Acculturative Stress and Program Acceptability of a Parenting Program for Displaced

Parents:

A Mixed Methods Study

by

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ABSTRACT

Trauma-informed parenting programs for families experiencing adversity including forced migration have the potential to reduce mental health difficulties within the family system and improve child outcomes, yet few resources are available for refugee and immigrant families and even fewer programs have been contextually adapted for refugees. For many displaced parents, parenthood is accompanied by various challenges at different stages of migration. Pre- and peri-migration trauma and adversity leave parents at risk of psychopathology such as Post Traumatic Stress Disorder (PTSD) and depression which can interfere with effective parenting. In a post-migration context, they face additional stressors as a result of intercultural contact - acculturative stress - including the loss of social networks, poverty, and discrimination (Osman, 2016).

Parenting in the Moment (PIM) is the first online parenting program for forcedly displaced families seeking to assist parents adjust to parenting in a new culture via evidence-based parenting practices. This study aimed to understand is to understand factors related to acceptability of the program for immigrant and refugee populations. Results indicated that PIM is culturally and generally acceptable to both immigrant and refugee populations. No significant differences were identified in acceptability between immigrant and refugees. This is preliminary evidence that parenting programs may be contextually adapted and acceptable to multiple cultural groups.

Keywords: refugees, immigrants, parenting, acceptability

DEDICATION

To my father and mother for always being there

To my sister for her consistent support

To my family for their eternal love

To refugees who have experienced the unimaginable, to those whose lives have been

disrupted by war or conflict and yet had the courage to push through and start over again

And to those who didn't make it or who remain in situations of trauma

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on the videos, who were willing to be vulnerable and communicate difficulties experienced in their communities so that we can provide better services to their communities. A special thanks is due to Dr. John Tshijik, who facilitated connections with Congolese community members and other refugee leaders, and Mr. Jamil Shahin, who connected me with the Syrian refugee community in Phoenix. These community leaders inspire their community through leadership and the lives they have led. A special thanks also to Claudia who connected me with local Hispanic community members. They gave generously of their time to provide feedback on focus group discussion results. Without you, this study would not have been possible.

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CHAPTER 1

INTRODUCTION

Escalated conflict, war, violence, socio-political crises, human rights violations, and prolonged political unrest are central sources of global forced displacement every year severely disrupting the lives of individuals and families who are forced to leave their home country in search of another country for resettlement. In 2022, 108.4 million were forcedly displaced of which 35.3 million were refugees, and 36.5 million were children (United Nations High Commissioner for Refugees (UNHCR), 2022), accounting for 40% of the total number of displaced people. Many forcedly displaced individuals and families originate from similar geographical locations including the Middle East, sub-Saharan Africa, and Latin America. They often seek resettlement in the United States, which currently hosts more displaced individuals than any other nation globally (UNHCR Global Trends, 2022) including a large Hispanic immigrant population which accounts for 18.9% of the total US population (US Population Bureau, 2020).

Displaced populations primarily include refugees and immigrants. Refugees flee their country of origin due to life-threatening circumstances such as persecution, conflict, human rights abuses, or violence (UNHCR) and are offered international protection by the United Nations under multiple laws including the 1951 Convention on the Status of Refugees and the 1967 Protocol (UNHCR). Immigrants, on the other hand, are not granted international protection, lack an official legal definition, and the term covers a wide range of different types of population movements. While refugees and immigrants sometimes share similarities in their pre- and peri-migration experiences, the circumstances of their exit and entry, the associated degree of distress,

and the circumstances of their departure are often different (d'Abreu et al., 2019; Berry, 1997). Commonly cited reasons for immigration to the US include seeking a more prosperous life, employment and education opportunities, economic advantages, better healthcare, and joining family members living in the new country (United Nations International Organization of Migration, UN IOM). A comprehensive understanding of refugee and immigrant contextual factors and differences both pre- and post-arrival in the US may be important for informing family-based interventions for these populations.

Trauma and the Migration Experience

Refugee and immigrant families are both vulnerable to traumatic experiences at the pre- and peri-migration stage (Betancourt et al., 2012; d'Abreu et al., 2019). Pre-migration experiences are often characterized by fear, insecurity and multiple displacements within the country of origin, where individuals undergo civil and political human rights violations, political violence, and imprisonment (Steel et al., 2009). Particularly for refugees, the movement of departure from an insecure context to a more stable environment is often disrupted by attacks from armed bandits, loss of family members due to illness or violence (Lustig et al., 2004), and exposure to communicable diseases and food insecurity in camps for refugees or internally displaced populations (IDPs). Consequently, conflict contexts often cause significant ruptures in education pathways in addition to the breakdown of family and societal structures (Devakumar et al., 2015), significantly impacting their individual well-being and family functioning (Chen et al., 2017; Lindencrona et al., 2008; Reed et al., 2012). While these experiences may be experienced by immigrant families also, research has shown that refugees are disproportionately affected (Betancourt et al., 2012; d'Abreu et al., 2019).

Previous trauma places individuals at higher risk of a wide range of mental health problems (Blackmore et al., 2020) such as anxiety (Steel et al., 2009), Post Traumatic Stress Disorder (PTSD) which is approximately 8 times higher, and depression 2.6 times higher, among refugees and asylum seekers than the general population (Blackmore et al., 2020). General prevalence rates show that approximately 30.6% of refugees suffer from PTSD and 30.8% from depression (Steel et al., 2009). Meanwhile it is estimated that 6.8% of Hispanic populations in the US experience major depressive episodes (National Survey on Drug Use, 2019).

Migration, Intercultural Contact, and Acculturative Stress

These mental health concerns and psychological distress (Li et al., 2016) continue to impact immigrant and refugee families many years after the migration process (Blackmore et al., 2020) and are often compounded by additional stressors upon arrival in the resettlement country. These stressors are often a result of intercultural contact and the acculturation process (Schwartz et al., 2010; Berry, 2009; Berry, 2022), which includes the cultural and psychological change and challenges that occur between cultural groups and their individual members as they attempt to adjust to life in a new context with different values, norms, and beliefs (Redfield et al., 1936; Berry, 2022).

Intercultural contact can pose a host of challenges for displaced families such as discrimination, racism, linguistic barriers, and increase the sense of marginalized identities (Abdi et al., 2021). Displaced families generally report acculturative stress, which is stress in response to intercultural contact or the cultural adaptation process (Berry, 2006). Acculturative stress is experienced in relation to accessing services, financial difficulties, employment challenges, poverty, and housing concerns (Bergnehr, 2015; Knipscheer & Kleber, 2006; Bask, 20025; Yako

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& Biswas, 2014; Stewart et al., 2015; William, 2011; Bettmann et al., 2015), which restricts their access to essential resources for effective adjustment in a post-migration context (Collie et al., 2010). Acculturative stress has also been associated with psychological distress, feeling homesick (Tartakovsky, 2007), depressive symptoms (Lorenzo-blanco, 2017; Henley & Robinson, 2011), substance use (Lozano, 2022), and impaired psychosocial functioning (Wang et al., 2010). Caplan (2007) has categorized these stressors into three main components: 1) environment/instrumental stress including financial burdens, language barriers and limited access to education; 2) social/interpersonal stress such as the loss of social support and status, intrafamilial conflict in the new country and; 3) societal stressors such as discrimination.

Acculturative Stress, Family Functioning, and Parenting Challenges

While acculturative stress has been shown to impact the mental health of displaced families and individuals, most research on the impact of acculturative stress to date has been conducted predominantly among immigrant populations in the US with limited attention to the context of departure (Schwartz & Zamboanga, 2008) and has focused primarily on individuals (Berry, 2022). In fact, the impact of migration and acculturative stress on families and family processes are frequently ignored in research with much less known about refugee acculturation processes (Berry, 2022; d'Abreu et al., 2019). Research to date has shown that migration and acculturative stress impact multiple levels of family functioning including parental mental health, parenting practices, the hinderance of parental goals (Vasthagen et al., 2022), and the disruption of parent-child relationships (Kuczynski et al., 2011; Sam, 2014; Berry, 2007; Dimitrova et al., 2014; Williams, 2010). Additionally, the migration process has also been shown to impact child

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outcomes including child internalizing problems (Calzado et al., 2019), hyperactivity, conduct difficulties, and emotional problems (Bryant et al., 2018).

Limited and preliminary research on refugee parenting has indicated that migration disrupts parenting practices in various ways. Merry et al. (2017) conducted a meta-analysis of the impact of migration on parenting, identifying three common themes that impact family functioning, namely 1) the experience of difficulties and loss including trauma and the migration process; 2) building resilience through language acquisition, adaptation to norms and cultural expectations; and 3) navigating transnational living including obligations, challenges and resource management. Other research has identified that parents experience emotional exhaustion, resort to more authoritarian styles of parenting, and struggle with their children's emotions in a post-migration context (Eltanamly et al., 2021). Additional studies have identified changes in parenting styles according to the nature of war exposure such that parental harshness, hostility, inconsistency and less warmth were demonstrated in situations of high risk whereas parents resorted to increased warmth and overprotection under threatening situations (Eltanamly et al., 2021).

While immigrants and refugees experience similar acculturative stressors that hinder parenting practices in a post-migration context, most studies to date have examined stressors experienced by single cultural groups, with few studies comparing refugee and immigrant experiences (Patel et al., 2017; Betancourt et al., 2015; Yako et al., 2014). Studies comparing refugee and immigrant acculturative stressors have focused more so on differences between Asian American and Hispanic cultural groups (Sangalang et al., 2018) with almost no studies on

a comparison between major refugees and immigrant populations in the US originating from regions with current active conflict zones such as Middle Eastern and African refugees.

Conceptual Frameworks about Displaced Parenting

Most theoretical frameworks to date explain the factors impacting displaced families through Brofenbrenner's Ecological systems model (Blanco-Vega et al., 2018) which details how ecological factors impact adjustment on various levels of functioning in a post-migration context. Berry's Acculturation Model (2022) utilizes this framework to describe the process by which acculturation in a post-migration context impacts family process such as enculturation, which identifies parenting as an essential avenue for the transmission of the cultural beliefs, heritage practices, values, and customs of the country of origin to the children (Berry, 2022). Parenting in this context has an additional layer of complexity whereby parents navigate multiple transitions including an individual acculturation process, a functional role adaptation, and a transition to a new parenting context in which they assume the role of transmitting cultural heritage values to their children while also assisting their children adjust and acculturate. This paper is framed within the broader context of Berry's acculturation model – that families engage in a process of acculturation in a new country, yet Berry's model is limited in its description of the specific mechanisms involved in the enculturation process.

The family stress models provide a more detailed description of the disruption and challenges experienced by parents who have migrated from contexts of forced migration or with traumatic experiences and how these experiences interfere with child outcomes, which is described in Berry's model on a more macro level. The family stress model seeks to understand how external stressors, in this case forced migration, trauma, and psychopathology, impact

parental wellbeing, parenting practices, family functioning and therefore child outcomes (Gewirtz, 2018; Elder et al., 1985). Using this model, the migration process may increase parental psychological distress via pre- and peri- migration traumatic experiences which are compounded by acculturative stress in a post-migration context.

Displaced Parenting Intervention Programs

Given the unique challenges experienced by refugee and immigrant parents and families, examining family acculturation processes including how acculturative stress and prior traumatic experiences impact intrapersonal and familial functioning is essential to inform the development of appropriate prevention programs (Wagner et al., 2008). The family stress model emphasizes parenting as the mediator between stressors such as acculturative stress, trauma, and migration challenges and child outcomes (Gewirtz, 2018; Masarik & Conger, 2017). To ensure an effective response to refugee and immigrant parenting and family needs, it is essential that parenting interventions are informed by both established prevention strategies and by parents' perceptions of their current needs (Vasthagen et al., 2022). A baseline knowledge of PTSD and other relevant mental health symptoms commonly experienced by displaced parents such as depression are key to informing programs.

Very few trauma-informed parenting interventions currently exist for displaced families (Vasthagen et al., 2022; Gillespie et al., 2022; Uphoff et al., 2020). While some evidence-based programs have been translated into Spanish for the large US Hispanic population (Kim et al., manuscript in preparation), surprisingly few have been contextually adapted for the specific needs of forcedly displaced families, particularly for refugees (Gillespie et al., 2022). There are also currently no parenting programs available in languages that the major refugee groups in the

US speak such as French and Arabic. Well-established, evidence-based parenting programs for children with internalizing and externalizing behaviors (Kazdin et al., 2018; Sandler et al., 2014) have shown some efficacy among refugee families in high-income countries (Fazel & Betancourt, 2018; Perera et al., 2018), while other programs have been developed for parenting in refugee camps, or to internally displaced populations. Each program, to some extent, has been culturally adapted to ensure the language of delivery was appropriate, community engagement was included in rapport building, the facilitators were ethnically matched, and that the method of delivery was adequate to the setting, yet deeper structural changes such as adapting content to refugee contexts and depicting relevant parenting scenarios, were not evidenced (Gillespie et al., 2022).

Additionally, a recent meta-analysis showed that parenting programs for displaced populations have shown limited effect on parental mental health and reasonable child outcomes, potentially due to methodological concerns such as not measuring lifetime or recent exposure to traumatic events and unique stressors of the post-migration context (Gillespie et al., 2022).

To date, no research is available on how trauma symptomatology, and acculturative stress impact acceptability of parenting programs. While acculturative stress has been shown to impact the mental health of refugees and their parenting practices, it remains to be shown whether a parenting program that represents these acculturative stressors and parenting struggles is acceptable to displaced parents.

Parenting in the Moment (PIM)

Parenting in the moment (PIM) is a contextually-adapted, trauma-informed parenting program for families in the context of forced migration available in four languages (English,

French, Spanish, Arabic). It is a contextual adaptation of the After Deployment: Adaptive

Parenting Tools (ADAPT), a parenting intervention for deployed parents which has been shown

to decrease PTSD symptoms in mothers and improved outcomes in child adjustment (Gewirtz et

al., 2019). ADAPT itself is an adaptation of the Parent Management Training Oregon (PMTO)

model, a well-established parenting intervention targeting parenting skills for children

demonstrating externalizing behaviors. PMTO has demonstrated efficacy and effectiveness

across context, cultures, and contexts (Forgatch & Kjonli, 2016). PMTO and ADAPT are based

upon a social interaction learning (SIL) framework which states that environmental stressors may

disrupt parenting practices, increasing coercive or ineffective parenting strategies thereby

impacting child outcomes (Forgatch and Patterson, 2010). Interventions that focus on effective

parenting practices will reduce coercive strategies and increase positive child outcomes. ADAPT

extended the PMTO model to address parenting challenges in relation to both externalizing and

internalizing child behaviors via emotion socialization. Emotion regulation strategies are

embedded within ADAPT, serving to increase positive emotion coaching of children (Gewirtz,

2018). The inclusion of emotion socialization strategies has been particularly effective for

parents with a history of traumatic events and has been shown to decrease PTSD symptoms in

mothers and decrease suicidality in deployed military parents (Gewirtz, 2016).

PIM was contextually adapted using two central models: 1) Resnicow's model of cultural

sensitivity (Resnicow et al., 2000) which defines cultural sensitivity as a bi-structural process

occurring at a surface and deep level. Surface structural level relates to observable aspects of a

specific population's culture such as dress, language, food, and music. Deep structural level

sensitivity relates to cultural, social, historical, environmental and psychological factors that are

specific to the target population; 2) Bernal's Ecological Validity Model (EVM) which identifies 8 elements of cultural sensitivity to be considered when contextually adapting an intervention, namely language, persons, metaphors, content, concepts, goals, methods, and context (Bernal et al., 1995). As a contextual adaptation of ADAPT, PIM is well placed to address 1) PTSD or other internalizing symptoms of traumatic experiences via emotion regulation strategies; 2) potential conflict in the parent-child relationship and parental mental health symptoms as a result of acculturative stress and the acculturation process; and 3) potential coercive parenting strategies.

PIM has fifteen modules: 1) Introduction; 2) Values and Goals; 3) Effective Directions; 4) Teaching Positive Behaviors; 5) Teaching new behavior with tokens; 6) Ways to be present; 7) Recognizing emotions; 8) Responding to difficult emotions; 9) Communicating with children; 10) Setting limits; 11) Solving family problems; 12) Managing family conflict; 13) Monitoring and supervising children; 14) emotion coaching; and 15) Conclusion. Each module comprises a short "skill video" which introduces the skill, its importance for effective parenting, and shows parents demonstrating the skill in ineffective and effective ways. The videos end with a summary of the skill and encouragement to practice the skill at home.

Study Aims

The current study examines acculturative stress, posttraumatic stress symptoms, and program acceptability in a small group of refugee and immigrant families recruited for the PIM intervention. The three cultural groups selected for the study included parents from Syria, the Democratic Republic of Congo, and Hispanic countries. These groups represent the largest refugee and immigrant populations in the US and they speak the languages of the PIM program.

This study has four central aims:

Aim 1: Describe and compare refugee and immigrant parent participant reports of (i) posttraumatic stress symptoms and (ii) levels of acculturative stress.

Aim 2: Describe and compare PIM program acceptability among immigrant and refugee parents.

Aim 3: Describe associations between program acceptability and participants' perceptions of the degree to which acculturative stressors are addressed within PIM program content.

Aim 4: Examine the relationship between program acceptability and participants' report of their own acculturative stress.

CHAPTER 2

METHODS

Study Design

The study used an exploratory mixed methods design using qualitative data gathered from semi-structured interviews as well as descriptive quantitative data gathered from survey data obtained prior to focus group discussions (FGDs). The FGDs were held in May and June 2023 as part of the Parenting in the Moment feedback sessions. The study was approved by the ASU IRB committee (STUDY00017254).

Procedure

Recruitment of Participants

Initial Recruitment. Purposive and snowball sampling was used in this study. To recruit DRC participants, recruitment messages were sent to the Democratic Republic of Congo Community Center of Arizona Community Leader, local Congolese church leaders and in-person visits to Congolese refugee churches were conducted following an invitation from a Congolese refugee community member. Syrian refugee participants were recruited initially via a recruitment message sent to the President of the Syrian Community Center in Phoenix. After initial participants were recruited, participants referred friends and family members for study participation. Hispanic participants were recruited via recruitment messages over WhatsApp to community members who disseminated the message amongst other Hispanic community members.

Participant Demographics. A total of 40 participants (13 male, 27 female) were recruited including Hispanic immigrants (n = 9 participants), DRC refugees (n = 15 participants) and

Syrian refugees (*n* = 16 participants). Participants were 36 years on average (M=36.94, SD 6.82) and spoke Arabic, Spanish, Swahili, English, French and Lingala at home. Participants had on average 4 children per household (M=4.28, SD = 1.91). Participants had been living in the US on average for 5 years (M=5.07, SD=1.66). Some participants had been in the US less than 6 months while 53.9% of participants have been for 6 years or longer. Most participants were married (n = 38), 33% of the sample could not speak English and 23% were fluent (see Table 1 for participant demographics). The number of traumatic experiences varied significantly among individuals from 0 – 33 events per person (see Table 2).

Initial Phone Consent. Interested participants provided initial consent to participate in the study over WhatsApp, email, or a phone call explaining the study purpose and an overview of consent. Participants who did not have children between 4-12 years old, did not speak the languages of PIM, or who were born in the US were excluded from the study. Communication with Syrian participants was facilitated by ASU Syrian refugee students who interpreted when required.

Zoom Consent. Following initial consent, a Zoom meeting was scheduled with groups or individual participants, depending upon their availability. Participants who did not have Zoom installed on their phones or who had difficulties connecting to the meeting were provided with individual support from the interpreter. Some participants received assistance from their children. The full consent was explained to participants and participants were given an opportunity to ask questions. Some participants requested additional information on the purpose of the study, its intended audience, and the researcher's political affiliations before consenting to the study.

Survey Completion. Following consent on Zoom, participants received a Qualtrics survey link to the mobile phone or over Zoom chat as per participant preference. Participants completed the survey while the interpreter and researcher remained on Zoom for Syrian and Hispanic participants to answer questions on the survey or for technical assistance. Many DRC participants preferred to complete the survey in their own time rather than on Zoom. The average completion time for the survey varied significantly between 10 minutes to over an hour and varied according to literacy levels. Most participants completed the survey in 25 - 40 minutes. One female Syrian participant required assistance from her husband to complete the survey due to illiteracy and the researcher orally administered the survey to two female DRC participants as per participant request. Surveys were completed in the participant's language of preference: French, English, Spanish, or Arabic.

Focus Group Discussions. Focus group discussions (FGDs) were scheduled with participants either during the Zoom call or via WhatsApp messages and were determined based on participant availability. A total of 14 FGDs were held, one of which was an individual interview due to other scheduled participants not attending. An interpreter was present for two of the Hispanic FGDs and all four Syrian focus groups. The researcher provided interpretation for the French FGDs. FGDs followed the protocol in Appendix A. Participants watched PIM videos and completed a usability survey after each video. After the final video, participants completed an acceptability survey which asked questions about all the videos they had viewed. An interpreter provided oral interpretation of the surveys during Syrian FGD 2 due to low literacy levels of some participants. These surveys varied in length during DRC FGDs also depending upon literacy levels. FGDs were held in person and online depending upon participant

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availability. Due to an uneven number of videos, the first two FGDs held in each language

watched 4 videos while the third group watched the remaining three. One group watched 2

videos due to time constraints (See Appendix B for details of each group).

FDGs were audio recorded. Participants received $100 in cash if they attended in person

or via Zelle or the Cash app if they attended the group online. Cash was delivered to three partic-

ipants in person who attended online. Participants then signed a Receipt of Payment as a hard

copy or via e-sign over WhatsApp. Parking costs were reimbursed for participants who attended

groups in Research Education Advancing Children's Health (REACH), Arizona State University

(ASU) as parking was free on ASU West Campus.

Measures

The following surveys were translated using the translation-back translation method for quality

assurance into French, Spanish, and Arabic by native speakers if the surveys did not already exist

in the target language. Surveys translated are noted below.

Acculturative Stress

The Demands of Immigration Scale (DI) (Aroian et al., 1998, 2001, 2008) is a validated

23-item self-report scale measuring six dimensions of stressors in the migrant experience,

namely loss, novelty, occupational adjustment, language accommodation, discrimination, and not

feeling at home in the resettlement country. Participants are asked to rate how upset or bothered

they are by each of the problems listed. It includes items such as "I do not feel that this is my true

home", "I am disadvantaged in getting a good job", "Americans treat me as an outsider", and "I feel sad when I think of special places back home". Participants rate the items on a Likert type scale of 0-5 where 0 is not at all upset and 5 is very upset. The survey has been validated among a variety of immigrant and refugee populations including Arab women (Aroian & Norris, 2003, 2008; Aroian et al., 2017). The DI was already available in Spanish, Arabic, and English and was translated into French during this study. The cronbach alpha score for this measure was $\alpha = .917$.

Trauma History

The Trauma History Questionnaire (HTQ5 Part 1: Trauma Events) is a self-report measure which assesses history of traumatic events with a yes/no response. The English version is a 41-item measure yet it is recommended that the survey be tailored to each cultural group according to context. Therefore, the Spanish version is a 47-item measure and the validated Arabic version is a 44-item scale. Items include "witnessing torture", "murder or death due to violence or other family member or friend", "kidnapped", "rape", "imprisonment", "beating to the body", "enforced isolation from others". Items specific to the Arabic version included "oppressed because of ethnicity, religion, or sect", "witnessed the desecration or destruction of religion shrines or places of worship", "witnessed the arrest, torture, or execution of religious leaders or important members of tribe", "witnessed chemical attacks on residential areas or marshlands", and "witnessed rotting corpses". The HTQ5 has been validated among large and diverse refugee and trauma-exposed samples (Sharma et al., 2022; Tay et al., 2017; Patel et al., 2022; Shoeb et al., 2007; Mollica et al., 1992). For this study, the English version was translated

into French (Berthold et al., 2018). The Torture Appendix was not translated or used for this study.

PTSD

The HTQ-5 includes a 25-item PTSD measure (Part 5: Trauma Symptoms DSM-V) which has recently been revised to measure PTSD symptoms according to DSM-V criteria. Participants are asked to rate items according to how much they were bothered by the item over the past week. Items are rated on a Likert type scale of 1 - 4 where 1 is not at all and 4 is extremely. Items include "feeling that you are a bad person", "feeling like you have been damaged as a person by the traumatic event", and "feeling people or objects around you are not real or strange". The measure was fully translated into French and the items modified to reflect DSM-V changes were translated into Spanish and Arabic for this study. The reliability and validity testing for the 9 modified DSM-V items are currently underway (Berthold et al., 2019) although the reliability and validity of the measure under DSM-IV criteria is well-established (see citations under HTQ5 above). The Cronbach alpha score for this measure was $\alpha = .917$.

Anxiety / Depression

The Hopkins Symptom Checklist (HSCL) is a 25-item depression and anxiety measure included within the HTQ5. Items 1-10 measure anxiety and items 11-25 measure depressive symptoms. Items include "trembling", "headaches, "nervousness or shakiness inside" for anxiety and "feeling low in energy, slowed down", "feeling lonely", "feeling of being trapped or caught" and "thought of ending your life" for depression. Participants are asked to rate items according to

how much they were bothered by the item over the past week. Items are rated on a Likert type scale of 1 - 4 where 1 is not at all and 4 is extremely. This measure has been widely validated across cultures (see HTQ5 citations). This measure was translated into French for the current study. The Cronbach alpha score for this measure was $\alpha = .917$.

The Patient Health Questionnaire (PHQ-4) is a validated 4-item self-report screening for depression and anxiety. Items include "feeling nervous, anxious or on edge" and "feeling down, depressed or hopeless". Participants are asked to rate the frequency with which they have experienced these symptoms on a scale of 0 – 3 where 0 is "not at all" and 3 is "nearly every day" (Lowe et al., 2010; Kroenke et al., 2011). The PHQ-4 has been validated in general, international, and Hispanic populations (Löwe et al., 2010; Lenz et al., 2022; Mendoza et al., 2022) This survey currently exists in English and was translated into French, Arabic, and Spanish for this study. The Cronbach alpha score for this measure was $\alpha = .804$.

Cultural Expressions of Trauma

The Cultural Symptoms of Trauma (CSL) measure is a newly-introduced 30-item measure within the HTQ5 and measures refugee and culture-specific functioning across 6 domains: skills and talents, physical impairments, intellectual functioning, emotional functioning, social relationships and spiritual/existential concerns (Bethold et al., 2018). There are 5 items per domain. Items include "feeling that you have less skills to cope with life than you had before" (skills and talents), "feeling sick a lot" (physical impairments), "feeling unable to make daily plans" (intellectual functioning), "feeling guilty for having survived" (emotional functioning), "feeling humiliated by your experience" (social relationships), and "spending time

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thinking why these events happened to you" (spiritual / existential concerns). Participants are asked to rate items according to how much they were bothered by the item over the past week. Items are rated on a Likert type scale of 1 - 4 where 1 is not at all and 4 is extremely. This measure has yet to be validated. This measure was translated into Spanish, French, and Arabic for this study. The Cronbach alpha score was $\alpha = .927$ for this measure.

Acceptability

The PIM acceptability and feasibility survey is a 15-item self-report measure (Tori Simonec, University of Minnesota) which assesses acceptability of the PIM videos for participants. Participants are asked to rate how true the statements are on a scale of 1 to 6 where 1 is not applicable and 6 is very much. The measure includes items such as "I am using the tips and ideas from this program in my parenting", "I felt the video program helped me", and "the parenting skills taught in the videos were relevant to my culture". This measure has yet to be empirically validated. This survey was translated in Spanish, Arabic, and French for this study. The Cronbach alpha score was $\alpha = .827$ for this measure.

Usability

The Intervention Usability Scale (Lyon et al., 2021) is a 10-item measure with subscales of usable (8 items) and learnable (2 items). Participants rate to what extent they agree with the statements. Items were measured on a Likert-type scale from 0 (strongly disagree) to 4 (strongly agree) with half the items reverse coded. Items include "I would need the support of an expert to be able to use the skills in this video in my own life" and "I think the skills in the video are easy

to use." This measure has been recently validated in a US population (Lyon et al., 2021). This measure was translated into French, Arabic, and Spanish for this study. The Cronbach alpha score was $\alpha = .834$ for this measure.

Covariates

The following variables were entered as covariates due to previous research demonstrating their association with mental health outcomes in immigrant and refugee populations. Migration status was entered as a covariate (Haslam & Porter, 2005). Refugees were coded as 0 and immigrants as 1. Gender (Alegria & Woo, 2009), education (Porter & Haslam, 2005), level of fluency in English (Torres et al., 2010), length of time in US (Torres et al., 2010) and time spent in a refugee camp (Ahmad et al., 2000) were also entered as covariates.

Data Analytic Plan

Preliminary Analyses

Preliminary data analyses were conducted using Statistical Package for Social Sciences 27 (SPSS) (IMB Corp, 2019). Two participants did not fully complete the Qualtrics survey measures. Full information maximum likelihood (FIML) was used for missing data (Savalei & Rhetemtulla, 2012). The sample size for this study was small ($n = 40$) therefore effect sizes are to be interpreted with caution. Prior to conducting primary analyses, distributions were examined for outliers to meet normality assumptions and assess skewness and kurtosis of sample distribution (Table 3).

Primary Analyses – Quantitative

Aim 1. Primary analyses on program acceptability, acculturative stress, and PTSD symptoms were completed in SPSS. To assess Aim 1 describing and comparing refugee and immigrant parent reports of PTSD symptoms and levels of acculturative stress, descriptive statistics and an independent t test were conducted (Tables 5 and 6).

Aim 2. For Aim 2, to describe and compare PIM program acceptability of immigrant and refugee parents, we used qualitative and quantitative methods. Qualitative analyses are described below; in addition, an additional independent t test was conducted using sum scores of the PIM Acceptability survey and mean scores of the Usability of Implementation survey.

Aim 3. This aim which assessed the extent to which acculturative stress is addressed in PIM was converted into a qualitative aim (described below) due to concerns regarding participant survey fatigue in adding addition surveys to the focus group which already asked participants to complete surveys on acceptability.

Aim 4. To test Aim 4, examining the relationship between program acceptability and participants' reports of their acculturative stress, sum scores of acculturative stress were regressed on sum scores of program acceptability (Tables 8 and 9).

Primary Analyzes - Qualitative

Translations of Transcripts. After each FGD, audio recordings were transcribed by native speakers and cultural insiders in each respective language. All transcripts ($n = 14$) were deidentified after initial transcription and uploaded onto Dropbox. Transcripts were then translated using a team-based approach for validity purposes by cultural insiders (Brislin, 1968). A cultural insider is a native speaker of the target language who is familiar with the context and culture of the FGD participants and who is thereby able to verify more complex linguistic phrasings or explain contextualized or nuanced meaning of phrases by participants. Two different translators/cultural insiders completed the transcription translations to ensure validity.

Preliminary Codebook. An inductive and deductive approach was used for codebook creation. The English translation of the transcript for each focus group was coded for analysis by a team of coders consisting of 6 graduate-level researchers from the ADAPT lab in ASU and the University of Minnesota. Cultural insiders were included in the Hispanic coding team while Syrian and Congolese cultural insiders were consulted when required. Syrian translators also included notes within transcripts regarding the meaning of culture-specific metaphors or idioms to facilitate the coding process.

Deductive Coding. For deductive coding, categories from the Demands of Immigration survey (loss, novelty, discrimination, occupational adjustment, not feeling at home, and language) were used to measure acculturative stress while the 8 categories from the EVM model

(language, persons, metaphors, content, context, goals, concept, and method) were used to code the construct of acceptability. These categories were coded as structural codes within the data. Transcript segments which did not fit into these categories were coded inductively as described above.

      Inductive Coding. For inductive coding, template analysis was used. Patterns from preliminary data were used to identify broad themes forming the basis of a preliminary framework for the codebook (Brooks et al., 2015). This framework was then applied to the remaining data and allowed for adaptations to the template as new data were analyzed (Brooks et al., 2015). Thematic analysis was used to identify integrative themes that reflect the acculturative stressors experienced by Syrian, DRC, and Hispanic immigrants and refugees. Thematic analysis allowed for the identification of themes and patterns in the qualitative data gathered (Braun & Clark, 2006). It is also a commonly used method of analysis within refugee research particularly when there is limited research already available on the population and topic of interest, such as parenting in the current study (Essex et al., 2022; Merry et al., 2017; El-Khani et al., 2018 & 2016).

      Trustworthiness, Rigor, and Reliability. To ensure coder inter-reliability, reliability testing was conducted after creation of the initial codebook template to examine whether there is code – construct synchrony. The coding team coded two initial transcripts for inter-rater reliability independently and then in a coding meeting to resolve discrepancies. Coders were then randomly assigned transcripts using a fishbowl randomization method and each transcript was double coded. Coding teams coded independently and then held meetings after each transcript to resolve discrepancies or coded the transcript together and resolved discrepancies simultaneously.

Weekly coding meetings were held to discuss discrepancies in coding and to discuss recommended codes. Upon completion of the codebook, community member checking was implemented to ensure the codebook adequately reflected community concerns. The final codebook was shared with the full coding team for feedback and review.

CHAPTER 3

RESULTS

Descriptive Quantitative Analyses

Bivariate Correlations

Table 3 includes the means, standard deviations, skewness, and kurtosis values for study

variables. Preliminary descriptive analyses showed that the distributions of primary study

variables are within acceptable ranges (skewness <|1|, kurtosis <|7|; West, Finch, & Curran,

1995). Table 4 includes bivariate correlations between all study variables. An analysis for

outliers was also conducted in SPSS with 5.1% of outliers noted across all variables, therefore no

data points were removed from the analyses.

General

After a Bonferroni correction, correlations showed that religion significantly correlated

with country of origin ($r = -.559$, $p = <.001$). Country of origin ($r = -.618$, $p = <0.001$)

significantly correlated with time in a refugee camp. Levels of English fluency were positively

correlated with level of education ($r = .652$, $p = <.001$), number of children ($r = .567$, $p = <.001$),

and length of time in the US ($r = .648$, $p = <.001$).

Program Acceptability, Acculturative Stress and PTSD

Age correlated significantly with program usability ($r = -.529$, $p = 0.001$). No other

variables correlated with program acceptability using the EVM model or program usability. No

variables correlated with acculturative stress measured via the Demands of Immigration survey.

Among PTSD symptoms variables, scores on the HSCL ($r = .740$, $p = <.001$), CST ($r = -.829$, p

25

= <.001), were positively correlated with PTSD scores indicating a correlation between anxiety, depression, cultural expressions of trauma and PTSD levels.

Primary Analyses

Aim 1 - Quantitative Results

Aim 1 sought to describe and compare refugee and immigrant parent reports of PTSD symptoms and levels of acculturative stress. Mean scores showed that this sample of immigrants and refugees reported relatively low levels of both PTSD and acculturative stress. Mean PTSD scores were below clinical thresholds (M = >2.5) on the HTQ5 PTSD measure for both refugees (M = 1.62) and immigrants (M = 1.74). Only 3 participants reached the clinical cutoff for PTSD in the study sample with one participant from each cultural group represented. Similar results were found on the HSCL for refugees (M = 1.51) and immigrants (M= 1.58) where the clinical cutoff for anxiety/depression is >1.75. Fourteen participants were above the 1.75 cutoff on the HSCL (11 refugees (5 DRC, 6 Syrian), and 3 immigrants (Hispanic participants)). Despite relatively low levels of PTSD, all groups showed relatively high scores on depression/anxiety. On the PHQ4, scores for both refugees (M = 6.26) and immigrants (M = 7.6) were in the moderate range for anxiety and depression (See Table 10 for PHQ4 scoring). On the CST, immigrants (M=1.70) and refugees (M=1.57) also reported similar scores. The clinical cutoff for this measure has not yet been determined as it has been newly-introduced to the HTQ5. The participants in this study experienced a range of traumatic events (0- 33 traumas endorsed per individual) with refugees endorsing a higher mean of traumatic events (refugees M = 7.4; immigrants M = 2.5) (see Table 2).

Immigrants also reported higher acculturative stress levels (M= 26.3) compared to refugees (M = 21.8) on a scale with a total possible score of 69. However, comparisons of acculturative stress and mental health symptoms between immigrants and refugees showed no significant differences.

Aim 1 - Qualitative Results

Qualitative results for Aim 1 showed that similar acculturative stressors were noted among immigrant and refugee populations. Acculturative stress was conducted deductively and inductively with two central themes identified: 1) Initial adjustment stressors (coded deductively using the Demands of Immigration survey subdomains (see Appendix C)) and 2) Daily stressors of resettlement (coded inductively). Results from deductive coding showed that occupational adjustment, discrimination, language and loss were the most commonly reported themes. Novelty and not feeling at home were infrequently mentioned by all participants.

Initial Adjustment Stressors. Participants noted difficulties adjusting to work culture different from their home country in the US including workload expectations, disrupted gender norms requiring both mother and father to work. As an example, a DRC refugee said, "*it's just too much work*". Work stress was further described by a DRC refugee in terms of having a difficult time creating rapport with supervisors and adjusting to a new work culture, "*most feel like supervisors are following them, giving them a hard time…it brings depression and stress*". Immigrants and refugees reported experiencing discrimination in the work context, as one DRC participant described, "*I had a supervisor who was racist…everything I did was bad*". Discrimination was also identified as a stressor outside the work space with a Hispanic

immigrant describing discrimination stress in relation to fears their children would be bullied at school. This fear was described as something new and surprising, "*an insecurity that I didn't have before*".

Additionally, language emerged across all cultural groups as a significant source of stress, hindering access to work opportunities available in their country of origin and serving as a barrier to effective communication in interpersonal interactions in the host society. As a Syrian refugee noted, "*language is the main struggle*". Language difficulties also limit access to work, education services, and communication with teachers about their child's education, "*I want to talk to the teacher. I can't. This thing bothers me*" (Syrian participant). While some parents struggle to adjust to the language, others reported difficulties parenting in the US and stressors related to attachments and family members back in their country of origin. Due to parent-child acculturation gaps, a DRC refugee reported that, "*I wish I could go back in my country*" to raise children there and thereby reduce parenting stressors. Another DRC refugee reported significant distress at leaving family members behind in high-risk situations in a refugee camp, "*I left my little sister, my little brother in the camp…*" and this same participant reported this ongoing stress has a negative impact upon daily functioning, "*you eat but you don't know if you little [brother], he didn't eat…you feel bad and you feel painful*".

Daily Stressors of Resettlement. Additional stressors were identified through inductive coding for both immigrants and refugees concerning daily living resettlement stressors. Immigrants and refugees reported significant difficulties providing for the basic needs of their families inducing financial stress, difficulty affording the cost of living in the US, and feeling over-

whelmed with the need to provide adequately for their families. A Hispanic immigrant commented that "*there are times when they can't make ends meet"* while a DRC refugee reported stress at disrupting traditional gender roles, as "*the man, you have to work and bring something to the house to pay bills. But here's that's not the case. Your wife also works*". In addition to providing for needs of family members in the US, DRC participants reporting feeling a responsibility to financially support family members at home, "*everyone has family members in refugee camps…they're under our responsibility*".

In addition to stressors related to providing for their families, immigrants and refugees noted significant interpersonal and family-related stressors, firstly with general parenting. Parents noted specific stressors related to emotion regulation in response to child behaviors, and in particular child non-compliance. A DRC refugee noted that "*when the kids don't really listen, that really stresses me out*" and a Hispanic immigrant stated, "*I end up yelling at them because they don't listen to me, and then I feel very bad for being a bad mom*". Participants explained that regulation difficulties are exacerbated by lack of childcare, limited family support, and restricted parent freedoms. As a DRC parent mentioned, "*I'm here by myself, I don't have my family here…anyone who can help me to care for my kids*" and "*being a parent is being a prisoner*" whereas in the country of origin children are able to play outside with much less supervision from parents.

General parenting stressors were noted by participants as being exacerbated by lack of family/spousal support, feeling unappreciated by one's spouse, and difficulties co-parenting. A Syrian refugee stated that "*if there was cooperation between a married couple, life would be eas-*

ier to handle", including support with general household and parental responsibilities, which exacerbate current stressors. While these stressors were reported by female participants, a male Syrian refugee explained desiring to show acts of appreciation to his wife, yet extra-familial stressors increase the difficulty of being able providing the support he would wish, "*I have a lot of pressure on me, and the wife also has the right to be taken out…because of these pressures I am negligent*". Some refugees noted a rise in divorce rates post-migration, family separation, and marital conflict upon arrival in the US. A Syrian refugee noted, "*because there is no awareness of the way of upbringing in America*" while others attributed the stressor to retaining culturally-consistent gender norms, such as a DRC refugee who said, "*we just the behavior, the one we use in our country…a lot of divorce in our community*". DRC refugees reported disrupted gender norms contribute to family separation, "*in our culture wives are submitted to their husbands… but once we get here, a lot of families are struggling…their wives don't listen to them*". Another participant noted that intimate partner violence can happen as a result of stress and "*because of stress and depression… they don't know how …to cope with those kinds of issues*". Some refugees noted that the psychological impact of migration and adjustment is particularly acute within the first month of arrival. A Syrian refugee commented, "*moving from one country to another affects the psyche of the family in general, children and everyone…you see this person getting mad without anyone causing the anger and another person getting depressed*".

Inductive coding also revealed that involvement with Department of Child Safety (DCS) was of primary concern among the DRC refugee community. Refugees reported feeling stress regarding children reporting their parents to DCS and teachers teaching children to report or questioning children about family dynamics. As a DRC parent explained, "*we send our kids to*

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school to learn, to be educated, not for them to start putting the kids some bad thoughts". The

role of a teacher was reported as conflicting with native perceptions of a teacher's role. A DRC

parent explained, "*we're also embarrassed about that sometimes*", and they mentioned "*that*

shows our children that the police is the solution to their problem" while another DRC parent

stated that involvement with DCS impacts her reputation, "*as a mother, your reputation gets*

spoiled".

Aim 2 Quantitative Results

Aim 2 sought to compare program acceptability of immigrant and refugee parents.

Program acceptability was high among both groups (Hispanic immigrants (M=69); refugees (M

= 64) out of a total possible score of 78) (see Table 7). Program usability scores were similar for

immigrants (M=54) and refugees (M=44) out of a total score of 100 (see Table 7), representing a

moderate usability score. Similar to Aim 1, there were no significant differences between

immigrant and refugee acceptability of the program (F = 1.284, *p* = .268) as measured by the

EVM model of program acceptability.

Aim 2 Qualitative Results

Qualitative results also showed acceptability amongst both immigrants and refugee

participants while participants noted some difficulties with usability, in alignment with

quantitative results. Two themes emerged from the coding of acceptability: 1)

Cultural/Contextual acceptability and 2) General acceptability. Cultural/contextual acceptability

was coded deductively using the EVM model with 8 domains of acceptability domains (context,

language, persons, metaphors, content, goals, concepts and method) (see Appendix D for

detailed descriptions and definitions of each subtheme) and general acceptability was coded inductively.

Cultural / Contextual Acceptability. Participants noted the videos were culturally acceptable based on the subthemes below.

Context. Within context, immigrants and refugees reported the videos accurately reflected their current and daily experiences as parents with a Hispanic participant noting, "*almost everything happens to me*". Immigrants and refugees also expressed high acceptability of the skills demonstrated in the videos, although acceptability of content regarding specific skills varied within refugee cultural groups. Hispanic immigrant parents showed high acceptability of emotion regulation content which accurately reflected culturally consistent responses to emotions, with one mother commenting, "*when children don't want to pick up their toys, and then she gets frustrated and yells at them. That's it. That's me. I saw myself in that situation*". Some Syrian refugees reported high acceptability of the skills as they are current culturally consistent parenting practices, "*most Syrians treat their kids gently; this is how the Syrian culture is*". However, other Syrian refugees mentioned some important cultural values were missing, "*the videos lack addressing the issue from the Islamic side or the Christian side. It helps to introduce faith into parenting*". DRC refugees consistently reported that some child behaviors modeled do not occur in their culture, "*the video you showed was very extreme. Kids typically do not throw a tantrum like that, so they don't just come in and throw stuff at their parents…because we respect our parents a lot…nobody can do that*".

Goals. High acceptability of PIM goals – to promote positive child-parent interactions - was also expressed across cultural groups. Immigrants and refugees noted that the videos motivated parents to adjust their culturally consistent parenting practices and improve engagement within their families to parent in a new context, as noted by a Hispanic immigrant, "*it kind of makes me reflect to restructure and reorganize myself to work with my family*" and a Syrian refugee, "*we have to change our way of raising here. At the same time, we don't want our children to get lost*". A DRC refugee also explained how the videos assist her in adjusting how she interacts with her children, "*I just learned a lot about what I didn't know because sometimes I have problems with my kids, the way I react…today I just learned many things, the way I can treat my kids, the way I can understand them.*"

Concept. Similarly, concept acceptability was high across immigrant and refugee groups, with similar codes emerging from the groups including the importance of communicating effectively with children as a generally acceptable practice and an essential tool for adjusting culturally consistent discipline strategies. A Syrian refugee responded to the video, "*being angry and violent will not solve anything*" while a DRC refugee stated, "*what I've learnt from the videos...how you're supposed to talk to your kid*" and "*if you…hit the child...this isn't something that works in the US. That's why it's better to talk to them*". In addition to effective communication, emotion regulation strategies emerged across immigrants and refugees as highly acceptable. A Hispanic participant explained, "*that's why many of us are interested in watching videos that help us recognize our emotions*" and a DRC participant emphasized the importance of implementing the strategies, "*instead of reacting…if I don't push myself back by taking a long breath in and out…it's going to push me to react*".

Method. The method of video was mentioned infrequently as helpful, and only Hispanic

reporters noted this, "*it was very practical, short, not too long so you don't get bored.*" While

one DRC participant mentioned, "*it's helpful to speak all languages, Swahili, French Lingala,*

because we have a lot of languages" emphasizing the importance of native language accessibility

for the Congolese community which has diverse local language groups.

General Acceptability. While participants reported cultural acceptability of the videos,

participants also demonstrated general program acceptability – yet participants reported mixed

findings regarding the usability and ability to implement the strategies recommended. Immi-

grants and refugees reported the videos were easy to understand yet difficult to implement in the

moment, for example a Syrian refugee stated, "*they are easy, but their implementation is diffi-*

cult" although a DRC refugee noted a willingness to try, "*it's really difficult…but I'm going to*

try". Within the FGD, a Hispanic immigrant noted her motivation to implement the strategies by

taking photos on her phone of the steps in each skill shown at the end of the video, "*I took a pic-*

ture to put it into practice". Many participants also reported wishing to acquire the skills shown

or already using some of the skills. Syrian refugees expressed acceptability by reporting already

using some of the skills, such as teaching through encouragement, "*I am applying these things in*

my house…if I want help from them, for example, by promising to take them on a trip". However,

some Hispanic immigrants and DRC refugees explained that they would like to learn more be-

fore being able to implement the skills recommended. As an example, a DRC refugee stated,

"*there's a lot to learn about being a father or a parent*" and a Hispanic mother noted, "*I would*

*like to learn more so that I can teach my daughter*s". A final subtheme emerged for acceptability

which encapsulated acceptability statements which did not fit into other categories. Within this

code, parents expressed a desire to disseminate the videos more broadly with their husbands, as a Syrian refugee stated, "*we need to show our husbands these videos*". A DRC refugee also expressed a desire to disseminate it in their local communities, "*I think all of the church would watch this*" while a Syrian refugee stated, "*I wish there would be more of these videos [to] reach a greater number of refugees*".

Aim 3

Aim 3 examined the associations between program acceptability and participants' perceptions of the degree to which acculturative stressors are addressed within PIM program content. Qualitative results showed that participants perceived the program adequately reflected and addressed the main stressors encountered on a daily basis.

Context. Within the subtheme of context coded under the theme of cultural acceptability, Hispanic participants noted that "*almost everything happens to me*" while a Congolese refugee commented, "*what we saw in the video…that's what we're facing*". Within Syrian FGDs, one participant stated, "*it's very similar to our life*". While all cultural groups commented on the current relevance of the videos, a Syrian participant reflected upon the videos depicted more accurately the experiences of newly-arrived refugees in the US – "*it's an idea that is completely identical to reality…the first month we arrived here*" suggesting that stage of acculturation and length of stay in the US may be associated with contextual relevance perceptions.

Perceived program benefits. Syrian refugees also expressed acceptability of the program by reporting they were already using the recommended emotion regulation strategies to respond to their stressors, "*we get nervous, we go outside the house…which matches exactly*". Under the subtheme of perceived program benefits, parents noted the program addressed their

stressors by providing a variety of options for parenting techniques to modify current parenting practices and thereby reduce stress at home. A Hispanic participant expressed, "*they give me even more examples of how I can implement changes in my life*". A DRC participant also reflected that the videos provided them with skills to address current challenges while parenting in the US, "*it also showed us how to make some problems better…how we can make some conversations better by talking about them*", "*the way you're supposed to talk to your kids it's very different*".

Program recommendations. While immigrants and refugees reported the program adequately addressed their current life stressors, particularly in relation to parenting, numerous program recommendations were suggested including tailoring the program to different temperaments or developmental stages of the child. A Hispanic participant stated, "*I would like to be able to see this for children of different temperaments*" while a DRC participant recommended the program increase the focus on marital couples, "*I would like to see how to encourage communication between couples*". Another DRC participant added to this by commenting, "*if you can work for your money and your husband take everything it's very stressful…I think you should talk about that*". Managing finances generally was a program recommendation, particularly among DRC refugees. Additional program recommendations included how to have conversations with children about sexuality, co-parenting strategies, improving fathers' engagement, and addressing spiritual needs of the child.

Aim 4

Aim 4 examined the relationship between program acceptability and participants' reports of acculturative stress. Quantitative results from regression were not significant for the EVM

acceptability measure (F = .013, p = .912) (Table 8) nor for the usability measure (F=.756,

p=.392), indicating no associations between program acceptability and either levels of

acculturative stress or PTSD/mental health in this sample.

CHAPTER 4

DISCUSSION

The current study aimed to examine factors associated with program acceptability among diverse language and cultural populations of refugees and immigrants including mental health and life stressors. Surprisingly, in this sample, findings showed no significant differences in PTSD rates between refugees and immigrants and the overall PTSD rate in the sample was 10.25%, which is much lower than the 30.6% estimate documented in previous literature on PTSD rates among refugees (Steel et al., 2009). One reason for this finding may be the heterogeneity and diverse levels of trauma experienced by the parents in this sample regardless of migration status in addition to a small sample size. Some participants in the Hispanic immigrant group had experienced 9 traumatic events while some refugee participants had experienced 0 traumatic events. These findings indicate that the dichotomization of participants by migration status may be less informative and useful than their prior life experiences, and that exposure to traumatic experiences may not directly be linked to migration status.

While PTSD levels were much lower in this sample, internalizing symptomatology was relatively high. Approximately 35.24% of the sample (regardless of length of time in the US) reported symptom levels that placed them above the clinical threshold for depression and anxiety, which is higher than the estimated 30.8% estimate in recent literature (Steel et al., 2009) yet lower than levels of depression identified in prior refugee populations (Kaya et al., 2019; Turrini et al., 2017). Prior studies have documented, however, significant differences in the levels of depression and PTSD among labor migrants and refugees (Lindert et al., 2009), with consistent predictors such as gender, number of traumatic experiences, prior mental health

concerns, and low socio-economic status (Steel et al., 2009, Basoglu et al., 2005) yet these results were not identified in this study, potentially due to the sample size. Other studies have also noted the difficulty of identifying a representative sample from respective cultures following forced displacement in the aftermath of conflict or war due to the heterogeneity of individual experiences and circumstances of exit (Kaya et al., 2019).

Despite the heterogeneity of the sample in terms of cultural background, mental health symptoms, and traumatic events exposure, this study showed high cultural and general acceptability of PIM videos. One possible reason for the high acceptability despite heterogeneity was indicated by a Syrian refugee who stated, "*they are not presenting it from different cultural views, they are presenting a family situation and this happens within all families*." Or the videos are "*representing a family culture*" rather than specific cultural perspectives of parenting, indicating that the program is acceptable across cultural groups. It may be that the skills taught in the videos and the parenting challenges depicted in the videos are relevant to participants in their role as parent regardless of migration status or prior life experiences. In other words, some parenting concerns may be universal. Yet despite overall acceptability, among different cultural groups, certain subthemes were identified as more salient than others. For example, while Syrians reported that they were already using the techniques being recommended and therefore they were acceptable, DRC participants reported acceptability for different reasons – due to a necessity to modify parenting practices in order to adjust to the US context. Further research could assess more specific needs of the different target populations and the cultural nuances of parenting in order to tailor future contextual adaptations.

While acceptability was high across groups, usability of the digital intervention remained in the moderate range. Some possible reasons for this were indicated during the focus groups. Participants noted they agreed with the goals of PIM, although it requires adjustments in current and culturally acceptable native parenting practices. As a Syrian refugee mentioned, "*we have to change our way of raising here*" which is a new way of parenting to many, as described by a DRC refugee, "*I just learned many things I didn't know…the way I can treat my kids*". Additionally, the subtheme of skill acquisition suggested that participants considered requiring additional learning before being able to implement the skills, as a DRC refugee noted, "*there's a lot to learn about being a father or a parent*" and it may be that these participants perceived difficulty in being able to learn new skills. These findings are echoed by previous parenting programs implemented among African migrants, which indicate that few effectiveness studies have been conducted amongst this population (Renzaho et al., 2011).

In addition to high acceptability, the current study also demonstrated that the life stressors experienced by immigrant and refugee parents may not differ significantly between different migrant populations nor are they adequately captured by the Demands of Immigration (DI) survey, which has been shown to document initial stressors experienced upon first intercultural contact. Deductive coding showed that migrant parents experience some stressors mentioned in the DI over the long-term such as language acquisition, discrimination, and loss and inductive coding revealed that in addition to acculturative stress, migrant parents' stressors include man intra/interpersonal stressors such as financial stress, parenting concerns, and marital issues. Future research may consider measuring 'life stressors' more generally for more comprehensive program development, particularly for parenting programs like PIM with a diverse target

audience and which does not target specific phases of acculturation or length of stay in the US. The current study showed that program acceptability remains high despite phase of acculturation, length of stay in the US, and type of stressors experienced.

To examine effectiveness of PIM as an intervention, future studies should increase the sample size and assess whether acceptability of the program remain as high. Future studies can also expand the program reach to broader cultural groups and a wider variety of Latin countries who speak French, English, or Spanish to assess for differences in level of acceptability and whether these differences relate to traumatic exposure, migration experiences, or general parenting concerns. The program would also benefit from a feasibility and effectiveness trial.

Strengths and Limitations

The current study contributes to the research on the acceptability of digital parenting interventions for a diverse population of refugee and immigrants. Specifically, this is one of the first studies to examine acceptability of a digital parenting program across different cultural groups with heterogeneous life experiences, migratory pathways, and exposure to traumatic events. Qualitative data collection via focus groups allowed for a greater and deeper understanding of diverse cultural perceptions on the videos which also provided opportunities for participants to highlight the most salient aspects of the program. This qualitative feedback may help guide future programs in tailoring cultural or contextual adaptations to current parenting challenges experienced in these diverse cultural groups. Additionally, this study fills a gap identified in the research on post-migration family processes and family stressors related to acculturation and adjustment (Berry, 2022). Previous studies have also noted that few studies to

date have evaluated the effectiveness of parenting program among African migrants (Renzaho et al., 2011).

The current study also included perceptions of parental stressors and general life stressors, therefore parents were able to expand upon how general life stressors impact their mental health and parenting practices. This provided insight into the similarities in perceived stressors across cultural groups in addition to deepening understanding of unique stressors according to cultural background and individual experiences. The current study also included a balance of mothers and fathers' responses from the Syrian and Congolese populations while a limitation is that feedback from the Latin community only included mothers. Future studies could ensure an equal balance of mothers and fathers' responses from the Latin community. Additionally, this study has relevance for other parenting interventions, demonstrating initial evidence that contextual adaptations of current evidence-based interventions may be adapted successfully to reach a range of cultural groups, thereby allowing for a broader dissemination of evidence-based practices increasing service access to underserved populations with already significant pre-existing barriers to services. It is also initial evidence that adaptations of parenting interventions need not be specific only to one culture in order for them to be acceptable.

Despite its strengths, the study had several limitations. First, it was a cross-sectional study with a small sample size, decreasing the power for adequate quantitative analyses. The use of a larger sample in the future will allow us to re-examine the significance and directionality of traumatic exposure or levels of PTSD on perceived program acceptability. In addition, the heterogeneity of the sample, while beneficial for assessing the overall program acceptability of a

contextual adaptation, limits our ability to examine acceptability within each cultural group and to identify individual characteristics of parents whose program acceptability was higher. Our sample was composed of Syrian, Congolese and mostly Mexican participants. Most participants were either Christian or Muslim. Future samples would benefit from expanding the country of origins of participants to examine whether perceived acceptability remains consistent across parents of different cultural and religious backgrounds. In addition, the current sample had a wide variety of literacy levels requiring multi-mode forms of survey administration. Future studies would benefit from ensuring that surveys have both audio and written modalities available for consistent modality. A final limitation of the study is that while the interpreters for each group were cultural brokers and cultural insiders, the main researcher is a cultural outsider which may have impacted the feedback provided during focus groups.

Implications

Further research is needed to understand whether there are differences in levels of acceptability by cultural groups or country of origins. Additionally, research efforts may focus on strategies to increase usability of digital parenting interventions for populations adjusting culturally consistent parenting practices to US culture. Of particular importance will be identifying specific mechanisms through which usability of the intervention may be increased thereby enabling for target program modifications. Furthermore, further research could examine whether internalizing symptomatology in refugee and immigrant parent communities is linked to usability of digital interventions and whether these symptoms may impact parental efficacy. Taken together, the study results suggest that the program is acceptable to diverse groups yet a randomized control trial needs to be conducted to test its effectiveness.

Conclusions

Results indicate that PIM is a successful contextual adaptation of an evidence-based parenting program which has high acceptability among diverse language and cultural groups. This is a timely program response to recent studies which have shown that war, armed conflict, and migration can have adverse effects on parenting practices and child adjustment among refugee and conflict-exposed populations (Eltanamly et al., 2019) with few interventions available for migrant parents. The current study indicates that digital contextual adaptations of evidence-based parenting programs may be successfully adapted for diverse populations, thereby increasing access to services for underrepresented populations.

Table 1

Summary of demographic information

	Values	%	N
Gender	Male	33.3%	13
	Female	66.7%	26
Religion	Christian	48.7%	19
	Muslim	35.9%	14
	Agnostic	0.0%	0
	Other	2.6%	1
	Catholic	10.3%	4
	N/a	2.6%	1
Country of Origin	Hispanic Countries	23.1%	9
	Syrian Arabic Republic	41.0%	16
	Democratic Republic of Congo	35.9%	14
Time spent in refugee camp	Yes	33.3%	13
	No	59.0%	23
	N/a	7.7%	3
Time spent in IDP camp	Yes	23.1%	9
	No	71.8%	28
	N/a	5.1%	2
Language spoken at home	Arabic	38.5%	15
	Spanish	23.1%	9
	Swahili	20.5%	8
	English	2.6%	1
	French	7.7%	3
	Lingala	2.6%	1
	Other	5.1%	2

Note. Table continued on next page.

	None	2.6%	1
	1-8 years	25.6%	10
Education Level	9-11 years	15.4%	6
	high school graduate	25.6%	10
	Some college	5.1%	2
	Vocational training / Trade	10.3%	4
	Batchelor's degree	10.3%	4
	Master's degree	0.0%	0
	PhD	5.1%	2
Number of children	1.00	7.7%	3
	2.00	12.8%	5
	3.00	12.8%	5
	4.00	23.1%	9
	5.00	15.4%	6
	6.00	17.9%	7
	7.00	2.6%	1
	8.00	7.7%	3
Length of time in US	less than a month	0.0%	0
	1-6 months	5.1%	2
	7-12 months	23.1%	9
	1-3 years	7.7%	3
	4-5 years	10.3%	4
	6-10 years	30.8%	12
	More than 10 years	23.1%	9
Type of employment	Part-time	23.1%	9
	Full-time	46.2%	18
	Unemployed	23.1%	9
	Vocational	0.0%	0
	N/a	7.7%	3
Marital Status	Married	97.4%	38
	Divorced	0.0%	0
	Separated	0.0%	0
	Never married	2.6%	1
	Single	0.0%	0

	Other	0.0%	0
Level of English fluency	I can't speak any English	33.3%	13
	I speak some English	35.9%	14
	I speak a lot of English	5.1%	2
	I'm fluent in English	23.1%	9
	N/a	2.6%	1

Table 2

Summary of trauma types

In the table below, 'n/a' displayed to participants has been noted as N/A. Note: the Arabic HTQ5 has additional items to the English version and some items have been removed. Therefore, items below reflect items from all surveys administered.

Trauma		Count	Trauma		Count
Lack of shelter	Yes	9	Searched	Yes	4
	No	28		No	12
	N/a	1		N/a	0
Lack of food or	Yes	8	Forced to leave your	Yes	7
water	No	30	hometown and	No	9
	N/a	0	settle in a different	N/a	0
			part of the country		
			with minimal		
			services		
Ill health without	Yes	8	Forced to flee your	Yes	13
access to medical	No	29	country	No	2
care	N/a	1		N/a	1
Confiscation or	Yes	8	Expelled from	Yes	6
destruction of	No	27	country based on	No	8
personal property	N/a	2	ancestral origin,	N/a	2
			religion, or sect		
Combat situation	Yes	13	Witnessed the	Yes	5
(e.g. shelling and	No	22	desecration or the	No	11
grenade attacks)	N/a	3	destruction of	N/a	0
			religious shrines or		
			places of religious		
			instruction		
Forced	Yes	5	Witnessed the	Yes	4
evacuation under	No	16	arrest, torture, or	No	12

dangerous conditions	N/a	2	execution of religious leaders or important members of tribe	N/a	0
Beating to the body	Yes	4	Witnessed mass execution of civilians	Yes	3
	No	17		No	13
	N/a	1		N/a	0
Rape	Yes	2	Witnessed shelling, burning, or razing	Yes	7
	No	31		No	9
	N/a	4		N/a	0
Other types of sexual abuse or sexual humiliation	Yes	3	Witnessed chemical attacks	Yes	4
	No	19		No	11
	N/a	1		N/a	1
Knifing or axing	Yes	1	Serious physical injury of family member or friend from combat situation or landmine	Yes	8
	No	20		No	8
	N/a	1		N/a	0
Torture, i.e. deliberate and systematic infliction of physical or mental suffering	Yes	5	Witnessed rotting corpses	Yes	1
	No	30		No	15
	N/a	2		N/a	0
Serious physical injury from combat situation or landmine	Yes	5	Confined to home because of chaos and violence outside	Yes	9
	No	32		No	7
	N/a	1		N/a	0
Imprisonment	Yes	1	Witnessed someone being physically harmed (beating, knifing)	Yes	4
	No	34		No	12
	N/a	3		N/a	0
Forced labor (like animal or slave)	Yes	2	Murder or violent death of family	Yes	2
	No	20		No	14

Event	Response	Count	Event	Response	Count
	N/a	1	member (spouse, child)	N/a	0
Extortion or robbery	Yes	5	Murder or violent death of friend	Yes	6
	No	16		No	10
	N/a	1		N/a	0
Brainwashing	Yes	3	Disappearance of a family member (child, spouse)	Yes	2
	No	18		No	14
	N/a	1		N/a	0
Forced to hide	Yes	5	Disappearance of a friend	Yes	4
	No	15		No	11
	N/a	2		N/a	0
Kidnapped	Yes	2	Family member (child, spouse) kidnapped or taken as a hostage	Yes	3
	No	34		No	13
	N/a	1		N/a	0
Other forced separation from family members	Yes	5	Friend kidnapped or taken as a hostage	Yes	4
	No	16		No	11
	N/a	2		N/a	0
Forced to find and bury bodies	Yes	1	Physically harmed (beaten, knifed)	Yes	2
	No	20		No	14
	N/a	1		N/a	0
Enforced isolation from others	Yes	4	Disappearance or kidnapping of spouse	Yes	0
	No	17		No	21
	N/a	1		N/a	1
Someone was forced to betray you and place you at risk of death or injury	Yes	4	Disappearance or kidnapping of child	Yes	0
	No	32		No	21
	N/a	1		N/a	1
Prevented from burying someone	Yes	3	Disappearance or kidnapping of other family member or friend due to combat situation or landmine	Yes	3
	No	33		No	18
	N/a	2		N/a	1
Murder, or death due to violence,	Yes	2	Witness beatings to head or body	Yes	2
	No	19		No	19

of other family member or friend	N/a	1			N/a	1
Present while someone searched for people or things in your home	Yes	3	Witness torture		Yes	7
	No	13			No	29
	N/a	0			N/a	1
Oppressed because of ethnicity, religion or sect	Yes	5	Another situation that was very frightening or in which you felt your life was in danger.		Yes	8
	No	9			No	27
	N/a	1			N/a	3
Witness killing/murder	Yes	9	Specify		N/a	24
	No	28			Shootings	1
	N/a	1			As a child	1
Witness rape or sexual abuse	Yes	4				
	No	33				
	N/a	1				

Table 3

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Acculturative Stress	37	22.4865	13.51876	.923	.388	.545	.759
Usability	36	54.4154	8.72765	1.149	.393	1.396	.768
HSCL	38	1.5326	.44016	.980	.383	1.263	.750
CST	38	1.6123	.61343	1.541	.383	2.953	.750
PHQ4	37	6.6216	3.04002	1.411	.388	1.752	.759
PTSD	37	1.6562	.53636	.866	.388	.339	.759
Valid N (listwise)	28						

Table 4

Correlations Between Study Variables

Correlations

		Age of participants	Gender of the participant	Religion of participants	Country of origin	If participant was in refugee camp before arriving in US	If participant was in an IDP camp before arriving in US	Language spoken at home	Level of education of participants	Total number of children participants have	Number of children living with participants	How long participants have been in the US	Type of employment	Marital status of participant	Level of English fluency of participant	Total number of residents in participant's household	PTSD_SUM	HSCL_SUM	CST_SUM	PHQ4_SUM	Acceptability_EVM_SUM	Usability_Participant_Mean	FIN_Acculturative_Stress
Age of participants	Pearson Correlation	1	-.450**	.063	-.265	.392*	-.010	-.162	.044	.427**	.446**	-.186	-.169	-.264	-.293	.407*	.134	.091	.077	-.085	-.161	-.529**	.141
	Sig. (2-tailed)		.004	.703	.103	.013	.950	.324	.792	.007	.004	.258	.304	.105	.070	.010	.431	.588	.645	.618	.442	.001	.426
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Gender of the participant	Pearson Correlation	-.450**	1	.222	-.239	-.124	.181	.032	-.162	-.153	-.154	.398*	.363*	.115	.015	-.191	.030	.087	.091	.201	.069	.130	.124
	Sig. (2-tailed)	.004		.174	.142	.454	.269	.846	.325	.352	.349	.012	.023	.487	.928	.244	.860	.602	.587	.232	.745	.456	.484
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Religion of participants	Pearson Correlation	.063	.222	1	-.559**	.339*	.178	-.246	.120	-.212	-.185	.102	.163	-.114	.126	-.272	.056	.196	.117	-.023	.282	.112	-.063
	Sig. (2-tailed)	.703	.174		<.001	.035	.277	.131	.467	.195	.261	.535	.322	.490	.445	.093	.740	.238	.483	.891	.172	.521	.723
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Country of origin	Pearson Correlation	-.265	-.239	-.559**	1	-.618**	-.142	.514**	-.057	.136	.089	-.132	-.102	.187	-.092	.178	.041	.028	.016	.086	-.347	.360*	-.134
	Sig. (2-tailed)	.103	.142	<.001		<.001	.387	<.001	.731	.410	.588	.423	.537	.255	.579	.279	.809	.867	.922	.613	.089	.034	.450
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
If participant was in refugee camp before arriving in US	Pearson Correlation	.392*	-.124	.339*	-.618**	1	.193	-.371*	-.113	-.004	.024	-.246	.179	-.206	-.160	-.062	-.199	-.180	-.213	-.251	.112	-.387*	.125
	Sig. (2-tailed)	.013	.454	.035	<.001		.240	.020	.492	.980	.883	.131	.275	.209	.332	.709	.237	.280	.198	.134	.592	.021	.480
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
If participant was in an IDP camp before arriving in US	Pearson Correlation	-.010	.181	.178	-.142	.193	1	.280	-.063	-.217	-.206	.392*	-.019	-.266	.203	-.235	-.180	-.229	-.147	-.206	.339	.352*	.087
	Sig. (2-tailed)	.950	.269	.277	.387	.240		.084	.705	.184	.208	.013	.910	.101	.216	.150	.286	.166	.377	.222	.097	.038	.623
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Language spoken at home	Pearson Correlation	-.162	.032	-.246	.514**	-.371*	.280	1	.087	-.001	-.022	.237	-.002	.052	.167	.053	.006	-.106	-.055	.071	-.143	.286	.093
	Sig. (2-tailed)	.324	.846	.131	<.001	.020	.084		.597	.997	.896	.147	.989	.755	.309	.749	.974	.526	.741	.675	.494	.096	.601
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Level of education of participants	Pearson Correlation	.044	-.162	.120	-.057	-.113	-.063	.087	1	-.361*	-.362*	.463**	-.081	-.006	.652**	-.265	.250	.033	.096	.025	.039	.044	.073
	Sig. (2-tailed)	.792	.325	.467	.731	.492	.705	.597		.024	.024	.003	.624	.970	<.001	.103	.135	.843	.565	.884	.855	.800	.681
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Total number of children participants have	Pearson Correlation	.427**	-.153	-.212	.136	-.004	-.217	-.001	-.361*	1	.990**	-.494**	.174	-.024	-.567**	.938**	.011	-.076	.149	-.194	-.433*	-.377*	-.027
	Sig. (2-tailed)	.007	.352	.195	.410	.980	.184	.997	.024		<.001	.001	.290	.884	<.001	<.001	.949	.650	.371	.251	.031	.026	.878
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Number of children living with participants	Pearson Correlation	.446**	-.154	-.185	.089	.024	-.206	-.022	-.362*	.990**	1	-.512**	.145	-.104	-.561**	.940**	-.037	-.094	.112	-.224	-.368	-.365*	.001
	Sig. (2-tailed)	.004	.349	.261	.588	.883	.208	.896	.024	<.001		.001	.379	.529	<.001	<.001	.827	.573	.503	.183	.070	.031	.997
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
How long participants have been in the US	Pearson Correlation	-.186	.398*	.102	-.132	-.246	.392*	.237	.463**	-.494**	-.512**	1	-.010	.091	.648**	-.424**	.164	.075	.157	.208	.188	.345*	.335
	Sig. (2-tailed)	.258	.012	.535	.423	.131	.013	.147	.003	.001	<.001		.950	.580	<.001	.007	.332	.653	.346	.216	.368	.043	.053
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Type of employment	Pearson Correlation	-.169	.363*	.163	-.102	.179	-.019	-.002	-.081	.174	.145	-.010	1	.428**	.034	.224	.155	.035	.218	-.181	-.091	-.213	.107
	Sig. (2-tailed)	.304	.023	.322	.537	.275	.910	.989	.624	.290	.379	.950		.007	.837	.170	.361	.837	.189	.284	.665	.219	.546
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Marital status of participant	Pearson Correlation	-.264	.115	-.114	.187	-.206	-.266	.052	-.006	-.024	-.104	.091	.428**	1	-.034	.062	.222	.237	.151	.243	-.168	.043	-.067
	Sig. (2-tailed)	.105	.487	.490	.255	.209	.101	.755	.970	.884	.529	.580	.007		.836	.709	.187	.151	.367	.147	.422	.807	.708
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Level of English fluency of participant	Pearson Correlation	-.293	.015	.126	-.092	-.160	.203	.167	.652**	-.567**	-.561**	.648**	.034	-.034	1	-.476**	.290	.052	.229	.079	.397*	.263	.104
	Sig. (2-tailed)	.070	.928	.445	.579	.332	.216	.309	<.001	<.001	<.001	<.001	.837	.836		.002	.082	.758	.166	.643	.049	.127	.558
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
Total number of residents in participant's household	Pearson Correlation	.407*	-.191	-.272	.178	-.062	-.235	.053	-.265	.938**	.940**	-.424**	.224	.062	-.476**	1	.045	-.068	.156	-.226	-.348	-.300	-.048
	Sig. (2-tailed)	.010	.244	.093	.279	.709	.150	.749	.103	<.001	<.001	.007	.170	.709	.002		.791	.687	.350	.179	.088	.080	.789
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	38	38	37	25	35	34
PTSD_SUM	Pearson Correlation	.134	.030	.056	.041	-.199	-.180	.006	.250	.011	-.037	.164	.155	.222	.290	.045	1	.740**	.829**	.478**	-.041	-.167	-.083
	Sig. (2-tailed)	.431	.860	.740	.809	.237	.286	.974	.135	.949	.827	.332	.361	.187	.082	.791		<.001	<.001	.003	.851	.353	.651
	N	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	36	24	33	32
HSCL_SUM	Pearson Correlation	.091	.087	.196	.028	-.180	-.229	-.106	.033	-.076	-.094	.075	.035	.237	.052	-.068	.740**	1	.683**	.659**	-.024	-.107	.122
	Sig. (2-tailed)	.588	.602	.238	.867	.280	.166	.526	.843	.650	.573	.653	.837	.151	.758	.687	<.001		<.001	<.001	.909	.549	.500
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	38	38	37	25	34	33
CST_SUM	Pearson Correlation	.077	.091	.117	.016	-.213	-.147	-.055	.096	.149	.112	.157	.218	.151	.229	.156	.829**	.683**	1	.406*	-.201	-.159	.096
	Sig. (2-tailed)	.645	.587	.483	.922	.198	.377	.741	.565	.371	.503	.346	.189	.367	.166	.350	<.001	<.001		.013	.336	.370	.595
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	38	38	37	25	34	33
PHQ4_SUM	Pearson Correlation	-.085	.201	-.023	.086	-.251	-.206	.071	.025	-.194	-.224	.208	-.181	.243	.079	-.226	.478**	.659**	.406*	1	-.081	-.063	-.058
	Sig. (2-tailed)	.618	.232	.891	.613	.134	.222	.675	.884	.251	.183	.216	.284	.147	.643	.179	.003	<.001	.013		.702	.724	.751
	N	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	36	37	37	37	25	34	32
Acceptability_EVM_SUM	Pearson Correlation	-.161	.069	.282	-.347	.112	.339	-.143	.039	-.433*	-.368	.188	-.091	-.168	.397*	-.348	-.041	-.024	-.201	-.081	1	.338	-.024
	Sig. (2-tailed)	.442	.745	.172	.089	.592	.097	.494	.855	.031	.070	.368	.665	.422	.049	.088	.851	.909	.336	.702		.106	.912
	N	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25	25	25	26	24	24
Usability_Participant_Mean	Pearson Correlation	-.529**	.130	.112	.360*	-.387*	.352*	.286	.044	-.377*	-.365*	.345*	-.213	.043	.263	-.300	-.167	-.107	-.159	-.063	.338	1	-.159
	Sig. (2-tailed)	.001	.456	.521	.034	.021	.038	.096	.800	.026	.031	.043	.219	.807	.127	.080	.353	.549	.370	.724	.106		.392
	N	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	33	34	34	34	24	36	31
FIN_Acculturative_Stress	Pearson Correlation	.141	.124	-.063	-.134	.125	.087	.093	.073	-.027	.001	.335	.107	-.067	.104	-.048	-.083	.122	.096	-.058	-.024	-.159	1
	Sig. (2-tailed)	.426	.484	.723	.450	.480	.623	.601	.681	.878	.997	.053	.546	.708	.558	.789	.651	.500	.595	.751	.912	.392	
	N	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	32	33	33	32	24	31	37

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

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Table 5

T Test on Acculturative Stress and PTSD

Independent Samples Test

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
PTSD	3.084	.088	-.573	35	.570
			-.477	12.116	.642
Acculturative Stress	1.520	.226	-.865	33	.393
			-1.027	24.966	.314

Table 6

T Test on Acculturative Stress and Mental Health Variables

	Independent Samples Test								
	Levene's Test for Equality of Variances		t-test for Equality of Means						
					Sig. (2-tailed)	Mean Differ-ence	Std. Error Differ-ence	95% Confidence Interval of the Difference	
	F	Sig.	t	df				Lower	Upper
PTSD	3.084	.088	-.573	35	.570	-.11481	.20043	-.52171	.29209
			-.477	12.116	.642	-.11481	.24074	-.63879	.40916
Accultu-rative Stress	1.520	.226	-.865	33	.393	-4.42000	5.10906	-14.81447	5.97447
			-1.027	24.966	.314	-4.42000	4.30451	-13.28592	4.44592
HSCL	.873	.356	-.392	36	.697	-.06429	.16404	-.39697	.26840
			-.357	13.610	.727	-.06429	.18029	-.45200	.32343
CST	1.411	.243	-.562	36	.578	-.12810	.22811	-.59072	.33452
			-.452	11.632	.659	-.12810	.28320	-.74731	.49112
PHQ4	1.644	.208	-1.199	35	.239	-1.34074	1.11861	-3.61164	.93016
			-1.059	13.133	.309	-1.34074	1.26576	-4.07244	1.39096
Number of Trau-matic Events	6.984	.012	1.644	38	.108	4.90000	2.98046	-1.13363	10.93363
			2.382	35.566	.023	4.90000	2.05668	.72710	9.07290

Table 7

T Test on Acceptability among Refugee and Immigrant Parents

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
						Mean Differ-	Std. Error Differ-	95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	ence	ence	Lower	Upper
Accept-ability	1.284	.268	-1.562	24	.131	-4.58170	2.93323	-10.63558	1.47218
EVM			-1.731	21.525	.098	-4.58170	2.64748	-10.07926	.91586
Usabil-ity	6.097	.019	.161	34	.873	.54772	3.40702	-6.37618	7.47162
			.236	32.421	.815	.54772	2.32035	-4.17628	5.27171

Table 8

Regression / ANOVA Results for Correlation between Acceptability and Acculturative Stress

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.619	1	.619	.013	.912[b]
	Residual	1086.339	22	49.379		
	Total	1086.958	23			

a. Dependent Variable: Acceptability EVM
b. Predictors: (Constant), Acculturative Stress

Table 9

Regression / ANOVA Results for Correlation between Usability and Acculturative Stress

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.354	1	55.354	.756	.392[b]
	Residual	2122.568	29	73.192		
	Total	2177.923	30			

a. Dependent Variable: Usability
b. Predictors: (Constant), Acculturative Stress

Table 10. PHQ4 Scoring

Score	Qualitative Descriptor
0-2	Normal
3-5	Mild
6-8	Moderate
9-12	Severe

REFERENCES

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APPENDIX A
FOCUS GROUP PROTOCOL

Acculturative Stress, Trauma, and Acceptability of a Parenting Program for Refugees and Immigrants (PIM)

ADAPT Lab

Key:
Black text - focus group script and items that should be read to the participants

Script: (*in italics*)

To start our discussion today, we'd like to get to know you a little better. Let's go around the room and say how many children we have, our favorite food, and what the biggest differences are between the way people parent here and the way they parent in your country.

Thank you all so much for taking the time to meet with us today. We're really happy to have you here and we're looking forward to our discussion with you today.

The purpose of our meeting today is to learn more about how we can make our parenting videos and parenting programs better and more relevant to immigrant/refugee families here in the US. To do this, we would like to show you some videos that we've made for refugee/immigrant families and ask you how relevant these videos are to your life and what you like or don't like about them. We would also like to know how well you think these videos address the things that you might find hard here in the US, and the stressful things from having moved from your home country to the US. We'd love to hear from you about how the videos relate to your culture like the people, the places, the situations described in the videos. We'd also love to learn more about how you parent and how these videos show things that are important to you as a parent. And finally, we'd love to hear your ideas on how we could improve the videos. You are the expert in your own culture and we're excited to learn from you how we can do things better.

Your opinions, and experiences are very important to us, remember there are no right or wrong answers, each of you have different experiences and they are all equally valuable to us.

Today, we will start by watching some videos, and completing a very short survey in between each video on your opinion of the video. This survey will take you a couple of minutes. The last survey after video 4 will be a little bit longer as it will ask you some questions about the videos more generally and some questions about parenting. After this, we will have a 5 minute break where you're welcome to have some refreshments. After this break we will have an open discussion on the videos and your experiences here in the US as a parent.

Before we begin, we'd like to mention a few things:
- *Confirm the duration of the group*
- *Explain the structure of the group*
- *Location of the restroom*
- *Refreshments*
- *Snacks*
- *Providing breaks in responses so that the interpreter can provide us with a summary of what's been said*

We will be audio recording our discussion today and we want to know who says what, but we want to protect your privacy. Before you tell us your opinion, please say JUST your first name. Also, please remember to speak loudly enough so that the audio recorder can hear you. Please keep side conversations to a minimum so that there is little background noise as well.

** ASSISTANT: <u>START RECORDING NOW</u>. Say the name of the focus group sire and focus group information (e.g. " This is the PIM focus group # 1 in ASU Tempe / West Campus on May 7, 2023). Try to put the recorder in a central location.

** MODERATOR

We will now watch the first video. As you watch, please notice any thoughts or reactions you have to the video.

** ASSISTANT: play video # 1.

** MODERATOR
Send Qualtrics survey link to participant phones or provide participants with a hard copy of the survey.

We will now watch the second video. As you watch, please notice any thoughts or reactions you have to the video.

** ASSISTANT: play video # 2.

** MODERATOR
Send Qualtrics survey link to participant phones or provide participants with a hard copy of the survey.

We will now watch the third video. As you watch, please notice any thoughts or reactions you have to the video.

** MODERATOR
Send Qualtrics survey link to participant phones or provide participants with a hard copy of the survey.

We will now watch the last video. As you watch, please notice any thoughts or reactions you have to the video.

** MODERATOR

Send Qualtrics survey link to participant phones or provide participants with a hard copy of the survey (inlcuding DI survey & SDQ).

Thank you for watching and completing the surveys. We will now take a 5 minute break and when we come back, we'll talk about your thoughts on these videos.

[5 minute break]

** MODERATOR

Questions:

First, we'd love to hear your feedback on how relevant you find these videos.

1. **How relevant are these videos to your life as an immigrant / refugees here in the US?**
    a. Did anything in the video relate to your experience as a refugee / immigrant?
    b. What do you see in the videos that happens in your life? Did you see something that you could relate to as a parent? As an immigrant / refugee?
    c. Think back to a time when you had some struggles with your kids, do you think these videos would have helped you deal with that situation in a different way?
    d. Let's talk about the opposite - what are the things in the videos that aren't relevant to your experience/that you don't really care about?
    e. How easy would it be to use these skills in your family?
    f. How likely would you be to use the skills in these videos?
    g. What do you think about the ideas presented in the videos about parenting?
    h. When you watched these videos, what were some of the thoughts you had about the situations or scenarios presented?

      i.   Do you have similar situations with your children?
      ii.   What challenges do you have with your children that are not discussed in the videos?
  i.   These videos talk about different skills you can use as a parent. How relevant are these skills for you as a Syrian/Congolese/Hispanic refugee/immigrant?

Next, we'd love to find out how these videos relate to how you think of parenting, and what parenting looks like in your culture.

2. **How do the skills in these videos fit into how you parent in your culture?**
   a. When you watch these videos, do you see the ideas and the skills being taught working well in your culture?
   b. Are there any ideas or situations in the videos you think might not work well in your culture?
      i. What would you do instead of **XX** in your culture?
      ii. How do you do **XX** in your culture?
   c. What does it mean to be a parent in your culture?
   d. What are the most important values you have as a parent?
      i. Do you see these values reflected in the videos?
      ii. Are there any values presented in the videos that are similar / different to yours?
   e. What's important to you as a parent?
      i. What are some of the goals you have for your children?
      ii. What are your hopes for your children here?
3. **What are some things that currently cause you stress here in the US as a parent?**
   a. Now think about these videos, how do these videos relate to the things that currently cause you stress?
   b. How has moving to the US made your life more or less stressful?
   c. What are some other things that get in the way of your parenting and family life here in the US?
   d. What are some of the things you worry about in relation to your children growing up in the US?
   e. How does your stress impact your parenting and family?
   f. How do you currently manage your stress?
4. **As someone parenting in a new culture, what would you suggest we do different / what would you like to see if we were to redo these videos?**
   a. What kinds of things do you want to see in a program that makes you feel less stressed?
   b. How could the program be made more relevant to your life as an immigrant/refugee here in the US?
   c. What's missing from the videos that could be helpful for you as an immigrant/refugee?
   d. Do you wish these videos had something else?
   e. Is there anything you would hope to see in the videos?

We thank you a lot for being here today, the information you have provided is really important for us to understand how to make our programs better. Please as you exit the room we will need your initials that you received your $100.

APPENDIX B

FOCUS GROUP DISCUSSION DETAILS

Details of the FGDs are found in the table below.

FGD	Country	Gender	Location	# Videos Viewed
1	Syria	Mixed	ASU West	4
2	Syria	Female	ASU West	4
3	Syria	Male	Online	3
4	Syria	Male	ASU West	3
5	Hispanic	Female	REACH	4
6	Hispanic	Female	Online	4
7	Hispanic	Female	Online	3
8	DRC	Mixed	REACH	4
9	DRC	Mixed	Online	4
10	DRC	Mixed	Online	3
11	DRC	Mixed	Online	4
12	DRC	Mixed	Online	4
13	DRC	Mixed	Online	3
14	DRC	Mixed	Online	2

APPENDIX C

DEMANDS OF IMMIGRATION SCALE SUBDOMAINS

Demands of Immigration Scale Subdomains.

Subdomain	Description
Loss	Information related to longing and unresolved attachment to people, places, and things in the homeland.
Novelty	Newness, unfamiliarity, or information deficits related to living in the new country.
Occupational adjustment	Difficulty finding acceptable work, status demotion, lack of opportunities for professional advancement.
Language	Subjective perception of having a less than adequate command of the language in the receiving country, including extent of vocabulary, comprehension of local dialect, and ability to be understood given the strength of one's accent.
Discrimination	Active or subtle discrimination, such as the notion that immigrants/refugees do not belong in the US or deserve the same rights as the native-born.
Not feeling at home	Feeling like a stranger or a foreigner who is not part of one's surroundings or included in the social structure.

APPENDIX D

ECOLOGICAL VALIDITY MODEL SUBDOMAIN DESCRIPTORS

EVM Subdomain Descriptors

Subdomain	Description
Context	Situations presented in the videos are similar to participant experiences. May include acculturative stress, phases of migration, developmental stages, availability of social supports, person's relationship to the country or culture of origin. Social, economic, and political contexts.
Language	Language of the videos is suitable and preferred language of the participants.
Persons	Participants mention the ethnic / racial similarities or dissimilarities with actors in the videos.
Metaphors	Language such as sayings, dictums, idioms, or other symbols used in the videos are culturally consistent. They may mention symbols, images, and culturally consonant ideas common to their culture.
Content	Cultural knowledge. Participants may reference how cultural values, customs, and traditions from their culture are represented in the videos. Participants may speak of cultural uniqueness, culturally-specific values and traditions in the videos.
Goals	Do the intervention goals match the social cultural values of participants? PIM Goal: To promote positive parent-child relationships, and designed to help parents become their children's best teacher through emotion coaching, teaching through encouragement, discipline, problem-solving, monitoring, and positive involvement with children.
Concepts	Skills Acceptance. Participants discuss how ideas, concepts, thoughts, parenting skills presented in the videos are relevant or not to their culture. Concepts are consistent with culture and context.
Method	Participants discuss the use of how parenting skills were delivered - delivery modality (video / online)

APPENDIX E

IRB APPROVAL

APPROVAL: MODIFICATION

On 5/20/2023 the ASU IRB reviewed the following protocol:

Type of Review:	Modification / Update
Title:	Associations between perceived acculturative stress and program acceptability of a contextually-adapted online parenting program with refugee parents.
Investigator:	Abigail Gewirtz
IRB ID:	STUDY00017254
Funding:	Arizona State University (ASU)
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Edited protocol, Category: IRB Protocol; • Lama's CITI training, Category: Other;

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).
Sincerely,

IRB Administrator