (2019) randomised controlled trial of G4H. Finally, 16 to 18 participants were to be enrolled to allow for an attrition rate of 40%.

2.2 Participants

Participants were contacted from a pool of French-speaking asylum-seekers who had participated in a former study and consented to be notified about future research (Panagiotopoulos & Pavlopoulos, 2024). Those contacted were asked to refer other refugees and asylum-seekers for participation. All potential participants were screened over the phone against the following eligibility criteria: (1) were residing in the greater Athens city area, (2) had applied for or had been granted international protection, (3) were not receiving psychological treatment regularly, (4) had not started or changed psychiatric medication over the last 2 months, (5) were at least 18 years of age, (6) were able to read and write in French, (7) were not planning to permanently leave Greece in the next 6 months, and (8) had received at least 9 years of education. Participants received 12.5€ as compensation for participating in each session (25€ if they attended both). Considering that most forced migrants are in financial hardship, the compensation aimed to cover the transportation of their two round trips to the intervention premises.

As shown in the CONSORT flow diagram (Figure 1), 36 participants were screened, with 15 finally taking part in the first session; seven were from the existing contact pool, and eight were recruited through snowball sampling. The sample consisted of 13 male and 2 female asylum-seekers (n = 11) and refugees (n = 4) with a mean age of 29.4 years (SD = 5.7 years). Twelve participants originated from the Democratic Republic of the Congo, and the others from Mali, Cameroon, and Comoros. On average, they lived in Greece for 3.89 years (SD = 1.5 years). Around half of the participants had received 9 to 12 years of formal education (n = 8), and the other half had some form of post-secondary education (n = 7). Their native language was Lingala (n = 12), French, Bambara, and Douala. Note that information about the historical control group is presented later in the paper.

2.3 Procedure

Participants were initially contacted by phone, over which the researcher provided information about the study, obtained oral consent for screening, and determined eligibility. Those eligible were recontacted 1 week before the intervention to confirm their availability and to be enrolled. Enrolled participants were scheduled for an appointment at the University of Athens premises to participate in G4H-REF. The intervention program was delivered over 2 consecutive weeks (one session per week) by the first author and a licensed psychologist who had clinical experience working with forced migrants. Each session lasted around 3 hours, including a half-hour break. Participants completed T_0 baseline measures before the onset of the first session, T_1 measures immediately following the completion of the second session, and T_2 measures at 4-month follow-up. All measures were administered and completed digitally. The Research Ethics Committee of the Department of Psychology at the University of Athens reviewed and approved all procedures.

2.4 Materials

All materials and measures were administered in French. The G4H-REF manual and workbook were drafted in English and translated into French by a bilingual translator. Except for WHOQOL-BREF, HSCL-10, and SWLS (see below), which had already been standardised in French, all other measures were translated to French and back-translated to English by two bilingual translators or the first author and one bilingual translator.

Manual and Workbook

The G4H-REF manual and workbook were based on their original G4H counterparts and were adapted to fit forced migrants' transition experience. The G4H-REF Manual assisted facilitators in conducting the program and provided a standardised way of delivery. It was divided into four consecutive sections (i.e., one for each module) that contained preparation notes, recommendations for introducing and discussing topics and activities, and ways for handling potential questions and problems that could occur over each session. The G4H-REF workbook was distributed to participants as a supportive tool. It contained a concise summary of the G4H-REF manual, emphasising each module's key ideas and activities while including space for participants to carry out the activities and note what they have learned.

Feasibility, Acceptability, and Exploratory Indicators of Group Identification

To assess feasibility, an 8-item knowledge acquisition measure was created. It comprised information presented during G4H-REF (i.e., 2 items per module; exemplar item ''We need to see and think about our groups every day to feel a part of them''). The measure was administered at baseline (T_0) and upon intervention completion (T_1). Participants had to respond on a 3-point categorical scale (i.e., *true*, *false*, *I am not sure*). The total score was computed by attributing one point to correct items and minus one to incorrect ones. Responding *''I am not sure''* received zero. Thus, a higher total score demonstrated a better understanding of the G4H-REF material. In addition, the homework compliance scale (HCS; Primakoff et al., 1986) was used, which was slightly modified to reflect adherence to the tasks assigned during the course of the intervention. Four tasks were rated (i.e., one from each module) with scores ranging from 1 (*the participant did not attempt the assigned task*) to 6 (*the participant did more of the assigned task than was requested*). Data were available only for participants who completed both sessions. The first two authors independently carried out the ratings. Based on a mean-rating (k = 2), two-way mixed effects model, the intraclass correlation coefficient estimate for absolute agreement was .86, 95% CI [0.71, 0.93], signifying moderate to excellent interrater reliability (Koo & Li, 2016). A consensus meeting was held to resolve discrepancies. The final score for each participant was generated by averaging the scores across the four tasks.

Acceptability was assessed upon completion of G4H-REF (T_1) by means of a quantitative and qualitative feedback measure. The former was a 7-item questionnaire developed for the present study (e.g., ''Did you enjoy G4H-REF?'', ''Would you recommend G4H-REF to another asylum-seeker or refugee?''). The response scale ranged from 1 to 4, with higher scores indicating that participants found the intervention acceptable and useful. The qualitative form contained open-ended questions on what participants liked and disliked about G4H-REF, what aspects of G4H-REF they found most and least helpful, and any changes they would suggest. Responses were summarised descriptively, grouping similar statements into broad themes.

Finally, to capture exploratory indicators of emergent group identification processes, we drew on brief indicators embedded in the intervention and informal observations. First, as part of the social identity mapping exercise at T_1, participants rated how positive they felt about being members of and how typical they perceived themselves to be of each of the groups they had included in their maps. Because most participants listed G4H as one of these groups, we were able to derive corresponding positivity and typicality ratings for the G4H group. Second, facilitators noted illustrative examples of spontaneous supportive interactions

during sessions (e.g., exchanges of practical information and resources among participants). These indicators were not collected as part of a formal qualitative study nor were they specified a priori as outcomes, but are reported descriptively as supplementary evidence of perceived group processes and emerging shared identity.

2.4.3 Efficacy Measures

The following measures were administered at T_0, T_1, and T_2 to measure intervention efficacy. For all questionnaires, participants indicated their answers on a 9-point Likert scale (i.e., 0 to 8), accompanied by a visual analogue scale (VAS) orientated from left to right.[2] The left and right extremes of the VAS were labelled differently in each questionnaire (see below).

Revised Sociocultural Adaptation Scale (SCAS-R). The 11-item SCAS-R (Wilson et al., 2017) was used to assess the extent to which participants possessed the skills and competence for everyday social functioning in Greece. The response scale ranged from 0 (*not at all competent*) to 8 (*extremely competent*), with higher scores indicating greater sociocultural adjustment (α_{T0} = .92; α_{T1} = .92; α_{T2} = .91).

Physical Domain Subscale of World Health Organization Quality of Life-BREF (WHOQOL-BREF). The French version of the 7-item physical domain subscale of WHOQOL-BREF (World Health Organization, 2020) was employed to measure different facets of physical health (e.g., energy/fatigue, pain/discomfort, work capacity). The response scale ranged from 0 to 8. However, the anchors differed across the seven items (i.e., *not at all-extremely*, *not at all-completely*, *very poor-very good*, *very dissatisfied-very satisfied*), consistent with the original scale. Higher scores signified greater physical health satisfaction (α_{T0} = .83; α_{T1} = .73; α_{T2} = .78).

Hopkins Symptom Checklist-10 (HSCL-10). The HSCL-10 (Schmalbach et al., 2019) contains 10 items assessing symptoms of anxiety and depression over the course of the last 2 weeks. The response scale ranged from 0 (*not at all*) to 8 (extremely), with higher scores indicating higher distress. In the current study, the French adaptation was used (Le Bris, 2017; α_{T0} = .91; α_{T1} = .70; α_{T2} = .88).

Satisfaction with Life Scale (SWLS). The 5-item SWLS (Diener et al., 1985) was administered to assess quality of life, with the response scale ranging from 0 (*disagree*) to 8 (*agree*). Higher scores indicated a more heightened sense of life satisfaction. In the study, the French version was employed (Blais et al., 1989; α_{T0} = .79; α_{T1} = .88; α_{T2} = .77).

Single-Item Self-Esteem Scale. Global self-esteem was indexed by a single item ("I have high self-esteem") that has demonstrated psychometric properties similar to the Rosenberg self-esteem scale (Robins et al., 2001). The response scale ranged from 0 (*not very true of me*) to 8 (*very true of me*).

UCLA 3-item Loneliness Scale (UCLA 3-item). The UCLA 3-item (Hughes et al., 2004) was administered to measure loneliness. Responses ranged from 0 (*hardly ever*) to 8 (*often*), with higher scores demonstrating a tendency to experience more frequent feelings of loneliness (α_{T0} = .76; α_{T1} = .68; α_{T2} = .75).

Multiple Group Membership Scale. The 3-item multiple group membership scale (Jetten et al., 2015) indexed the number of social groups with which participants felt strongly connected. The response scale ranged from 0 (*disagree*) to 8 (*agree*), with higher scores being indicative of a stronger sense of connectedness with more groups (α_{T0} = .93; α_{T1} = .79; α_{T2} = .85).

[2] Participants responded on the Likert scale. The visual analogue scale served as a visual aid for participants to ensure understanding.

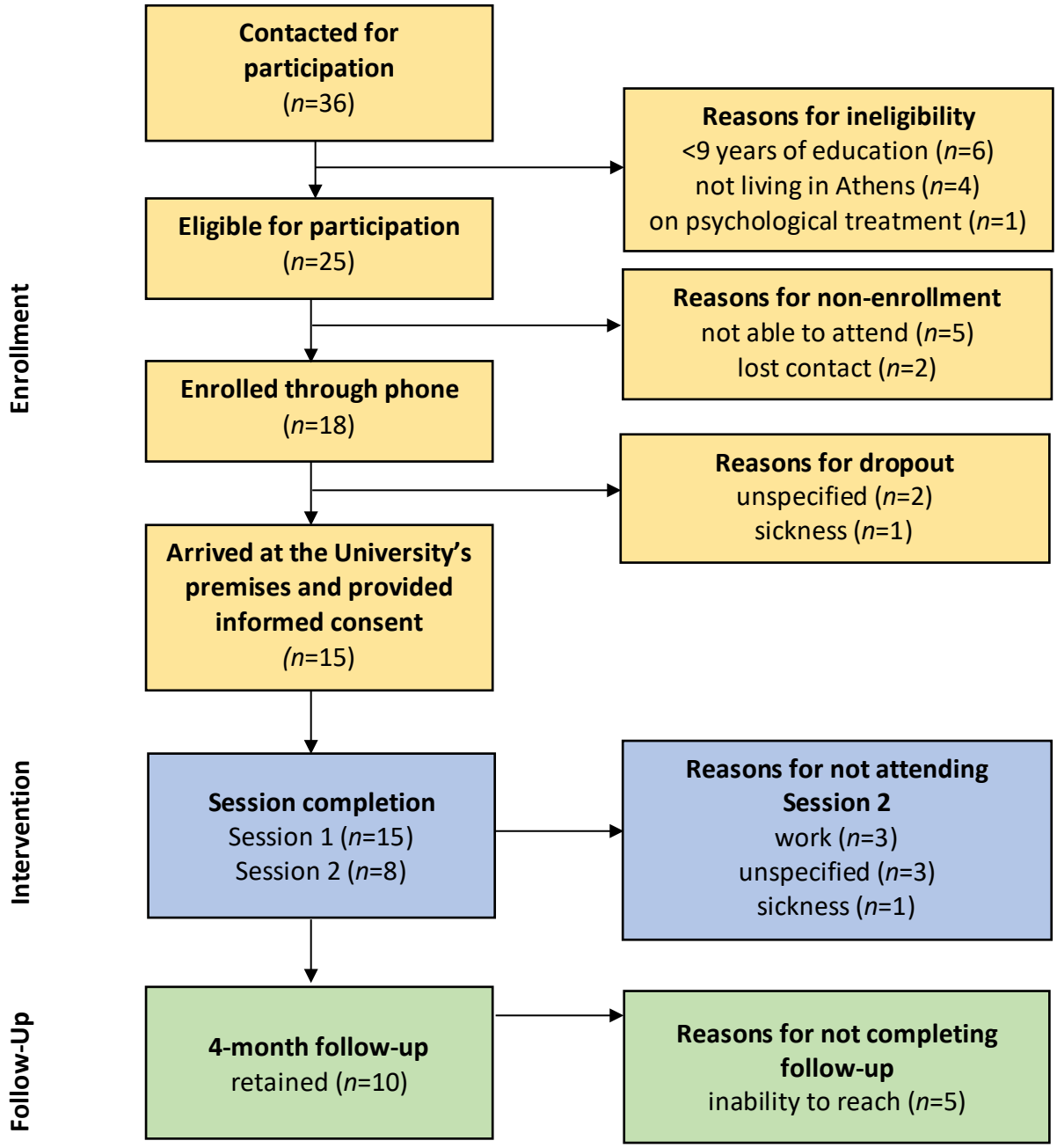

Figure 1. CONSORT flow diagram for G4H-REF group.

Note. All 15 participants who attended Session 1 were invited to participate in the follow-up reassessment, which was finally completed by all eight participants of Session 2 and two who had not attended Session 2.

2.5 Historical Control Group

The outcomes of the G4H-REF group at 4-month follow-up were compared with data from no-treatment historical controls who had participated in an observational longitudinal study between June 2020 and February 2021 (Panagiotopoulos & Pavlopoulos, 2024). The historical control group comprised asylum-seekers who were living independently in the greater Athens city area and had completed SCAS-R, the physical domain subscale of WHOQOL-BREF, HSCL-10, and SWLS at a 4-month interval. Data on the other measures of the current study were

not available. The total sample included 37 participants.[3] The mean age was 26.9 years (*SD* = 7.5 years), and 86% were male; 32% had received up to 9 years of schooling, 32% 9 to 12 years, and 30% had pursued post-secondary education. They originated from the Democratic Republic of the Congo (*n* = 12), Guinea (*n* = 5), Nigeria (*n* = 5), Cameroon (*n* = 4), Sierra Leone (*n* = 4), Togo (*n* = 3), Gambia (*n* = 2), Benin (*n* = 1), and Ivory Coast (*n* = 1). Regarding the time of arrival, 24% of the sample had been in Greece between 3 to 12 months (*n* = 9), 68% between 1 to 2 years (*n* = 25), and 8% over 2 years (*n* = 3).

2.6 Analysis Plan

Two methods were used to evaluate the efficacy of G4H-REF. First, a series of one-tailed paired samples *t*-tests were conducted on efficacy measures at T_0 and T_1 with regard to the intervention group. Second, to assess the long-term efficacy of G4H-REF, one-tailed paired *t*-tests were performed on efficacy measures from the intervention group at T_0 and T_2. These were compared to differences found in the historical control group between baseline and 4-month reassessment.[4] Cohen's *dz* for paired samples was used as an effect size measure (Lakens, 2013), with values of 0.2, 0.5, and 0.8 considered small, medium, and large, respectively (Cohen, 1988).

3. Results

Of all 15 subjects who participated in the first session, eight completed the second session, and 10 completed the 4-month follow-up assessment (Figure 1). Fisher's exact test and *t*-test analyses revealed no significant differences between the G4H and historical control groups at T_0 regarding age, gender, and scores on SCAS-R, WHOQOL-BREF, HSCL-10, and SWLS.

3.1 Feasibility

Feasibility was initially assessed based on attrition rates. Eighteen participants were enrolled, yet two did not show up for unspecified reasons, and one due to sickness. The attrition rate at T_1 among the 15 subjects who participated in the first session was 47%. Reasons for dropout were work (*n* = 3), feeling unwell (*n* = 1), and not specified (*n* = 3). At follow-up reassessment, attrition was 33%, as five participants could not be reached. Intervention feasibility was further assessed through the scores on the knowledge acquisition measure and the HCS among intervention completers (*n* = 8). A Wilcoxon's signed-ranks test[5] indicated a significant increase in the knowledge acquisition measure from T_0 (*Mdn* = 2) to T_1 (*Mdn* = 5), $W = 0$, $p = .007$, one-tailed, $r_{rb} = -1$. Similar results were obtained when looking at

[3] The initial dataset of the historical control group included 60 participants at baseline. Fifteen participants were excluded due to missing data at 4 months, and seven because they also participated in the intervention. Thus, the sample of historical controls included 38 asylum-seekers. From this sample, one participant was excluded from further analysis because their change scores on HSCL-10 and SWLS from baseline to 4-month reassessment deviated substantially from the sample's mean difference scores (i.e., >3.4 SDs) and had a great effect on the normality of the data.

[4] Although the historical group was not a concurrent control, baseline assessment of the historical group is reported as T_o and 4-month follow-up as T_2 to ease reading comprehension

[5] Wilcoxon's signed-ranks test was used as an alternative to the paired sample *t*-test because the dependent variable (i.e., scores on the knowledge acquisition measure) was ordinal instead of continuous.

the median number of correct answers from T_0 (*Mdn* = 4.5) to T_1 (*Mdn* = 6), *W* = 0, *p* = .006, one-tailed, r_{rb} = -1. The mean score on the HCS was 4.34 (*SD* = 0.69, range: 3.5-5.5), signifying that participants did portions of the assigned tasks. Across all eight participants, >93% of tasks assigned were at least attempted.

3.2 Acceptability and Exploratory Indicators of Group Identification

On the quantitative feedback form, the G4H-REF group indicated that the intervention was very acceptable and useful (*M* = 3.27, *SD* = 0.4), with all individual questions receiving an average score of at least 3. Acceptability was also reflected in the qualitative feedback they provided. Grouping the open-ended items in the qualitative feedback form suggested three broad themes in what participants liked or experienced as useful. First, many emphasised mutual sharing and interpersonal climate, noting benefits such as "*the exchange of experiences with others*", "*communicating and sharing*", "*the good company and teamwork*", and "*the consideration and respect*". Second, participants underlined learning and gaining new perspectives. For example, they "*embraced new knowledge, important ideas that came from others*", "*learned new things that [they] didn't know*", and "*discovered new horizons through the members of G4H*". Others highlighted that they enjoyed getting to know "*the advantages of being part of different social groups*", and valued knowing "*the importance of social groups and the benefits they can give us in our lives*". Third, responses pointed to social connection, such as "*meet new friends*", "*being part of a new group*", and references to *"[the sense of] ownership*". Except for two participants who found the intervention relatively short ("*I wish there were more sessions, several meetings like this one*", "*it was only two weeks*"), all others did not indicate an aspect of G4H-REF they did not like or did not find useful. The concern over the program's length was also reflected in the suggested modification proposed by one participant: ''*It would require even one year to really feel being a group*''.

Exploratory indicators of group processes suggested that G4H-REF fostered an emerging shared identity centred on the group. In the social identity maps completed at T_1, all but two participants included G4H as a meaningful group. On a scale from 0 to 10, participants reported feeling very positive about being members of this group (*M* = 9.42, range: 7–10) and rated themselves as highly typical group members (*M* = 8.83, range: 6–10). Moreover, participants spontaneously created a WhatsApp group at the end of the first session to remain in contact between and after sessions. In addition, facilitators observed that the group began to function as an arena for practical mutual support and resource sharing already during the first session. For example, one participant spontaneously informed others about a potential job opening and invited anyone interested to contact him, and another provided information about integration courses in Athens, with two members expressing interest in attending together.

3.3 Efficacy Measures

As shown in Table 1, sociocultural adjustment, life satisfaction, loneliness, and connectedness with multiple group memberships improved significantly upon completing G4H-REF, displaying medium to large effect sizes. Small to moderate improvements were found in health-related adjustment and self-esteem, yet neither reached significance. Anxiety and depressive symptomatology remained stable. Table 2 displays the change scores from baseline to 4-month follow-up. Improvements in sociocultural adjustment, life satisfaction,

loneliness, and connectedness with multiple group memberships remained significant over time, although effect sizes tended to decrease slightly. All other outcomes showed non-significant differences with small effect sizes. Except for anxiety and depressive symptomatology, which decreased significantly from T_1 (M = 3.64, SD = 1.23) to T_2 (M = 3.27, SD = 1.45), $t(7) = 2.50$, $p = .041$ (two-tailed), there were no significant differences between T_1 and T_2 (ps > .188, two-tailed). In contrast, no score significantly changed in the historical control group during the 4-month measurement interval. As a matter of fact, health-related adjustment showed a non-significant negative trend.

Table 1. Change scores from baseline to completion for G4H-REF group (n = 8)

Variable	T_0	T_1	p[a]	Cohen's d_z [95% CI[a]]
Sociocultural adjustment	5.16 (1.64)	5.52 (1.60)	**.041**	0.72 [0.04, 1.35]
Health-related adjustment	4.93 (1.77)	5.55 (1.23)	.083	0.55 [-0.10, 1.16]
Anxiety & depression	3.67 (1.54)	3.64 (1.23)	.47	-0.03 [-0.61, 0.55]
Life satisfaction	3.05 (1.57)	3.52 (1.66)	**.045**	0.69 [0.02, 1.33]
Self-esteem	5.63 (2.07)	6.13 (1.46)	.175	0.35 [-0.26, 0.94]
Loneliness	4.58 (1.07)	3.54 (1.02)	**.012**	-1.01 [-1.71, -0.26]
Multiple group memberships	3.75 (2.11)	4.92 (1.53)	**.008**	1.11 [0.33, 1.83]

Note. Significant effects at p < .05 in bold. [a] One-sided.

Table 2. Change scores from baseline to 4-month follow-up for G4H-REF (n = 10) and historical control groups (n = 37)

Variable	G4H-REF group			Historical control group		
	T_2-T_0	p[a]	Cohen's d_z [95% CI[a]]	T_2-T_0	p	Cohen's d_z [95% CI]
Sociocultural adjustment	0.44	**.042**	0.61 [0.03, 1.17]	-0.13	.512	-0.11 [-0.43, 0.22]
Health-related adjustment	0.09	.426	0.06 [-0.46, 0.58]	-0.31	.079	-0.30 [-0.62, 0.03]
Anxiety & depression	-0.27	.233	-0.24 [-0.76, 0.29]	-0.14	.491	-0.11 [-0.44, 0.21]
Life satisfaction	0.72	**.032**	0.67 [0.07, 1.23]	-0.08	.635	-0.08 [-0.40, 0.24]
Self-esteem	0.3	.234	0.24 [-0.29, 0.76]			n/a
Loneliness	-1.2	**.006**	-0.99 [-1.61, -0.33]			n/a
Multiple group memberships	1.5	**.011**	0.87 [0.23, 1.47]			n/a

Note. Significant effects at p < .05 in bold.
[a] One-sided.

4. Discussion

Social isolation and loneliness are highly prevalent among forced migrants, affecting their health and general well-being. The current study represents a first attempt to adapt and

demonstrate proof of concept for G4H among forced migrants, a group-based intervention that capitalises on the social identity approach to health to increase social connectedness. The results were promising, showing the potential feasibility, acceptability, and efficacy of G4H-REF.

Regarding intervention feasibility, attrition was relatively high, especially in Session 2. Of the 15 participants who commenced the intervention, 47% did not attend Session 2, and 33% did not complete the follow-up assessment. As a point of reference, attrition across three G4H trials was 19.5% (although this was defined as absence from three or more sessions; Cruwys, Haslam, Haslam, et al., 2022), and attrition across psychological interventions delivered to refugees in high-income countries has been estimated at 19.14% (Semmlinger et al., 2021). When looking at the reasons for not attending Session 2 (i.e., three participants did not participate due to work and one due to sickness), the high attrition rate in the study may be attributed to practical barriers rather than the intervention per se. Other variables that might have contributed to high attrition include the university setting and participants' young age, gender (i.e., mostly males), and relatively low educational level (Semmlinger & Ehring, 2022). On the other hand, five participants did not complete follow-up reassessment because they were not reachable, a common issue among forced migrant populations (Semmlinger & Ehring, 2022).

In any case, the attrition rate was superior at follow-up compared to Haslam et al.'s (2016) G4H pilot study (i.e., 54% at 6-month follow-up). Further, regarding feasibility, participants demonstrated a good understanding of the program and willingness and ability to adhere to the assigned tasks, as evidenced by their scores in the knowledge acquisition measure and HCS, respectively. That is all the more important—considering their relatively low socioeconomic status and educational level, and the fact that the program was delivered in their second language—as it indicates that G4H can potentially be implemented to marginalised groups even in their non-native language, provided that the content is simplified in terms of language.

Likewise, intervention acceptability was high. Participants reported that they enjoyed and found useful the acquisition of G4H concepts and skills, as well as the in vivo experience of being part of a group. The most problematic component of the intervention was its short length, as evidenced by the qualitative feedback received from two participants. That was also mirrored by the need expressed by one participant to remain connected with the group after the end of the intervention. On the one hand, this may be interpreted as an indication of intervention acceptability (i.e., participants wanted more presumably because they found the intervention enjoyable and useful). On the other hand, it signifies that the original 5-session format may better suit the needs of forced migrants; this is no surprise since the reason for not doing so in the present study was related to practical barriers rather than theoretical or empirical grounds. Hence, future research on G4H-REF should aim to deliver the intervention as designed originally (i.e., one module per week and a booster session).

Moving on to discussing the preliminary data on the efficacy of G4H-REF, it should be emphasised that this was a secondary, exploratory aim of the current trial. Given the small sample size, any conclusion should be considered tentative and in need of further investigation. At completion and follow-up, G4H-REF resulted in medium to large effects on sociocultural adjustment, life satisfaction, loneliness, and connectedness with multiple groups ($|dz|$ from 0.69 to 1.11 and from 0.61 to 0.99, respectively). Two points provide some merit in the results. First, scores among historical controls remained relatively constant across the 4-month period, suggesting that change in the G4H-REF group is at least not attributed to

maturation and testing effects. Second, the effect sizes of G4H-REF on life satisfaction, loneliness, and multiple group memberships were largely consistent with those reported in previous G4H studies (Cruwys, Haslam, Rathbone, et al., 2022; Haslam et al., 2019) and social identification-building interventions (Steffens et al., 2021). For example, Haslam et al. (2019) found effects of d = 1.16 on loneliness (vs. 0.99 in this study) and d = 0.96 on multiple group memberships (vs. 0.87 in this study) at 2 months follow-up. Regarding the effect on sociocultural adjustment, it is unlikely that G4H-REF purely altered objective cultural competence (e.g., Greek language proficiency). Participants might have acquired some behaviourally-based cultural skills, but most likely perceived themselves as more culturally competent after the intervention—especially in the domain of social interaction (e.g., development and maintenance of relationships).

In contrast, the absence of effect on anxiety and depression diverged from previous studies that have repeatedly reported medium-sized effects (Cruwys, Haslam, Rathbone, et al., 2022; Haslam et al., 2016; Haslam et al., 2019; Steffens et al., 2021). One possible explanation is that forced migrants may suffer from high levels of anxiety and depression, along with comorbid disorders and ongoing post-migratory stressors that render their symptoms less malleable (Bogic et al., 2015). Indeed, all previous G4H efficacy studies (Cruwys, Haslam, Rathbone, et al., 2022; Haslam et al., 2016; Haslam et al., 2019) recruited samples with varying levels of psychopathology, including participants from the community with mild symptoms of depression and anxiety. In this regard, future studies might examine whether G4H-REF is most effective as an adjunctive treatment to other interventions that target specific psychopathology symptoms among forced migrants (Franken et al., 2018).

Although this pilot did not include an in-depth qualitative evaluation, the descriptive indicators reported in the results provide some insight into the identity-related mechanisms through which G4H-REF may have contributed to these changes. Participants' open-ended accounts emphasised opportunities to share experiences, gain new perspectives, and connect with others. In-session observations further indicated that the group rapidly became a site for concrete mutual support and resource sharing (e.g., sharing information about job opportunities and integration courses in Athens). These observations were accompanied by high ratings of positivity and typicality regarding G4H group membership, explicit references to a "[sense of] ownership", expressed wishes for more sessions "to really feel being a group", and the spontaneous creation of a WhatsApp group to maintain contact beyond the sessions.

Taken together, these observations suggest that participants did not experience G4H-REF merely as a didactic program about social groups, but as a lived group that they began to own and use. Rather than only talking about social connections in the abstract, they started to mobilise the group itself as a source of emotional and practical support, exchanging information, opportunities, and perspectives within an emerging "we". In terms of SIMIC, this points to G4H-REF operating as a form of social identity gain. The G4H-REF group became a new, positively valued social identity that modelled the benefits of group belonging and offered a concrete platform for extending participants' social networks. This is consistent with the pattern of outcomes observed, in which reductions in loneliness and increases in connectedness with multiple group memberships were among the most robust effects. Although preliminary, the convergence between these exploratory process indicators and the quantitative changes provides additional proof-of-concept that G4H-REF can activate the social identity mechanisms it was designed to target.

5. Limitations and Future Directions

Although the results were promising, the current pilot trial's limitations should be considered. First and foremost, the small sample size and the non-randomised design without concurrent treatment controls preclude strong statements about intervention efficacy and limit our understanding regarding feasibility and acceptability. For example, it was impossible to evaluate whether dropouts and completers systematically differed in certain variables due to the small sample size. In addition, the high attrition rate further constrains internal validity and raises the possibility of attrition bias, in that the observed benefits may apply primarily to those participants who were more stable, more motivated, or less constrained by structural barriers (e.g., work demands), rather than being representative of the broader population of forced migrants. Second, the lack of in-depth qualitative data (e.g., post-treatment interviews, session recordings, detailed field notes) did not allow for a fine-grained analysis of intervention feasibility, acceptability, and in-session group processes. Third, the use of measures that had not been culturally adapted raises questions regarding their validity and reliability in the Sub-Saharan African sample of forced migrants. Fourth, mechanisms of change were not examined formally. The small sample size precluded robust quantitative tests of mediation. Although the large post-treatment effects observed on the multiple group membership scale are an index that shows that the intervention increased identification with existing and new groups, and the exploratory indicators of emergent group identification (e.g., inclusion of G4H in social identity maps, high positivity and typicality ratings) are consistent with this interpretation, these data remain preliminary and descriptive. Future studies should incorporate adequately powered mediation analyses to test social identification (and related SIMIC processes) as mechanisms of change, ideally alongside more systematic mixed-method process evaluation. Notably, the potential efficacy of G4H-REF would be of much more value if attributed to the social identity mechanism proposed in SIMIC. Finally, for logistic reasons, G4H-REF diverged from the delivery guidelines recommended by the developers of G4H. Two sessions over 2 weeks were conducted (instead of 4 weekly sessions and a 1-month booster), while the group comprised 15 participants (instead of a suggested maximum of eight). Considering that social identification ought to be the critical ingredient of G4H-REF, these modifications might have been counterproductive by interfering with the rapport-building process among participants, an issue that some participants actually brought up.

Building on these limitations, a logical next step is a sufficiently powered randomised controlled trial that embeds stronger methodological safeguards to enhance internal validity, generalisability, and interpretability. Specifically, future work should (a) adopt shorter, more frequent sessions with a booster, rather than two 3-hour meetings, to reduce the burden on participants; (b) implement a package of proactive retention and engagement strategies tailored to the structural barriers faced by forced migrants to minimise attrition, including review of the level and structure of financial compensation, provision of logistical support where feasible (e.g., transport reimbursement or childcare support in collaboration with community organisations), and systematic reminder procedures (e.g., SMS/phone reminders, liaison with trusted community partners); (c) use culturally adapted and validated measures for the target populations; and (d) integrate both mediation analyses and in-depth qualitative process evaluation (e.g., interviews, process notes, and/or session-based data) to examine in detail the social identity mechanisms through which G4H-REF may improve adjustment and reduce loneliness. Such a design would allow a more rigorous test of the feasibility,

acceptability, and efficacy of G4H-REF, and provide more definitive evidence regarding the social identity pathways targeted by the intervention.

6. Conclusions

Despite the limitations, the current trial sets the stage for the refinement and application of a theory-driven and empirically-based social identity intervention to address loneliness and social disconnection among forced migrants. The preliminary results are encouraging and call for further large-scale research to establish its feasibility, acceptability, and efficacy as an independent or complementary treatment in this vulnerable population. It is an endeavour worth pursuing, considering the rapidly growing forced migrant population worldwide and the significant health-related repercussions of loneliness and isolation.

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