THE ASSOCIATION BETWEEN PERCEIVED PSYCHOSOCIAL SUPPORTS AND RESILIENCE AMONG FEMALE VENEZUELAN REFUGEES AND MIGRANTS

by

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Abstract

Background: Migrants experience profound threats to their mental health, with women and girls facing additional vulnerabilities, like sexual exploitation and trafficking. Resilience acts in opposition to these threats, protecting against mental health decline through mental, emotional, and behavioural adaptations. A central component of resilience is perceived psychosocial support (PPS), which describes the provision of practical, material, and emotional assistance by others in order to mitigate the impacts of stressors on individuals. This study examines the association between PPS and resilience among displaced Venezuelan women and girls and hypothesizes they are positively correlated.

Methods: This is a secondary analysis of a larger, qualitative/quantitative, cross-sectional study (2022) involving 9116 female Venezuelan migrants in Brazil, Ecuador, and Peru. Following the 'sensemaking' methodology, each participant shared a brief experience and completed a questionnaire that contextualized their shared experience and collected demographic data. Data from 5990 micro-narratives shared by women aged 14 or older were included in the analysis. Using SAS statistical software (SAS® 9.4 TS1M3), three quantitative analyses were performed: 1) descriptive statistical analysis, 2) bivariate analysis, and 3) multivariate logistic regression modelling (using backward elimination with a generous inclusion threshold of $p<0.20$).

Results: Overall, 65% of participants were fully resilient. The final regression model included five of eight potential confounders: age, ethnicity, miscellaneous health issues, length of displacement, and relative wealth. Participants in the top tertile of PPS had 2.13 times the odds of resilience compared to the bottom tertile (95% CI: [1.84, 2.47], $p<0.0001$), while no significant difference was found between the bottom and middle tertiles (95% CI: [0.87, 1.14], $p=0.91$). Health issues, low relative wealth, and a longer time since displacement were associated

with lower resilience, while age correlated with higher resilience. Finally, the relationship between ethnicity and resilience varied depending on the self-identified ethnic background.

Conclusions: This study confirmed that PPS plays an important role in the resilience of forcibly displaced Venezuelan women and girls, and elucidated several unexpected results deserving of further investigation, such as the null association between resilience and self-identifying as LGBTQ+. Future studies should administer validated resilience questionnaires to better understand the contributions of the constituent components of resilience in this population. The results of this investigation can be used to more efficiently direct humanitarian mental health resources and develop tailored resilience-fostering interventions for this large, at-risk population.

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List of Abbreviations

PPS	Perceived Psychosocial Supports
PTSD	Post-Traumatic Stress Disorder
n	Sample Size
OR	Odds Ratio
CI	Confidence Interval

Chapter 1

Introduction

1.1 Background

The economic and geopolitical crisis in Venezuela began after global oil prices crashed in 1985 which, coupled with a poor government response, devastated Venezuela's oil-dependent economy. Several years of riots and coup attempts, combined with another oil price drop in 1998, culminated in the election of a new president, Hugo Chávez, the next year. However, following a series of corporate nationalizations, severe overinvestments in social programs, and the 2008 financial crisis, Nicolás Maduro replaced Chávez amidst rising inflation and a consumer goods scarcity. This continued crisis triggered the largest migration in Latin American history, with millions of Venezuelans having fled hyperinflation, food shortages, and widespread crime by 2018 (Peter Millard, 2019). As of November 2023, over 7.3 million Venezuelans have emigrated, predominantly to South American nations like Brazil, Columbia, Ecuador, and Peru (United Nations High Commissioner for Refugees, 2023b).

Individuals fleeing humanitarian crises, like the one in Venezuela, experience profound physical and psychological challenges such as isolation, insecurity (Gebresilassie et al., 2022), stress, and violence (Brunnet et al., 2020). Women and girls, in particular, are at increased risk of intimate partner violence (Keating et al., 2021, Makuch et al., 2021), sexual assault and exploitation, early unions, survival and transactional sex, and trafficking (International Organization for Migration, 2021). These factors can negatively impact mental health outcomes, significantly detracting from quality of life and interfering with integration into society.

Resilience acts in opposition, protecting against mental health decline through mental, emotional, and behavioural adaptations. It is why, following exposure to adverse events, some individuals maintain or even exceed normal functioning, while others succumb to dysfunction. Considering the multitude of

adverse experiences faced by migrants, high levels of resilience can confer tremendous benefits throughout the migration and adjustment processes. While resilience may be drawn from a variety of sources, a central contributor is psychosocial support, which describes the extent to which others–often friends, family, or peers–provide practical, material, and emotional assistance to combat the impacts of stressors on the individual. Through psychosocial support, individuals can become more resilient, through, for example, aid in meeting basic needs, regulating emotions (Chang et al., 2023), or in building self-confidence (Schweitzer et al., 2006).

1.2 Rationale

With the number of refugees, globally at over 36 million and growing every year (United Nations High Commissioner for Refugees, 2023a), there is an increasing need to comprehensively understand the factors which diminish or improve refugee mental health across contexts. While a great deal of research on resilience among migrants has been produced, few studies have been conducted within South America, and possibly none have focused exclusively on female Venezuelans. Additionally, previous investigations have typically involved smaller sample sizes, been qualitative in nature, and analyzed both men and women together, and even those with only female participants have often been restricted to just mothers or wives.

Through migration, refugees'/migrants' social support networks are greatly disturbed, and their resilience capacities are continuously at risk of being overwhelmed. Fortunately, levels of social support and resilience vary with time and can be consciously improved, although social support is generally considered the simpler of the two to alter. This suggests that, assuming a causal relationship between social support and resilience in this population, interventions could be developed to efficiently improve resilience through elevated support. This would aid in protecting at-risk refugees/migrants from mental health decline which, in turn, could elevate their quality of life and facilitate integration into their host societies.

Thus, this thesis aims to better understand the importance of PPS and resilience for female Venezuelan refugees/migrants to improve their mental health outcomes by informing supportive humanitarian public policies and providing data to facilitate the development of resilience-fostering interventions in the region. Additionally, the results from this study can constitute the foundation for future research into the resilience of female Venezuelan migrants.

1.3 Study Objective and Hypothesis

The main objective of this thesis is to characterize the association between perceived psychosocial support (PPS) and resilience among Venezuelan women displaced to Brazil, Ecuador, and Peru, while controlling for relevant confounders. It is hypothesized that higher reported PPS will correlate with higher resilience.

1.4 Thesis Organization

This thesis is organized into 5 chapters. The first is the current introduction section. Chapter 2 constitutes a comprehensive literature review on PPS and resilience, particularly with respect to female refugees/migrants. Chapter 3 details the study's methodology and statistical analyses, while chapter 4 presents this investigation's results. The fifth and final chapter is a thorough and critical discussion of these results, the epidemiological principles and main strengths and limitations of this investigation, and how these findings may contribute to the development of public policy, intervention programs, and future research efforts. The chapter then finishes with a brief conclusion summarizing the thesis. It is important to note that throughout this thesis, 'refugees/migrants' is used to refer to all individuals displaced from Venezuela, as the original data source did not include information about the legal status of the participants.

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Chapter 2

Literature Review

2.1 Overview

The purpose of this chapter is to critically explore and review the literature related to PPS and resilience, with the aim of defining key terms, describing research trends, conventions, and important distinctions, and identifying gaps in the literature. The review begins with a brief outline of PPS and related concepts before comprehensively detailing the phenomenon of resilience. Some resilience subtopics include: definitions, subcategories, research frameworks, coping, how stressors are defined and grouped, research trends, and study methodologies. As the amount of available research pertaining to resilience among Venezuelans and women was limited, much of this review is derived from findings among other populations and in other regions. Most literature was identified using the Medline database, and only studies published in or translated into English were included, although several papers in French were examined but ultimately excluded. Studies were not restricted by publication date, however, those published within the last decade were of principal interest.

2.2 Perceived Psychosocial Supports

2.2.1 Definitions

The term ‘social support’ encompasses many forms of assistance provided by many groups of others to help individuals cope with biological, psychological, and social stressors. This support arises from the numerous relationships relevant to an individual’s support network, including, but not limited to: friends, family, neighbours, shared interest groups, religious and political institutions, work or academic colleagues, and support groups. Broadly, there are three forms of support: practical (outcome-oriented, e.g. performing chores), tangible (material assistance, e.g. giving money), and emotional (reassurances and guidance, e.g. consoling) (American Psychological Association, 2018). Other subcategories have been proposed, like House et al. (1985) which combines practical and tangible support into instrumental

support, then proposes informational support, which includes all efforts to provide information for the individual in need, like giving advice and sharing lessons. Regardless of the way in which it is categorized, social support is necessarily predicated on two factors: the amount available and how effectively it may be received and utilized (Cohen & Syme, 1985; National Cancer Institute, n.d.; Pak et al., 2023; Sarason et al., 1983; Zimet et al., 1990). This investigation differentiates between the amount of support objectively available to an individual and the amount they believe is available to them by adding the term 'perceived' to 'social support' for the latter (Barrera, 1986; Gottlieb & Bergen, 2010). Perceived social support is used in this investigation because, rather than objectively assessing available support, the survey question assessing support (see Appendix A) inquired about participants' beliefs regarding how much support they received. Furthermore, for the purpose of this investigation, 'psychosocial' support is preferred rather than 'social' as it better directs attention to both the physical and psychological aspects of social support.

2.2.2 Potential Modes of Action

The ways through which PPS confers its benefits are myriad and vary according to both the context and the mode of support provided. For instance, the authors of a study on Syrian refugee women in Türkiye suggested that having an extended family helps women be more optimistic towards the future, and that the cooperation and solidarity they provide improves emotional intimacy in stressful conditions (Çankaya et al., 2020). Among unaccompanied male refugee minors in Germany, migration-related stress co-occurred with challenges youth face, like the transition to adulthood, and the researchers theorized that social support and the ability to form new attachments may critically inform mental health trajectories, particularly for youth with minimal family ties in their country of residence (Jensen et al., 2019). Kim et al. (2008) also suggests implicit support–emotional support provided without the disclosure of an individual's issues or feelings–may differ from its opposite, explicit support, in its utility and benefit for individuals from collectivistic vs. individualistic cultures. The authors conjecture that, for instance,

individuals of Asian heritage may be less likely than European individuals to seek explicit support, reducing its potential utility.

2.2.3 Relationship to Other Variables

Numerous studies across regions have uncovered a variety of factors correlated with PPS and related concepts, including lower hopelessness (Çankaya et al., 2020), fewer physical limitations and behavioural problems, and greater social acceptance (Can Yaşar et al., 2014; Schweitzer et al., 2006; Teodorescu et al., 2012). However, most factors associated with social support can be broadly categorized as being either demographic or personal.

Of principal interest to this investigation are significant correlations between social support and resilience, which have been repeatedly elucidated across populations, regions, and contexts. For instance, Connor & Davidson's (2003) foundational study found social support and resilience to be positively correlated among three clinical and one community sample. Similarly, research involving Syrian mothers in Lebanon determined PPS to be associated with increased psychological and parenting resilience (Sim et al., 2019). Furthermore, supported by exploratory analyses, Sim et al. argue emotional support contributes significantly to mothers' psychological resilience, while instrumental support does not. This suggests that different components of PPS are of varying importance in different situations. A systematic review of studies on female breast cancer patients and survivors found several studies that also determined social support to act as a protective factor in the development of resilience (Alizadeh et al., 2018; Bazzi et al., 2018; Huang et al., 2019; Kamen et al., 2017; Wu et al., 2016; Ye et al., 2018; Zhang et al., 2017). This same review also identified two cancer studies involving both women and men that concluded patients who were both highly resilient and used active coping styles were able to utilize social support more efficiently, indicating potential synergistic effects (Costa et al., 2017; Somasundaram & Devamani, 2016).

Research with Syrian refugee women in Türkiye concluded that age negatively correlated with PPS (Çankaya et al., 2020), and a second study found age to be associated with social support satisfaction

(Can Yaşar et al., 2014). However, some factors have yielded inconsistent results. For instance, a qualitative investigation among Burmese refugee women living in the Midwest United States found that being married was of mixed benefit to women, as some partners were supportive while others were abusive or disregarded the women's feelings (Maung et al., 2021). Similarly, educational achievement has also exhibited mixed results; Dailey & Humphreys (2011) and Hung et al. (2012) determined there to be an association with increased social support, while Çankaya et al. (2020) uncovered no significant correlation. Two final factors which correlated with less social support were, among migrants living in Germany, being a non-German citizen (Mylord et al., 2023) and, for Syrian refugee women in Türkiye, living in another country for a long period (Çankaya et al., 2020).

Several mediating effects related to social support have also been discovered. Research by Sierau et al. (2019) in Germany with unaccompanied male refugee minors from Syria and Afghanistan concluded that social support from a mentor moderated the association between the number of serious life events and symptoms of post-traumatic stress disorder (PTSD), depression, and anxiety. Additionally, peer support moderated the relationship between the number of serious life events and anxiety symptoms. For other migrants living in Germany, the relationship between social support and mental health was mediated by resilience (Mylord et al., 2023). Lastly, for Syrian refugees, self-efficacy mediated the relationship between social support and mental health outcomes after a traumatic event (Pak et al., 2023), as corroborated by Benight & Bandura (2004), Maeda et al. (2013), and Major et al. (1990). These studies support the view that social support helps maximize individuals' capacities to manage adversity.

2.3 Resilience

2.3.1 Definitions

Resilience can be understood as the ability to effectively cope with stress to maintain normal functioning (Connor & Davidson, 2003). This simple description, however, cannot account for the myriad factors that make up the phenomenon of resilience (Pangallo et al., 2015). This complexity has produced a base of research that is highly heterogenous in how it defines, operationalizes, and measures resilience,

and no clear gold standard or consensus has been reached (Pangallo et al., 2015; Troy et al., 2023). To illustrate, a literature review of 126 resilience definitions across 80 studies identified five highly varied macro-areas around which definitions center (Sisto et al., 2019).

The first of these resilience macro-areas is the 'ability to recover following adversity', which involves adaptation supported by deeper self-knowledge gained through the adaptation process and influenced primarily by personal and social factors. Similarly, the second macro-area is described as the 'capacity to bounce back' which includes definitions that prioritize the development and implementation of effective coping strategies, and places greater emphasis on perseverance and growth. The third area, resilience as a 'type of functioning that characterizes the individual', manifests as adaptive attitudes and behaviours. This differs from 'capacity to bounce back' in its greater focus on personal views and qualities. The fourth pattern of definitions encompasses definitions which characterize resilience as a primarily 'dynamic process that evolves over time'. This perspective focuses on resilience as a pattern of unique interactions between internal and external factors, which also suggests that it varies across time. The final macro-area, resilience as 'positive adaptation to life conditions', considers thought processes as well as emotional and behavioural responses to be the most important components of resilience. It stresses the role of emotional regulation and appraisal in determining reactions to adverse events and focuses on the potential to thrive after adversity rather than to simply return to normal functioning. This investigation utilizes a definition centered around a perceived high frequency of successful coping, which best aligns with the third view of resilience (a 'type of functioning that characterizes the individual'). Despite the many disagreements, all definitions of resilience fundamentally depend on three necessary components: the presence of a significant stressor likely to produce negative outcomes, the existence of resources within and/or around the individual that can be used to cope with the stressor, and a homeostatic or positive adaptation despite or because of the stressor (Windle, 2011).

2.3.2 Resilience as a Stable or Mutable Trait

The literature is likewise divided about the degree to which resilience varies over time and can be intentionally modified. At one extreme, many consider it to be a relatively stable (Block & Kremen, 1996) trait (Kunicki & Harlow, 2020) once personality solidifies in adulthood, with some arguing it is determined primarily by personality (Chmitorz et al., 2018) or genetically determined traits and processes (Richardson et al., 1990; Richardson & Waite, 2002). Critics of this stance condemn it as poorly able to account for intraindividual variations in resilience across situations and times (Gillespie et al., 2007). For instance, the same individual may manage the loss of her partner in a healthy manner when at home but be unable to cope if it occurs again during migration.

At the other extreme is the belief that resilience has little-to-no relation to innate qualities, rather viewing it as a wholly dynamic process (Luthar et al., 2000; Pangallo et al., 2015; Rutter, 2006; Vanderbilt-Adriance & Shaw, 2008; Werner & Smith, 1992;) through which personal and social resources are mobilized during interactions between individuals and their environments (Sisto et al., 2019). From this perspective, resilience describes the sets of effective coping skills and dynamic processes through which individuals can resist adverse mental health outcomes. For example, learned mindfulness or cognitive-behavioural skills are commonly examined sources of resilience, as they constitute sets of actions which can be taken to cope with stressors. This view, that resilience is readily modifiable, naturally lends itself to the implementation of resilience-promoting programs for at-risk populations, such as unaccompanied refugee minors. In reality, the truth likely lies between the two extremes, with individuals possessed of varying predispositions to resilience, which then produce situationally high/low resilience responses depending on a wide range of personal and contextual factors. Additionally, it should be noted that many of the same factors that affect resilience assessments can likely impact resilience itself. For instance, an optimistic individual may independently perceive their resilience as being high while also being more resilient (Jones & Tanner, 2017).

Furthermore, it has been suggested that patterns of resilience arise via three groups of mental processes: psychological traits (e.g. temperament, intelligence, and cognitive abilities), quality of past experiences, and broad environmental factors (e.g. neighbourhood safety and school quality) (Babić et al., 2020). This investigation supports the prevailing view that resilience is largely modifiable and thus focuses on the potential to improve it through intervention programs.

2.3.3 Subgroups

To address the potential for differing degrees of resilience across situations, previous investigators have differentiated between resilience subtypes. For instance, in their 2020 review, Babić et al. grouped resilience into six categories: personal, group, physiological, psychological, social, and spiritual. The authors also theorized the existence of a seventh group, moral resilience, which describes the maintenance and restoration of moral integrity after moral threats (such as an interpersonal dilemma). Furthermore, the investigators suggested that there are three types of resilience: primary, (the maintenance of personal balance and health), secondary (factors and processes that facilitate coping with crises and reestablishing equilibrium following disturbances), and tertiary (the ability to live an actualized life despite chronic issues). Alternatively, a systematic review of resilience interventions by Chmitorz et al. (2018) distinguished between ‘emergent’ and ‘minimal-impact’ resilience. Emergent resilience is employed following events attributable to a chronic source (e.g. food insecurity) while minimal-impact resilience addresses acute events (e.g. an argument between partners).

Resilience can also be interpreted as a constellation of components. To illustrate, a study that considered resilience measures through an Interactionist framework determined that it had eight interacting themes (six personal and two situational): adaptability, self-efficacy, active coping, positive emotions, mastery (i.e. resourcefulness and an internal locus of control), hardiness (perseverance and commitment), social support, and a structured environment (planning and organization) (Pangallo et al., 2015). Kunicki & Harlow (2020) proposed a similar set of six constructs: purpose in life, self-esteem, life satisfaction, cognitive flexibility, proactive coping, and social support.

Alternatively, some academics prefer a more limited number of broader categories, as was the case in Rainone et al. (2017) which simplified resilience into 'ego resilience' and three categories of resources: individual (e.g. personal/social skills and peer support), relational (e.g. caregiving skills), and contextual (e.g. education and cultural background). Whatever the true delineations are, researchers clearly agree that resilience is comprised of many components which differentially contribute depending on the individual and situation, and that social support and social relations are principal contributors.

2.3.4 Research Frameworks

The first of the two primary frameworks through which resilience research is conducted is the Stress and Coping approach (Folkman, 1984; Lazarus, 1993). Here, focus is directed towards a wide range of negatively valenced real-world stressors, how individuals cope with them and, in turn, how their psychological and physical health are affected as a result. Stress responses are broken down into multiple domains (e.g. subjective experience, behaviour) as well as into both biological (e.g. hormones) and psychological (e.g. affective experience) mechanisms. This framework also primarily considers real-world coping strategies (e.g. problem- and emotion-focused coping) and tangible outcomes when assessing resilience capacity. Since both the Stress and Coping approach and the PPS measure in this investigation's source survey emphasized the role of successful coping (see Appendix A), this is the preferred conceptual framework for this thesis.

The other main framework is the Emotion and Emotion Regulation framework (Gross, 1999, 2015). Contrasting with the Stress and Coping approach, this methodology focuses on emotion-eliciting events, discrete emotions (e.g. joy and anger), and psychological health outcomes, rather than physical health. Emotional responses are divided into similar subdomains as stress responses are using their namesake approach above. This framework is also more focused and specific, directing resources towards relatively few families of emotional regulation strategies and processes. Additionally, studies structured through this framework rely more heavily on controlled experiments examining shorter-term causal effects of emotion regulation.

There is a profound lack of integration (Troy et al., 2023) between the two central resilience frameworks and communication between their proponents (Compas et al., 2017; John & Eng, 2014; Lazarus, 1999), which slows the generation, consolidation, and application of knowledge pertaining to resilience. For instance, only 1% of studies about children and adolescents focus on both coping and emotional regulation within the same study (Compas et al., 2017). Thus, efforts have been made recently to unify the two frameworks, with one such example being the Affect Regulation framework proposed by Troy et al. (2023). This method is founded on the principal agreement between its two composite approaches that, in response to adversity, individuals endeavor to manage both the adversity itself and their own affective responses to them. Within the framework, four families of affect regulation strategies are distinguished: situation change, attentional deployment (i.e. shifting attention to another stimulus), cognition change, and response modulation. Moreover, the short-term consequences of affect regulation are divided into multiple domains (affective experience, affective behaviour, autonomic physiology, social processes, cognitive effort, and engagement), and resilience is explained through multiple domains rather than one alone. Overall, this approach focuses on the core factors of resilience and maximizes its contextual complexity, while still maintaining reasonable simplicity.

Particularly in recent years, resilience has also been viewed through an Interactionist perspective, a good example of which is a systematic review of resilience measures conducted by Pangallo et al. in 2015. Interactionism, in the context of resilience, examines the interplay between personal and situational variables in order to explain the dynamic and contextual nature of resilience. It rejects the global assessment of individual differences in favour of more nuanced and contextualized individual assessments. A distinction is made between mechanistic interactionism—the view that personal and situational variables are distinct and static—and dynamic interactionism—the view that these variables fluctuate and mutually influence one another. For the purpose of resilience assessment, the authors favour dynamic interactionism over mechanistic, as it better aligns with interactionism's central purpose of examining fluctuating relationships.

Two primary principles of dynamic interactionism are that 1) individuals are not randomly allocated to their environments but rather have some agency in selecting and creating their situations, and 2) environments can perpetuate characteristics previously developed in response to earlier socialization experiences (Zuroff, 1992). For example, a confrontational individual may be likely to cope with disagreements through arguments, and if this confrontational behaviour produces desirable outcomes, then they are more likely to repeat such behaviour in the future, reinforcing a positive feedback loop. This, termed the Corresponsive Principle (Roberts & Caspi, 2003), attempts to explain behavioural consistency as individuals seeking experiences aligned with their preferences and dispositions, then having those preferences and dispositions reinforced or punished in turn. Viewed through an Interactionist lens, resilience is highly contextual and variable.

2.3.5 Coping

Coping, the cornerstone of resilience, involves action regulation under stress, including the coordination, mobilization, energization, direction, and guidance of behaviour and emotion in response to stressors (Skinner & Wellborn, 1994; Skinner & Zimmer-Gembeck, 2007; Zimmer-gembeck et al., 2014; Zimmer-Gembeck & Skinner, 2011). Coping helps to regulate emotions, distress, and the distressing problem itself (Folkman, 1984) through purposeful action (Compas et al., 2017). Compared to emotional regulation, which widely occurs in the presence of any emotion, coping involves regulation specifically in response to stressors (Aldao et al., 2010; Thompson, 1994) and broadly occurs along three axes (Troy et al., 2023). The first, and most emphasized (Compas et al., 2017; Lazarus, 1993; Skinner et al., 2003), is Problem- vs Emotion-focused coping, which is the targeting of efforts primarily towards one's situation vs one's emotions. For example, an unemployed migrant may cope by searching for work (thereby improving her situation) or by convincing herself the situation provides much needed rest (thereby resolving her distress). Note, however, that these two strategies are not mutually exclusive (Carver & Connor-Smith, 2010; Lazarus, 1999) but rather are interdependent (Lazarus, 2000) and typically co-occur (i.e. she can search for work while also managing her emotional distress) (Folkman & Lazarus, 1980;

Lazarus & Folkman, 1984; Tennen et al., 2000). The second locus is the Approach vs Avoidance axis which is concerned with the choice of whether to engage actively with or avoid adverse events (Carver & Connor-Smith, 2010). A simple example is a migrant deciding whether to confront her disruptive family member or avoid conflict in hope that the situation resolves itself. The third is Cognitive vs Behavioural coping, which describes whether an individual's priority is to modify their thoughts or their behaviours (Skinner et al., 2003) in response to stressors; this is similar to the first axis, however with a more internal focus.

2.3.6 Stressors

When characterizing resilience, it is necessary to understand two conditions: exposure to significant adversity, and neutral-or-positive mental health outcomes despite adversity (Luthar, 2006). While the latter has been discussed above and is the focus of most studies, the former is understood remarkably less well, especially in migration settings. A stressor is considered significant when the relationship between a person and their environment strains or exceeds their ability to manage it, thus endangering their well-being (Folkman, 1984). Note that this definition does not consider eustress—a low and often beneficial level of stress—to be adversarial in a resilience context, as it is, by definition, manageable. Garmezy (1993) and Rutter (1988) similarly define a significant stressor as when a situation is perceived to lack a reachable solution and can lead to dysfunctional adaptation and psychological distress. As an example, in a study on Zimbabwean and Congolese refugees in South Africa, loneliness, leaving their home nation, feelings of worthlessness, and the absence of social contacts were significant sources of stress, as none of these factors could be easily resolved (Labys et al., 2017).

In characterizing stressful situations, distinctions are made between acute and chronic stressors, as the latter more significantly impact reactivity and are not spontaneously followed by a homeostatic return to baseline even after cessation of the stressor (Babić et al., 2020). However, beyond this, little effort has been made to systematically describe and characterize stressors, making direct comparisons futile as the contextual aspect of resilience necessitates comprehending the situations in which adversity

occurs (Jones & Tanner, 2017). As an illustration, consider a comparison between the stress caused by a trans-Mediterranean migration and by the need to engage in survival sex. To quantify the severity of these stressors, innumerable variables must be considered, including but not limited to, duration, presence of socially supportive peers, the individual's previous experience with analogous situations, the individual's degree of optimism, and the situation's perceived transience. Unfortunately, there is currently no effective and accepted process allowing such situations to be systematically characterized, nor one to determine the degree and ways in which they are stressful. This has severely complicated cross-contextual discussions of resilience, irrespective of evidence that there are different outcome trajectories and resilience pathways depending on the adversities experienced (Bonanno & Diminich, 2013; Masten & Narayan, 2012). To address this, Endler, a proponent of interactionism, recommended in their 1983 study that researchers develop 'systematic taxonomies of situations'. These would involve extensive deconstructions of situations and characterizations of their features to provide a framework within which individuals' behaviours may be more consistently and objectively understood and compared.

2.3.7 Resilience Research Methodologies

2.3.7.1 History

Influenced by the Second World War, academics during the earliest phase of resilience research sought to understand how individuals overcame traumatic events and, particularly, how the negative aspects of these events could be transformed into positive outcomes (Sisto et al., 2019). Decades later, considering how resilience development is intimately intertwined with personality development (Babić et al., 2020), researchers concentrated on youth who, despite difficult childhoods, developed into healthy and high functioning adults. However, combined with a principal focus on chronic stressors experienced throughout childhood, conclusions drawn from this research lacked generalizability outside of developmental settings (Bonanno & Diminich, 2013). Learning from this, modern resilience research has shifted away from contextually specific risk factors to broad sets of protective factors in many contexts.

The main goal has been to elucidate what factors, in the presence of adversity, lead to positive processes resulting in positive mental health outcomes (Sisto et al., 2019).

2.3.7.2 Study Design Temporality

Studies rely on either within- or between-person comparisons to understand resilience in different situations. Between-person comparisons, employed in most modern research, involve comprehensively assessing participants, then contrasting them to elucidate which factors most often co-occur with different levels of resilience. Meanwhile, within-person comparisons involve repeatedly assessing individuals' mental states, levels of resilience, and contexts over time. Comparisons then occur between timepoints to determine which factors changed along with resilience. This style is advantageous because it is better equipped to assess behavioural consistency across situations (Pangallo et al., 2015). Additionally, its time-dependency facilitates efforts to account for resilience having both short- and long-term facets, which may not be properly captured with cross-sectional assessments (Jones & Tanner, 2017). For example, while cross-sectional studies can describe individuals' adaptive responses to recent or ongoing adversities, they are incapable of comprehensively assessing how individuals minimize chronic distress caused by traumatic events having occurred years prior. However, more specificity in understanding individual experiences necessarily reduces generalizability. This issue, that resilience is a highly individualistic phenomenon which necessitates equally individualistic assessments, has plagued resilience research efforts as an excessive focus on individualism necessarily yields narrowly applicable results.

2.3.7.3 Measuring Resilience

A similar dilemma arises when considering the use of primarily objective measures of resilience (e.g. assessing the size of an individual's extended family) vs. subjective measures (e.g. assessing the individual's confidence that their family would assist in a time of need). What constitutes resilience is highly individual, thereby necessitating subjective measures, as only the individuals themselves can fully understand their own resilience. However, this results in poorly generalizable conclusions, thereby instead necessitating comprehensive objective measures, since they enable consistent comparisons across

populations. But realistically, resilience is too multifaceted to be fully accounted for with objective measures—which also discount the ability of individuals to accurately assess their own resilience (Jones & Tanner, 2017). Sample sizes are also limited as objective assessments require high per-person expenditure to be effective. The current study thus relied on a subjective measure which permitted a large sample size for analysis.

As resilience is a highly contextual phenomenon, a plethora of inventories have been developed to assess it and its components. The Connor-Davidson Resilience Scale (Connor & Davidson, 2003) is the most widely used and the Brief Resilience Scale is also frequently employed (Smith et al., 2008). Beyond these, there are also many metrics designed for subpopulations, like the Resilience Scale for Adults (Friborg et al., 2003) and Child and Youth Resilience Measure (Ungar & Liebenberg, 2011).

2.3.8 Resilience Interventions

The natural product of resilience research is the development, testing, and implementation of resilience-promoting interventions. The literature contrasts between automatic and controlled coping processes, including those that are incidental vs. intentional, non-conscious vs. conscious, and involuntary vs. voluntary. Early in development, temperamental differences in reactivity to the environment emerge which, coupled with associative conditioning, are the basis for these automatic processes in adulthood. This results in processes which are difficult to modify later in life. Therefore, interventions augment resilience by instead targeting controlled coping skills, such as those which manage stress and emotions (Compas et al., 2017). However, there is no consensus on the optimal method or duration for training.

As an illustration, a 2018 systematic review and meta-analysis by Joyce et al. compared 17 resilience training programs and interventions. In it, all trials were centered around cognitive-behavioural training, mindfulness training, or both. The specific methods implemented were also highly variable, involving combinations of psychoeducation, mindfulness, cognitive skills, self-compassion skills, gratitude practice, emotional regulation training, relaxation, and goal setting. Most programs consisted of multiple 60-90 minute group sessions that spanned several weeks with total durations ranging from 2-28

hours. Overall, 80% of the interventions utilized in-person formats while the remaining 20% were a mix of bibliotherapy, online webinars, and phone coaching. By termination, the cognitive-behavioural- and mindfulness-based interventions demonstrated overall small and moderate positive effects on resilience, respectively, with both reaching moderately large positive effects after six-month follow-ups.

2.3.9 Relationship to Other Variables

While resilience research is highly diverse, most variables analyzed can be broadly grouped into one of four categories: psychological, sociodemographic, social, and clinical.

2.3.9.1 Psychological Variables

The current trend in the literature is to examine protective factors that promote resilience. As such, several important positive personality traits have been identified. This is well evidenced by a 2019 literature review by Sisto et al. which found humour, acceptance, and altruism to be vital components of resilience. Optimism was also determined to be an essential trait across age groups, as supported by Aitcheson et al. (2017), Pieloch et al. (2016), and Majumder (2016). Additionally, regularly experiencing positive emotions (Fadhlia et al., 2022; Welsh & Brodsky, 2010) and—for refugee women specifically—possessing mental fortitude, contribute to heightened resilience (Byrskog et al., 2014). Mental skills and ways of thinking, such as flexible cognition (Sisto et al., 2019) and the utilization of active coping methods, are also important (Costa et al., 2017; Sisto et al., 2019; Somasundaram & Devamani, 2016). Among refugee adolescents, possessing self-regulation skills is also beneficial (Aitcheson et al., 2017). Numerous other factors have also been identified for various groups, like how more resilient migrant children tend to mature quickly (Majumder, 2016) and value education more (Pieloch et al., 2016). Alternatively, resilient adults have been shown to plan well for the future (Civan Kahve et al., 2021) or to orient themselves positively towards the future (Byrskog et al., 2014; Fadhlia et al., 2022), while resilient students adjust to new environments more effectively (Wang, 2009). Finally, work in 2020 by Aizpurua-Perez & Perez-Tejada involving women with breast cancer demonstrated psychological variables, as a broad category, positively correlated with resilience.

2.3.9.2 Sociodemographic Variables

Age, a commonly measured variable, tends to be positively correlated with resilience among adults (Tso & Shukla, 2022; Wang, 2009) and displaced children (Aitcheson et al., 2017). However, this is not always the case, as evidenced by the inverse correlation in Walther et al. (2021) and the null result in Connor & Davidson (2023). Similarly, studies examining the relationship between gender and resilience often find male gender correlates with higher levels of resilience (Connor Johnson, 2021; Pak et al., 2023; Rodriguez-Llanes et al., 2013; Wang, 2009), although null results are not uncommon (Connor & Davidson, 2003). The same is true for marital status, where being married has both been associated with increased (Tso & Shukla, 2022; Wang, 2009) as well as decreased resilience (Pak et al., 2023). There is also evidence that being a parent (Walther et al., 2021), a citizen of the host nation (Mylord et al., 2023), and a university graduate are important for refugee resilience (Pak et al., 2023). For international students attending American universities, contributors to elevated resilience include students' communities of origin, levels of international experience, English language proficiencies, majors, times since migration, and fathers' educations (Wang, 2009).

Finally, when making comparisons within a particular study, ethnicity varies in how well it predicts resilience depending on the groups selected, such as in Connor & Davidson (2003) which found no difference in resilience between white and non-white participants. It has been suggested that resilience is internationally consistent except in highly collectivistic cultures, such as in many Asian nations (Wang, 2009). Furthermore, the higher-order resilience model developed by Kunicki & Harlow (2020) fit reasonably well across ethnicities. So, it is probable that the results of cross-ethnic comparisons are highly specific to the selected ethnicities and thus results often differ between studies.

2.3.9.3 Social Variables

The relationship between resilience and social supports has been examined within numerous contexts and life stages across several decades. A positive correlation has been demonstrated repeatedly, in general (Alizadeh et al., 2018; Bazzi et al., 2018; Connor & Davidson, 2003; Costa et al., 2017; Huang

et al., 2019; Kamen et al., 2017; Nowicki et al., 2020; Sisto et al., 2019; Somasundaram & Devamani, 2016; Wu et al., 2016; Ye et al., 2018; Zhang et al., 2017), for international graduate students living in the United States (Wang, 2009), and following disasters (Rodriguez-Llanes et al., 2013). Likewise, positive associations between social support and resilience have been identified among refugees (Walther et al., 2021) from many cultures, including those from Turkoman (Civan Kahve et al., 2021), Syrian (Fadhlia et al., 2022), and Somali backgrounds (Ellis et al., 2016). Pak et al. (2023) also provided evidence of the importance of social supports and self-efficacy for Syrian refugees, as corroborated by Ferren (1999), Hamill Skoch (2003), and Schweitzer et al. (2007).

Other social factors have also been identified as vital for refugees, including cultural identity (Fadhlia et al., 2022), supporting refugee causes (Walther et al., 2021), being employed (Tso & Shukla, 2022), and having quality role models (Sisto et al., 2019) and community networks (Ellis et al., 2016). A study involving refugee children also found correlations between resilience and family connectedness, connection to home culture, sense of belonging, and social support (Pieloch et al., 2016). Similarly, resilient, unaccompanied refugee minors may have more supportive living arrangements (Mitra & Hodes, 2019) and resilient refugee adolescents may have a greater sense of family coherence (Aitcheson et al., 2017). Lastly, being involved in a business has been correlated with high levels of resilience among refugee women, and Syrian mothers experiencing high levels of emotional support have been shown to possess increased psychological and parenting resilience (Sim et al., 2019).

2.3.9.4 Clinical Variables

Evidence suggests that previous experience with significant stress (Sisto et al., 2019) and adversity is often present among highly resilient individuals (Majumder, 2016). Despite this, Civan Kahve et al. (2021) suggest patients with PTSD may not be differentially resilient when compared to patients without the disorder. However, the researchers also found that, among patients diagnosed with PTSD, those with less severe trauma exhibited higher resilience, suggesting level of trauma may be a more important predictor. As well, research on depression has consistently concluded it is linked with low

resilience (Khalaf et al., 2020; Lin et al., 2020; Loprinzi et al., 2011; Luceño-Moreno et al., 2020; Somasundaram & Devamani, 2016; Yörük & Güler, 2021). Relatedly, a systematic review of research focused on healthcare workers during the Covid-19 pandemic found eight studies that indicated lower Covid-19 related anxiety was associated with higher resilience (Labrague, 2021).

2.3.9.5 Other Variables

The contribution of religious beliefs to resilience, especially among refugees, has been repeatedly demonstrated (Sisto et al., 2019), including for Syrians (Fadhlia et al., 2022; Pak et al., 2023) and Palestinians (Skalisky et al., 2022), children (Majumder, 2016), and Somali women (Byrskog et al., 2014; Ellis et al., 2016), although null results have been found (Walther et al., 2021). However, most of this research has been focused on Muslim participants, and thus little is known about the association between religiosity and resilience among refugees/migrants of other faiths.

Other potentially significant variables include variations in the CRHR1 gene (Sleijpen et al., 2017), the presence of life opportunities (Fadhlia et al., 2022; Walther et al., 2021), exercise (Sisto et al., 2019), and general predictors of positive development in children (Jafari et al., 2022). There is also evidence to support resilience as a mediator, some examples of which include the relationships between social support and mental health (Mylord et al., 2023), between hospitableness and social inclusion (Altinay et al., 2023) and—in conjunction with self-esteem—between stressful life events and traumatic stress, anxiety, depression, and externalization (Yetim, 2022). Inversely, evidence suggests self-efficacy may mediate most of the relationship between social supports and resilience (Pak et al., 2023; Schwarzer & Knoll, 2007; Wang et al., 2018).

2.4 Summary

In this chapter, the literature on PPS and resilience was reviewed, with particular emphasis on their relationships to other variables and how resilience is defined, conceptualized, and studied. Several important research gaps were also identified, including the lack of information on female South American

migrants, the small number of studies which employ large sample sizes, and the overall lack of consensus across the resilience literature base.

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Chapter 3

Methods

3.1 Introduction

Having established context for the current investigation, this chapter provides an overview of the implemented methodology, including its data source, array of variables, analytical procedures, and ethical considerations.

3.2 Data Source

3.2.1 Source Study

This thesis is a secondary analysis of data collected from January to April 2022 in a cross-sectional, qualitative/quantitative study codesigned by Ms. Monica Noriega of the International Organization for Migration and Dr. Susan Bartels of Queen's University. This source investigation examined the gendered migration experiences of female Venezuelan migrants in Brazil, Ecuador, and Peru.

3.2.2 Sampling

Following a pilot study which ensured the adequacy and accuracy of the survey questions and their Spanish translations, trained research assistants interviewed 9116 participants, aged 14 and above, at nine locations across Brazil (Boa Vista, Manaus, Pacaraima), Ecuador (Huaquillas, Manta, Tulcan), and Peru (Lima, Tacna, Tumbes). In all locations, the research team utilized convenience sampling, though some snowball sampling took place in Lima where refugees/migrants were already well integrated into the host community and thus were more difficult to identify. Recruitment occurred in public spaces frequented by migrants, including border crossings, points of aid distribution, and refugee/migrant shelters, among others. Additionally, members of equity-deserving groups, such as those identifying as having disabilities and/or being Indigenous, racialized, and/or LGBTQ+, were intentionally recruited through community-based organizations supporting them.

3.2.3 Sensemaking

Sensemaking is a mixed qualitative/quantitative narrative capture methodology in which participants share their own experiences on a topic of interest and then plot their emotions, intentions, perspectives, and wishes in relation to that shared narrative (Brown et al., 2015; Merwe et al., 2019; Women's Refugee Commission, 2021). In the 2022 study, participants were asked to share brief 'micro-narratives' on the migration experiences of Venezuelan women and girls, before completing a questionnaire that prompted them to reflect on their shared experience and provide contextual and demographic information. In obtaining a mix of quantitative and qualitative data, this methodology enables a more nuanced understanding of complex issues than either data type would in isolation. Since qualitative interviews are detailed, but resource intensive, while surveys tend to be simple, albeit shallow, the integration of quantitative survey questions into brief qualitative interviews balances depth with efficiency in order to facilitate increased sample sizes with minimal loss of detail. Sensemaking methodology is also robust against interpretation bias since participants interpret their own narratives. Additionally, social desirability bias is reduced as, within each interpretation question, response options are either all positive, all negative, or all neutral, thereby reducing the tendency for participants to select the most socially desirable option.

3.2.4 Survey

The original survey (Appendix B) contained two distinct sections. The first required five-to-ten minutes and involved participants responding to their choice of three open-ended prompts regarding the migration experiences of Venezuelan women, either by typing or recording audio about an experience centered around themselves or someone they knew. The second section contained 31 questions, in several formats, which also required five-to-ten minutes to complete. Five 'triad' questions had participants plot their responses along a triangular plane with a response option at each vertex. Four 'dyad' questions permitted a value along a continuous line between two extremes. One 'star' question prompted participants to rate their perspectives on seven metrics using a two-dimensional grid with 'financial

security' along the x-axis and 'well-being' along the y-axis. Nineteen single-response multiple-choice questions and one double-response question collected data to contextualize the shared experiences of the refugees/migrants central to the micro-narratives as well as those of the research participants (as participants could share either first- or third-person micro-narratives). Finally, a single free-text question had the women record a whole number for their age in years.

3.3 Variables

This investigation's conceptual model is presented in Appendix C. Additionally, the variables used and their corresponding survey questions, available responses, and coding, are summarized in Appendix A. Finally, all "Prefer not to say" or "Not sure" responses were considered to be missing in the analyses.

Perceived Psychosocial Supports (Exposure)

PPS was quantified through the slider question "The woman/girl in the shared story was…" which allowed values along a continuous range from "Provided with absolutely no supports/services" to "Provided with too many supports/services". Responses were collapsed into the three tertiles, with the bottom tertile being the reference group. This variable was chosen because PPS is a well documented and significant component of resilience. It is also known that social supports correlate with resilience across a variety of populations and contexts, including among those displaced by humanitarian crises worldwide (Ellis et al., 2016; Fadhlia et al., 2022; Mitra & Hodes, 2019; Pieloch et al., 2016; Rodriguez-Llanes et al., 2013; Walther et al., 2021).

Psychological Resilience (Outcome)

Resilience was assessed by the single-response question "At this time, I am able to cope with the challenges I face" which included four response options: "All The Time", "Most Of The Time", "Some Of The Time", and "Never". These were dichotomized in the analysis into "All the time" and "Not all the time", with the latter being the reference category. This delineation was utilized to differentiate between

participants who were fully resilient and those with the potential for improvement. This categorization would help increase the reach of proposed interventions to include all participants who may benefit from them, rather than only the most in need—aligning with the humanist viewpoint that all individuals deserve the opportunity to live healthy, actualized lives.

Age

Age was collected through the question "What is your age?", to which participants responded by typing in a whole number (though none younger than 14 were invited to participate). This variable is a common consideration in resilience studies (Connor & Davidson, 2003; Walther et al., 2021) with some researchers further differentiating between groups such as children (Aitcheson et al., 2017), adolescents, adults (Tso & Shukla, 2022; Wang, 2009), women of fertile age, or seniors. Age was considered a potential confounding variable as it was theorized that older individuals would have more experience coping with adversity in addition to larger support networks and more developed abilities to grow those networks.

Ethnicity

Participants' ethnicities were broadly assessed by the question "Which of the following groups, if any, did the woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?". Response options included "Mestiza", "Indigenous", "Afro Descendant", "Other", and "Did Not Identify With Any Of These Groups". Ethnicity is a frequently assessed variable in the literature (Civan Kahve et al., 2021; Connor & Davidson, 2003; Ellis et al., 2016; Fadhlia et al., 2022) because it can affect social networks and predispose individuals, particularly those belonging to minority groups, to unique experiences that may impact their resilience in myriad ways. Thus, this variable was included as a potential confounder. Additionally, information on the experiences of women belonging to ethnic minorities was vital to include as it is imperative that researchers account for these historically disadvantaged and underserved populations to ensure they receive the attention and equity they deserve.

Having a Child

Whether the women had children was measured through the question “How many children do you have?” which was dichotomized from three response options, “0”, “1 – 2”, and “3 Or More”, to “Yes” and “No”, with the latter being the reference category. Resilience studies like, for instance, Walther et al. (2021), also commonly include whether participants have children as a potential confounder because children are typically highly influential on their parents’ social networks, while also greatly impacting their ability to cope and regulate their emotions (two critical components of resilience).

Having a Partner

The survey determined if participants had life partners with the question “What is your marital status?”. The four options, “Married/In A Union”, “Divorced/Separated”, “Widowed”, and “Single, Never Married”, were dichotomized into “Married/In A Union” and “Not Married/Not in a Union”. As with children, life partners significantly impact social networks and can either fortify or diminish the capacity of their partners to respond to adversity through the myriad ways they may support or hinder them (Pak et al., 2023; Tso & Shukla, 2022; Wang, 2009).

Identifying as LGBTQ+

Participants had the opportunity to identify as LGBTQ+ with the question “Did the women or girl in the shared story identify as LGBTQ+?”, which offered “Yes” and “No” as response options. Inclusion of this question was justified for similar reasons as the ethnicity question, especially considering the high levels of stigma that gender and sexually diverse Venezuelans experience (Vásquez Roa, 2022).

Length of Displacement

Participants were asked “How long ago did you leave your home in Venezuela?” and were provided with four choices for their answers: “< 1 Year”, “1 – 3 Years”, “3 – 5 Years”, and “> 5 Years”. While rarely examined in this manner in the literature, this factor was included because it was predicted

that, compared to recently displaced individuals, participants who had been displaced longer would have had more time to develop new support networks and to reestablish or improve their resilience following displacement adversity.

Miscellaneous Health Issues

Participants were asked to identify whether they experience one of three common health issues through the question “Which of the following groups, if any, did the woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?”, which provided four responses: “Having A Disability”, “Experiencing Mental Health Problems”, “Use Of Alcohol And Drugs”, and “Did Not Identify With Any Of These Groups”. Self-reported identification with any these groups was predicted to confound the PPS-resilience relationship, as they are likely to impact participants’ degrees of social support and resilience in a difficult-to-predict manner. For instance, participants who struggled with substance misuse may have felt more supported in the case of their in-groups protecting them, or less supported if they were ostracized by their communities. Similarly, some with histories of substance misuse may have had established coping strategies and higher levels of resilience, yet other individuals may have struggled to maintain access to their coping mechanisms in their new environments, thereby predisposing them to poor resilience.

Relative Wealth

Relative wealth was assessed with the question, “Relative to the wealth level of others in the community, was the woman/girl in your story…” which contained five possible responses: “Very Poor”, “Poor”, “Average”, “Wealthy”, and “Very Wealthy”. In accordance with the literature, it was conjectured that wealthier participants would have more access to resources to improve their support and resilience (Bruno et al., 2023; Festerling et al., 2023). For example, wealth can be used to attend community gatherings to augment social support as well as complete childcare classes to improve resilience against parenting stressors. While no modifications were initially planned, following an exploratory analysis

which determined nearly no participants considered themselves wealthy or very wealthy relative to others in their communities, these categories were combined with ‘Average’ into ‘Average or Above’ for the analyses.

3.4 Statistical Analysis

3.4.1 Exclusion Criteria

First, non-autobiographical narratives were removed by excluding participants who did not respond “About Me” to the question “Who is the story about?”. This was essential as half of the questions relevant to this investigation referenced the women/girls in the stories while the other half referenced the respondents themselves. By limiting the analysis to participants who shared autobiographical narratives, the data from the two sets of questions could be combined for analysis. Next, stories shared by individuals who did not identify as women (assessed by their choosing “Woman” for the question “How do you identify?”) were removed, since women and girls were the focus on this investigation. Finally, women who failed to answer both the PPS and resilience questions were excluded as their data would have been ineffective in the analyses.

3.4.2 Missing Values and Outliers

Abstinent responses were converted into missing values and, to minimize additional artificial alterations to the original dataset, data points with missing values were used without modification for the descriptive and bivariate analyses. Alternatively, to make interpretations of the odds ratio (OR) estimates more consistent, complete case analysis was employed for the logistic regression model. It was assumed that, because the topics explored in the micro-narratives were often highly emotionally significant, participants were committed to completing the survey, thereby minimizing the frequency of missing values. However, it was also possible that some participants became emotionally overwhelmed and so stopped responding partway through the questionnaire, resulting in more missing values for questions which appeared later in the survey. Fortunately, exploratory analyses suggested that little data was missing and that its removal would have no major impact on any observed associations. This indicated

that the data was largely missing at random and thus complete case analysis would not significantly bias the results.

Since the survey was administered using electronic tablets, and most of the relevant survey questions were bounded or multiple-choice, outliers were rarely possible. The exception was the age question as it allowed any whole number and thus a small number of erroneous ages below 14 or above 120 were expected and would be considered to be missing.

3.4.3 Analyses

The first part of the analysis produced descriptive statistics for the ten variables utilized in this investigation, including response frequencies and measures of spread. Secondly, bivariate analyses, involving chi-squared tests between resilience and each covariate, demonstrated how each individual variable correlated with resilience. Finally, simple logistic regression modelling yielded unadjusted associations, with corresponding 95% confidence intervals (CIs), between resilience and each covariate. A multivariate logistic regression model was also constructed to elucidate each variable's contribution to the PPS-resilience relationship. This model initially contained the full set of ten variables as they were all justified by the literature or were of specific interest to this investigation. Then, the variables that did not contribute meaningfully to the model were removed using backward selection with a generous inclusion threshold of $p<0.20$. This cut-off was selected because of the high variability that is characteristic of resilience research, in addition to the lack of prior research into the resilience of female South American migrants. A threshold of $p<0.20$ thus allowed for these variations and knowledge gaps while still empowering the model to produce meaningful results. From this final, parsimonious model, each response category's effect estimate, standard error, p-value, OR, and 95% CI was computed with respect to their reference values.

3.5 Sample Size Calculation

Based on a desired CI of 95%, a detectable effect size of 5%, and a conservative literature estimate of 19.2% for the prevalence of resilience among refugees (Popham et al., 2023), the minimum sample size required by this analysis was 240 participants (see Appendix D for calculation). However, as the measure of resilience utilized in this study differs from those most often employed in the literature, and studies rarely present resilience prevalence, a significant degree of inaccuracy in this value is to be expected. Despite this, with 5990 narratives available after exclusion (5338 for the regression model), this analysis undoubtedly utilized a sufficient sample size to achieve results with the desired parameter values.

3.6 Ethical Considerations

The original dataset contained no unique identifiers; thus, the data used in this analysis was fully de-identified such that no individual participant could be linked to their responses. There was therefore minimal likelihood of privacy concerns arising during analysis. Additionally, participation in the study was voluntary, and informed consent was obtained from each participant. Minors under 18 years of age and traveling alone were considered to be 'emancipated minors' and were therefore able to give informed consent without a guardian present. No compensation was provided for participation and a minimal time commitment (~15 minutes) was required. Ethics clearance from the Queen's University Health Science Research Ethics Board was acquired for access to data and the conduct of this investigation (see Appendix E).

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Chapter 4

Results

4.1 Introduction

This chapter presents descriptive statistics and the results of the bivariate analyses and logistic regression modelling. Accompanying summarizing figures are provided.

4.2 Final Sample

The results of the exclusion process are summarized in Appendix F. The dataset initially contained 9339 narratives shared by 9116 unique participants, as participants could share more than one experience. After excluding 2480 non-autobiographical narratives, 6859 remained. Of these, 634 were shared by participants who did not identify as women, reducing the total to 6225. Furthermore, 235 response sets without both the PPS and resilience questions answered were removed for a sample of 5990 data points available for the descriptive and bivariate analyses. The logistic regression model included 5338 data points since 602 micro-narratives lacked complete data. All general associations in the data remained unchanged after the exclusion criteria were applied, except for the proportion of participants who reported using alcohol and drugs, which decreased from 1.48% to 0.57%. This suggested the included and excluded participants did not differ systematically, indicating minimal selection bias from the exclusion process.

4.3 Missing Values

The two assumptions made previously—that missing values would be infrequent and randomly distributed—were largely validated, as the only variables with more than ~1% missing data were relative wealth (4%) and ethnicity (6%), and the observed associations did not change after removing incomplete datapoints (13%) for the regression modelling.

4.4 Descriptive Statistics

Descriptive statistics for the survey responses provided by the 5990 participants who remained after exclusion are summarized in Table 4.1. 64% of participants reported being always able to cope, while <1% were never able to. For the PPS slider question, responses were common around 0.2 and 0.75 and uncommon around 0.5, while the most frequent values by a wide margin were 0 and 1. Age was normally distributed with a right skew, a mean of 32.7 years, and a median of 30 years. Furthermore, after removing the three invalid values well below the minimum participation age of 14 years, the interquartile range was 15 years and the oldest participant was 89 years old. Longer periods of displacement were progressively less frequent, falling from 48% at <1 year to only 2.5% at >5 years. Intriguingly, only 9% of the women reported experiencing any of the three miscellaneous health issues and only 3% identified as LBGTQ+. The number of children reported varied while most women either had a partner (47%) or were single and never married (43%). Finally, nearly all participants considered themselves average (33%), poor (50%), or very poor (13%) compared to others in their communities.

Table 4.1 Survey Response Frequencies

Variable	Response	Total (n=5990)	Frequency
Resilience (Outcome)	All the Time	3872	64.6%
	Most of the Time	1227	20.5%
	Some of the Time	842	14.1%
	Never	49	0.8%
Ethnicity	Mestiza	3309	55.2%
	Afro Descendant	342	5.7%
	Indigenous	272	4.5%
	Other	56	0.9%
	None	1657	27.7%
	Prefer Not to Say/Not Sure/Missing	354	5.9%
Having a Child	0	1002	16.7%
	1 - 2	2742	45.8%
	3+	2206	36.8%
	Prefer Not to Say/Missing	40	0.7%
Having a Partner	Single	2551	42.6%
	Married/In a Union	2818	47.1%
	Divorced/Separated	400	6.7%
	Widowed	175	2.9%
	Prefer Not to Say/Missing	46	0.8%
Identifying as LGBTQ+	Yes	161	2.7%
	No	5676	94.8%
	Prefer Not to Say/Not Sure/Missing	153	2.6%
Length of Displacement	< 1 Year	2869	47.9%
	1 - 3 Years	1783	29.8%
	3 - 5 Years	1129	18.9%
	> 5 Years	148	2.5%
	Prefer Not to Say/Not Sure/Missing	61	1.0%
Miscellaneous Health Issues	Disability	412	6.9%
	Mental Health Issues	96	1.6%
	Alcohol and Drugs	34	0.6%
	None	5448	91.0%
Relative Wealth	Very Wealthy	2	0.0%
	Wealthy	19	0.3%
	Average	1986	33.2%
	Poor	2981	49.8%
	Very Poor	779	13.0%
	Prefer Not to Say/Not Sure/Missing	223	3.7%

4.5 Bivariate Analysis

Table 4.2 presents comparisons between the resilience groups. Following recoding (see Appendix A), 65% of participants reported being able to cope all the time (the 'high resilience' group) vs. 35% who reported not being able to cope all the time (the 'low resilience' group). After stratifying the data by resilience, some interesting patterns emerged. First, within each resilience category, equal proportions of participants were in the bottom and middle tertiles of PPS (30.2% vs. 30.7% for the high resilience group and 38.4% vs. 38.7% for the low resilience group). However, being in the top tertile was nearly twice as common for high vs. low resilience women (39% vs. 23%, $p<0.0001$). The most resilient participants were also more likely to have been displaced for <1 year (51% vs. 44%) while, for all longer periods, less resilient migrants were more common ($p<0.0001$). High resilience was also correlated with having a child (84.1% vs. 81.4%, $p=0.009$) and a partner (48.4% vs 45.6%, $p=0.042$). Despite low numbers, each of the three miscellaneous health issues were more common among the low resilience group ($p<0.0001$). Finally, differences between the groups were minimal with regards to participants' ethnicities ($p=0.19$) and whether they identified as LGBTQ+ ($p=0.96$), and the age distribution was largely similar for both groups.

Table 4.2 Characteristics of High and Low Resilience Migrants

Variable	Category	Resilience				P-Value
		All the Time (n=3872)		Not All the Time (n=2118)		
		n	%	n	%	
Perceived Psychosocial Supports (Exposure)						**<0.0001***
	Bottom Tertile	1171	30.2%	814	38.4%	
	Middle Tertile	1189	30.7%	819	38.7%	
	Top Tertile	1512	39.0%	485	22.9%	
Ethnicity						0.1886
	Mestiza	2137	58.3%	1172	59.5%	
	Afro Descendant	236	6.4%	106	5.4%	
	Indigenous	180	4.9%	92	4.7%	
	Other	30	0.8%	26	1.2%	
	None of These Apply	1083	28.0%	574	27.1%	
	Missing	206		148		
Having a Child						**0.0090***
	Yes	3241	84.1%	1707	81.4%	
	No	613	15.9%	389	18.6%	
	Missing	18		22		
Having a Partner						**0.0420***
	Married or in a Union	1865	48.4%	953	45.6%	
	Not Married or in a Union	1990	51.6%	1136	54.4%	
	Missing	17		29		
Identifying as LGBTQ+						0.9613
	Yes	104	2.8%	57	2.8%	
	No	3677	97.2%	1999	97.2%	
	Missing	91		62		
Length of Displacement						**<0.0001***
	< 1 Year	1957	51.0%	912	43.5%	
	1 - 3 Years	1119	29.2%	664	31.7%	
	3 - 5 Years	669	17.4%	460	22.0%	
	> 5 Years	89	2.3%	59	2.8%	
	Missing	38		23		
Miscellaneous Health Issues						**<0.0001***
	Alcohol and Drugs	20	0.5%	14	0.7%	
	Disability	246	6.4%	166	7.8%	
	Mental Health Issues	34	0.9%	62	2.9%	
	None	3572	92.3%	1876	88.6%	
	Missing	0		0		

Relative Wealth					**0.0002***
	Average or Above	1359	36.7%	648	31.3%
	Poor	1849	50.0%	1132	54.8%
	Very Poor	492	13.3%	287	13.9%
	Missing	172		51	

4.6 Logistic Regression Modelling

The unadjusted logistic regression between PPS and resilience yielded an OR of 1.01 (p=0.89) between the bottom and middle tertiles, and of 2.12 (p<0.0001) between the first and third. In the full logistic regression model, three variables that exceeded the p<0.20 inclusion threshold were removed in the following order: identifying as LGBTQ+ (p=0.47), having a child (p=0.34), and having a partner (p=0.22). All remaining covariates (age, ethnicity, length of displacement, miscellaneous health issues, and relative wealth) were significant, and were thus included.

Several interesting relationships emerged in the final model when considering the odds of low resilience as the reference (results are summarized in Table 4.3). First, migrants in the middle and bottom tertiles of PPS had nearly identical odds of being resilient (OR=0.99, p=0.91), while those in the top and bottom tertiles demonstrated an OR of 2.12 (p<0.0001). Second, each one-year increase in age was associated with an OR for resilience of 1.014 (p<0.0001). Meanwhile, women with disabilities (OR=0.68, p=0.001), or who were experiencing mental health issues (OR=0.32, p<0.0001) were less likely to be resilient. Longer displacements times and poorer wealth relative to others in the community were also linked with diminished resilience. Finally, the only women with significantly different odds of resilience compared to those who identified with none of the listed ethnicities were those who identified with 'other' ethnic groups (OR=0.54, p=0.04), although identifying as Afro-descendant was associated with a nearly significant OR of 1.30 (p=0.053).

* Indicates statistically significant difference between the high and low resilience groups for 2-sided Chi-square test with alpha = 0.05

Table 4.3 Odds Ratio Estimates of Resilience for the Six Variables in the Final Logistic Regression Model

Variable	Category	OR	LCL	UCL	P-Value
Perceived Psychosocial Supports (Exposure)	Bottom Tertile (ref)	1			
	Middle Tertile	0.99	0.87	1.14	0.91
	Top Tertile	2.12	1.83	2.45	**<0.0001***
Age	Per 1 Year Increase	1.014	1.009	1.019	**<0.0001***
Ethnicity	None of These Apply (ref)	1			
	Afro Descendant	1.30	1.00	1.70	0.053
	Indigenous	1.06	0.80	1.42	0.68
	Mestiza	1.07	0.93	1.22	0.34
	Other	0.54	0.31	0.96	**0.04***
Length of Displacement	< 1 Year (ref)	1			
	1 - 3 Years	0.84	0.73	0.96	**0.01***
	3 - 5 Years	0.73	0.63	0.86	**<0.0001***
	> 5 Years	0.76	0.53	1.09	0.13
Miscellaneous Health Issues	None (ref)	1			
	Disability	0.68	0.54	0.85	**0.001***
	Mental Health Issues	0.32	0.21	0.50	**<0.0001***
	Alcohol and Drugs	0.81	0.39	1.66	0.56
Relative Wealth	Average or Above (ref)	1			
	Poor	0.84	0.73	0.95	**0.008***
	Very Poor	0.77	0.64	0.93	**0.006***

* Indicates statistically significant OR compared with the reference category with alpha = 0.05

Chapter 5

Discussion

5.1 Introduction

This chapter discusses the findings presented in Chapter 4 in more detail and interprets them in accordance with current literature. The main findings of the descriptive, bivariate, and regression analyses are reviewed, alongside the ways in which epidemiological principles like chance, validity, bias, and confounding relate to this study. Additionally, it examines the primary strengths and limitations of this investigation, in addition to how this study's findings may contribute to the development of public policies and intervention programs and to future research efforts.

5.2 Main Findings

5.2.1 Descriptive Statistics

The 65% prevalence of resilience (see Table 4.1), defined as those who felt they could cope 'all the time', was well above the previous conservative estimate among refugees of 19.2% (Popham et al., 2023). The most probable explanation is that Popham's estimate was not generalizable to the current population as it was based on a single study since, unfortunately, prevalence figures are rarely clearly provided in resilience studies. While some inaccuracy was already likely, considering the dearth of information on this population, the issue was exacerbated by a chronic failure of resilience research to also overtly define what specifically constitutes resilience in the context of any given study. Another probable contributor was social desirability bias, as the respondents may have felt pressured to exaggerate the extent to which they could cope effectively in order to appear better adapted, which could have affected this study's results to a different extent than in Popham et al. (2023). This is supplemented by a related and surprising result: only 2.7% of participants self-identified as LGBTQ+, which is well below the global average of at least 9% as well as, for reference, even Peru's relatively low rate of 6% (IPSOS, 2021). This result is especially likely when considering that sexually- and gender-diverse Venezuelan

refugees/migrants face tremendous stigma (Vásquez Roa, 2022). Therefore, these individuals are likely to, in this case, conceal their LGBTQ+ identification and their poor resilience.

When stratifying by resilience (see Table 4.2), the proportion of women within each resilience category in the bottom and middle tertiles of PPS were nearly identical. While some congruity was expected, this surprising degree of similarity suggests a potentially more complex relationship between PPS and resilience than anticipated. Conversely, participants in the top tertile were far more likely to be resilient than not (39% vs 23%), which aligns with the hypothesis that higher PPS would be associated with higher resilience.

Lastly, the proportion of women experiencing mental health problems was extraordinarily low (1.6%) when considering, for instance, that a meta-analysis estimated the prevalence of PTSD alone to be as high as 30% among refugees (Steel et al., 2009). While PTSD prevalence varies greatly between studies, even the lowest estimates for refugees are typically at least 4% (Vos et al., 2023). As above, social desirability bias is expected to be the most significant contributor to this outcome, as stigma around mental health concerns is prevalent throughout South America (Mascayano et al., 2016).

5.2.2 Bivariate Analysis

Contrary to expectations, neither the LGBTQ+ ($p=0.96$) nor ethnicity ($p=0.19$) variables were significantly correlated with resilience (see Table 4.2). The former may be explained by a small number of participants self-identifying as LGBTQ+ (161). However, with a p-value as high as 0.96, it is likely that there are other explanations not based solely in coincidence. This suggests the relationship between LGBTQ+ self-identification and resilience is more complex than anticipated, warranting further investigation to confirm or refute this finding. Conversely, with 614 participants having identified as an ethnic minority, the insignificant correlation between ethnicity and resilience is much more likely to be based in truth. It is possible that, with respect to ethnicity and resilience, the experiences of female Venezuelan migrants depend more on their identities as Venezuelans than as Afro descendent or Indigenous individuals, however there is a lack of evidence to support this beyond conjecture.

5.2.3 Logistic Regression Modelling

When constructing the model, variables relating to LGBTQ+ identification ($p=0.47$), having a child ($p=0.34$), and having a partner ($p=0.22$) were removed. The first was expected since the bivariate analysis found LGBTQ+ identity did not correlate with resilience; however, this was not true of the other two metrics. Collinearity between them can partially explain their incompatibility in the model, as individuals with life partners commonly have children. This is theory is supplemented by two additional findings: the p-value for the partner variable decreased from 0.33 to 0.22 upon removal of the child variable and, in a simple regression between the two, women with partners had 3.06 times the odds of having a child compared to women without partners ($p<0.0001$).

With the final model constructed, the OR for resilience between the bottom and top tertiles of PPS was calculated at 2.12 ($p<0.0001$) (see Table 4.3), thereby confirming the hypothesis that greater amounts of PPS would be associated with greater resilience. Increased age was also highly correlated with resilience, as expected (OR=1.014 per one year increase, $p<0.0001$). Interestingly though, being displaced from Venezuela for 1-3 or 3-5 years, compared to <1 year, resulted in 0.84 ($p=0.01$) and 0.73 ($p<0.0001$) times the odds of resilience, respectively. This contradicts the hypothesis that resilience would improve with longer displacements, due to individuals having had more time to restore their resilience following migration. It is probable that, following arrival in host countries, female Venezuelan migrants' resilience continues to deteriorate for several additional years before recovering to baseline after having sufficient time to integrate. This theory is further supported by the negative association having flattened and become insignificant at >5 years since displacement (OR=0.76, $p=0.13$). One's odds of resilience would then be expected to gradually increase before eventually matching or exceeding their initial odds upon arrival. Furthermore, these well-integrated and potentially resilient migrants would have been less likely to have been included in the study on account of the sampling having occurred at spaces where they would have been less common, such as points of aid distribution and refugee/migrant shelters. This under-representation would have therefore biased the OR below 1.

Ethnicity also exhibited unexpected results: compared to those who identified with none of the listed identities, only the women who responded 'other' to the question had lower odds of resilience (OR=0.54, p=0.04). While the 'Indigenous' and 'Mestiza' categories exhibited highly insignificant results, identifying as 'Afro-descendant' was associated with a near-significant, positive OR of 1.30 (p=0.053). Evidently, the role ethnicity plays in the PPS-resilience relationship in this population is more complex than anticipated and may be highly specific to the ethnic groups selected. Important differences may also arise when comparing between host nations or even individual communities. Lastly, women experiencing mental health issues were less likely to be resilient (OR=0.32, p<0.0001), as was also the case for women who had disabilities (OR=0.68, p=0.001) and who identified as being poor (OR=0.84, p=0.008) or very poor (OR=0.77, p=0.006) relative to others in their communities.

5.3 Internal and External Validity

While the eight survey questions that assessed potential confounders were straightforward, the PPS and resilience measures (see Appendix A) necessitated several assumptions to be valid. For instance, the subject of the PPS question was the 'woman/girl in the story', yet social support can be reasonably expected to vary over time. Due to this, some participants' degrees of PPS would certainly have been different when they completed the survey in comparison with when their micro-narratives occurred, potentially altering the observed relationship. Thus, the PPS question was valid under the assumption that, over the entire sample, these misalignments largely canceled out and were, therefore, representative in aggregate. Furthermore, because it is impossible to identify any individual misalignment based solely on the quantitative data available, interpretations of the PPS data are susceptible to the ecological fallacy. To expand upon this, while more supported participants exhibited elevated resilience on average, predicting any single individual's resilience using their level of PPS is impossible, as it is unknowable whether their reported level of support matches their current level. Similarly, the validity of the resilience question depended on the degree to which coping is representative of resilience. In this case, the potential impact on internal validity was minimal, since coping is the most fundamental component of resilience, and thus

can confidently be assumed to constitute an adequate proxy. This is assumption is reasonable as resilience is primarily characterized by the ability to manage challenging circumstances and events while maintaining normal functioning—a description synonymous with successful coping.

With regards to language comprehension, the survey was originally composed in English, and the translation into Spanish was performed by a professional translator. To confirm accuracy, the Spanish version was also independently back-translated. Discrepancies were then resolved by consensus after involving a third bilingual individual. Finally, the translated survey was pilot tested with 25 Venezuelan women whose feedback was used to improve clarity of the language and relevance of the questions. Combined with the presence of an interviewer who could answer participants' inquiries, the likelihood that participants misunderstood questions due to translation issues was very low.

This investigation's external validity was primarily influenced by several central factors. First, the large sample size of 5990 participants assessed at a variety of locations frequented by refugees and migrants (e.g. border crossings and refugee/migrant shelters) greatly enhanced this study's applicability to female refugee/migrant populations generally, and particularly within most of South America. However, the lack of previous research on resilience among South American refugees/migrants reduces the confidence in this generalization. Additionally, the results of this study cannot be extrapolated to populations other than female refugees/migrants, as no other individuals were involved.

5.4 Potential Challenges: Chance, Bias, and Confounding

Errors due to chance were not of great concern in this investigation as the most common sources were largely accounted for through the use of electronic tablets with restricted response options in the 2022 survey. For example, since the survey was administered using electronic tablets, no errors due to poor legibility were anticipated. However, despite the analysis being limited to women who shared autobiographical experiences, it is probable some participants may have misinterpreted the subject of some questions referring to the 'woman/girl in the story' as being in reference to other women in the

micro-narratives. For instance, when asked about the relative wealth of the woman in their story, participants who shared experiences about themselves, but that involved female friends, may have erroneously responded in reference to their friends rather than themselves. Indeed, some inconsistencies were found. For example, LGBTQ+ and ethnic identification were assessed twice in the survey—once with respect to the 'woman/girl in the story' and once with respect to the research participant. In total, 156 mismatches between the two were discovered (e.g. responding to the LGBTQ+ question with "Prefer not to say/Not sure" for one and "Yes" for the other). Despite this, it is reasonable to assume these errors were randomly distributed, and thus would have only biased the observed effects towards the null. There was also the potential for mistranslations, however this risk was minimized by the rigorous translation and interview processes implemented in the 2022 survey. Furthermore, as above, it should be assumed that any misinterpretations would have largely been randomly distributed and, thus, would only have biased results towards the null.

This investigation was also susceptible to the effects of some potential biases. For instance, since the original study from which the data was sourced involved frequent discussions of highly sensitive and personal experiences, it is probable that more resilient individuals felt more comfortable participating. This could have over-represented resilient participants, thereby potentially introducing selection bias. This would have then inflated the perceived prevalence of resilience though, fortunately, not the main OR between PPS and resilience (as it was assumed unlikely that participation would have varied significantly according to level of PPS).

The primary bias that threatened this investigation was social desirability bias. This phenomenon occurs when participants provide false responses that they perceive to be more socially favourable, in order to align with a positive self-perception. Since the experiences shared were overwhelmingly of a negative nature, and several questions assessed potentially sensitive information such as whether the women identify as LGBTQ+, the potential for social desirability bias was significant. With respect to PPS and resilience, this would have led to misclassification in favour of both elevated PPS and resilience.

Without knowing the relative degrees to which both factors were inflated, however, the actual impact on the main OR cannot be deduced. Fortunately, overall sensemaking methodology reduces social desirability bias by equivalently valancing the response options for each individual question, thereby minimizing the degree to which any particular choice could be perceived as more socially desirable. Furthermore, all data was collected out of earshot of others and was anonymous from the point of collection, thereby reducing social pressure as participants could be more confident their responses would not affect them socially.

The main question vulnerable to recall bias was the PPS measure because levels of PPS can vary with time more acutely than the other factors measured. However, there is insufficient evidence to suggest that recall accuracy related to PPS would have differed between the resilience groups. Thus, any recall bias would have merely skewed the results toward the null. Additionally, the shared experiences were often significant events for the respondents and were, therefore, more likely to be recalled accurately. Finally, sensemaking also protects against interpretation bias because the participants, rather than the interviewers or research team, are the ones who interpret their own micro-narratives.

This investigation reduced confounding primarily through the construction of a logistic regression model that accounted for the effects of commonly identified confounders in the literature, such as age and ethnicity. Gender, another common confounder, was controlled for by limiting inclusion to only women. However, as this investigation was a secondary analysis of a study about gender-based violence, rather than resilience, data on several potentially significant confounders was not available, and thus these factors could not be controlled for. For instance, variables like optimism, coping style, and religiosity are commonly assessed in resilience research, but were unavailable for this analysis. Considering there exists minimal data on resilience among female Venezuelan migrants, it can also be difficult to predict how including these variables would have impacted the results. For example, while religiosity has been featured in many resilience studies, most participants in these studies have been Muslim, while as much as 96% of Venezuelans are Catholic (United States Federal Government, 2020). As the relationship

between religion and society differs greatly between, for instance, Venezuela and Somalia, it should not be assumed that results from studies with predominantly Muslim participants generalize to this setting. Furthermore, the impacts of unmeasured and residual confounding are difficult to predict and cannot be completely ruled out, despite the controls exerted on confounders in this study. This is especially true considering the lack of resilience research involving female Venezuelans; there may be unique unstudied factors affecting the PPS-resilience relationship within this population. However, despite these risks, the less than 3% difference between the main OR in the simple vs. final regression models—well below the 10% rule for confounding—suggests the eight covariates did not confound the relationship as anticipated.

5.5 Strengths and Limitations

A principal strength of this investigation compared to others in the field is its use of a large sample size (N=5990) compared to typical studies into migrant resilience—few of which exceed 1000 participants—which greatly improved confidence in the findings. Additionally, with nearly 6000 participants sampled from nine locations across three countries, a wide range of women were represented, improving the generalizability of the results.

Another way in which this investigation is differentiated from others is as one of few resilience studies to concentrate on a contemporary humanitarian crisis within South America. Recent literature has focused primarily on African and Middle Eastern disasters, such as those in Syria, Palestine, Somalia, and Iran, producing little information on displaced Venezuelans. Furthermore, few studies have focused exclusively on women, and many which have been restricted to only mothers and/or wives. Upon completion, this study will constitute a foundational component of the future knowledge base concerning resilience among South American refugees/migrants, particularly those who are female and Venezuelan.

Finally, by utilizing sensemaking methodology, the original survey produced data robust against two biases common in resilience research. The first, interpretation bias, was reduced because the participants themselves, rather than the interviewer or the research team, interpreted their shared

experiences, thereby heavily diminishing the potential for interpretation bias. The second, social desirability bias, was mitigated because the possible options within each question included all positive, all negative, or all neutral options. Thus, the chance that any particular choice was easily perceived as more socially desirable was minimized. Additionally, interviews were conducted in private, and responses were anonymous at the point of collection, further reducing the risk of social desirability bias.

Conversely, a central limitation inherent to this analysis was its use of a dataset not originally designed for resilience research. As such, potentially important confounders (e.g. degree of optimism, coping style) and contextualizing variables (e.g. immigration status) were not captured. Without information on these factors, there was increased risk of uncontrolled confounding biasing the results, and recommendations had to be made without complete context. However, by using this dataset, a potentially relevant variable rarely included in resilience studies was able to be captured: length of displacement. This aligns with one of this investigation's goals of expanding beyond the set of covariates typical for the research area, as it is a novel study for female Venezuelan migrants.

Another weakness is that the dataset relied primarily on convenience sampling. This introduced the risk of selection bias, as women may have participated differentially with respect to factors related to both resilience and PPS. For instance, highly integrated migrants could have been more likely to be resilient and have robust support networks, while also being less likely to be present within the areas in which the survey was administered, like migrant shelters. For some factors, like the LGBTQ+ variable, this limitation was partially compensated for through intentional efforts made to sample from diverse populations, including equity-deserving groups. Additionally, snowball sampling was employed in Lima specifically due to concerns that well integrated migrants may have otherwise been under sampled.

Lastly, this investigation was limited in its capacity to characterize the temporality of the PPS-resilience relationship as, being cross-sectional, all covariates were present or absent simultaneously at the time of the survey. Thus, it was impossible for the current analysis to distinguish between factors that *caused* resilience and those that were *caused by* resilience. This restricted its capacity to prescribe

solutions to be implemented in building future migrants' resilience. However, previous research strongly suggests PPS and resilience are causally linked across a variety of contexts, reducing the need for this study to confirm this relationship among female South American migrants.

5.5 Contribution to Public Policy and Future Interventions

This study, being possibly the first of its kind in this setting, produced findings which hold significant implications for refugee/migrant mental health management. Considering how little this investigation's eight covariates confounded the PPS-resilience relationship, it is likely that local organizations could identify refugees/migrants lacking support and resilience with only two simple questions: "How socially supported do you feel?" and "How often are you able to cope with the problems you face?". With such a minimalistic query, all migrants could be time- and cost-effectively screened, allowing support-fostering resources and programs to be directed towards those who could benefit from improvements to both their support and resilience.

Another central use for this investigation's findings is in the development and implementation of interventions aimed at improving resilience among female Venezuelan migrants and, potentially, female South American migrants in general. While studies on resilience-fostering interventions are uncommon, several key insights can be derived from the existing literature to design improved interventions for women displaced within South America.

When defining the meaning of resilience in the context of an intervention, Chmitorz et al., in their 2018 systematic review, recommend definitions centering around resilience *outcomes* rather than resilience *factors*, since interventions aim to produce changes which directly impact lives. This allows valid conclusions about the real-world effectiveness of interventions to be established. Some examples of resilience as an outcome include level of chronic dysfunction and amount of perceived stress. Regarding the timing of interventions, three broad options are available: 1) intervening before a stressing period (e.g. prior to migrating), 2) intervening during a stressing period (e.g. while living in a migrant shelter), or 3)

intervening after a stressing period (e.g. once established in a host country). Realistically, the latter two are the most effective formats considering millions have already emigrated from Venezuela.

By combining this knowledge with additional guidance from the literature, this investigation proposes an outline of a theoretical resilience-promoting intervention for female Venezuelan migrants in Brazil. Beforehand, it is crucial to note that this theoretical relies on the assumption of a causal relationship between PPS and resilience. While this investigation was incapable of elucidating such a relationship, the fact that successful interventions have already been implemented strongly suggests PPS causally contributes to resilience. Additionally, only adults would be recruited for simplicity and efficiency, since children and adolescents tend to benefit from different intervention formats and methods compared to adults. Finally, considering the language and cultural differences between Venezuela and Brazil, the program would require cooperation with local organizations representing migrants to ensure participants could effectively engage with the program.

To begin, sampling would occur at a refugee/migrant shelter and would be limited to those who, during screening, demonstrated poor resilience with low or average levels of PPS. This would allow the intervention to benefit as many individuals as possible while also accounting for this investigation's finding that women in the bottom two tertiles of PPS had nearly equivalently low odds of resilience. To improve upon previous intervention studies, which frequently lack explicit definitions of what constitutes resilience (Chmitorz et al., 2018), resilience in this program would be clearly defined as the number of times in a month participants felt they encountered a stressor that exceeded their capacity to easily manage, with lower numbers indicating higher resilience. This stressor load would be assessed for one month prior to intervention initiation, using ecological momentary assessments (EMAs) in the form of paper diary entries completed nightly. This format would capture subjective experiences and emotional responses to daily life stressors as temporally near to the stressors as is reasonable. As demonstrated through evidence discussed in Salaffi et al. (2015), EMAs are reliable methods for obtaining self-reported information, including subjective experiences and behavioural data, while minimizing recall bias. While

paper diaries, as opposed to electronic diaries, suffer from issues around delayed or advanced data entry (i.e. fabricating entries ahead of time), compliance typically remains above 80% and a paper format is more cost-effective and accessible—two vital factors to consider within humanitarian settings.

Following baseline assessments, the intervention would focus on improving PPS through eight 60-minute group workshops occurring semi-weekly over four weeks (Joyce et al., 2018). As guided by research with Burmese women in the United States conducted by Maung et al. (2021), these workshops would be designed to alleviate participants' sense of isolation and loneliness, and to provide a space to exchange insights and recognize that others share their experiences. Some components would focus on the religious (George, 2012) and cultural practices of Venezuelan women by incorporating traditional ceremonies, activities, foods, music, and dances. The workshops would be designed from a strengths-based perspective that acknowledges refugees/migrants as strong and adaptable while also accepting the abnormal frequency of often devastating adversity experienced by refugees/migrants (Ratts et al., 2016). Social capacity would be built through empowerment exercises designed to help the women fully utilize their social resources (Norsworthy & Khuankaew, 2004).

Towards the program's termination, participants would be instructed on how best to share their knowledge and experiences with other migrants in order to serve as resilience models/coaches in their communities (Wang, 2009). Finally, the intervention would conclude with participants completing another month of EMAs to reflect on their progress. With interventions like this, which balance cost-effectiveness with comprehensiveness, organizations could improve the lives of many Venezuelan women facing hardship until this crisis ends.

5.6 Contribution to the Literature and Future Directions

With its large sample size representing a population rarely featured in the literature, the findings of this investigation constitute a strong basis for future research into resilience among female Venezuelan migrants, as well as female South American migrants in general. This study estimated the distribution of

PPS, resilience, and eight covariates among this population, in addition to how these variables related to each other. Several interesting relationships for further exploration were identified, such as the surprising finding that ethnicity and LGBTQ+ self-identification appeared not to correlate with resilience, and the presence of evidence suggesting resilience may not begin returning to pre-migration levels until well over five years following displacement. Especially when considering that this was an exploratory, cross-sectional, secondary analysis, significantly more work is needed to comprehensively understand resilience within this population. For instance, as this investigation could not determine the causal relationship between PPS and resilience in this population, it is imperative that future studies assess temporality through, perhaps, prospective cohort or randomized control designs. Furthermore, as the questions used to measure PPS and resilience were not intended for resilience research, the literature would benefit greatly from administering verified resilience measures to female Venezuelan refugees/migrants, like the Multidimensional Scale of Perceived Social Support, Child and Youth Resilience Measure, and the Resilience Scale for Adults. This would allow researchers to deconstruct PPS and resilience to understand how their constituent parts each contribute to these phenomena within this population. As the specifics of PPS and resilience can vary somewhat across cultures, it would also be beneficial to develop culturally specific measures for use with Venezuelan women specifically. Finally, unexpected results like the minimal correlation between ethnicity and resilience should be followed up with highly detailed qualitative investigations to better understand the underlying factors that produced these results and either confirm or refute them.

5.7 Conclusion

This investigation highlights the intricate relationship between PPS and resilience among forcibly displaced Venezuelan women and girls across Brazil, Ecuador, and Peru. The results confirmed several intuitive relationships, such as a positive correlation between resilience and PPS, and a negative correlation between resilience and both mental health issues and lower relative wealth. Multiple intriguing findings were also identified; for example, that women in the bottom two-thirds of PPS were nearly

identical in their odds of resilience, and that self-identifying as LGBTQ+ exhibited no correlation with resilience. These results suggest more complicated relationships and warrant additional research to elucidate their underlying explanations. Most importantly, the current investigation found the OR of resilience did not change after controlling for the eight covariates (age, ethnicity, LGBTQ+ status, three miscellaneous health issues, marital status, parental status, length of displacement, and relative wealth). This suggests female Venezuelan migrants are likely capable of accurately reporting their levels of PPS and resilience without the need for further context. With these discoveries, responders can quickly and efficiently identify migrants in need, and direct resources appropriately. Furthermore, as guided by the results and literature, this thesis provided a guideline for real-world resilience-fostering interventions to potentially be provided for female Venezuelan refugees/migrants. These interventions would then hopefully protect against further mental health decline and facilitate adaptation and integration. Finally, this study contributed to filling a gap in the literature of how PPS relates to resilience among female Venezuelan migrants, and the results can serve as the basis for future investigations into this subject area. Overall, PPS is important to the resilience of Venezuelan women and girls, who constitute a large and at-risk group of refugees/migrants deserving attention and care to ensure they live healthy and well adapted lives in the future.

5.8 References

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Appendix A

Variable Names, Coding, and Their Respective Survey Questions

Variable	Survey Question	Available Answers	Modifications
Perceived Psychosocial Supports (Exposure)	*The woman / girl in the shared story was…*	Continuous slider from "Provided with absolutely no supports / services" to "Provided with too many supports / services"	**Tertiles** Bottom Middle Top
Psychological Resilience (Outcome)	*At this time, I am able to cope with the challenges I face:*	- All The Time - Most Of The Time - Some Of The Time - Never - Prefer Not To Say	**Dichotomized** "All of the Time" "Not All of the Time"
Age	*What is your age?*	Any whole number	Unchanged
Ethnicity	*Which of the following groups, if any, did the woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?*	- Mestiza - Afro Descendant - Indigenous - Prefer Not To Say/Not Sure - Did Not Identify With Any Of These Groups - Other	Unchanged
Having a Child	*How many children do you have (choose only 1)?*	- 0 - 1 – 2 - 3 Or More - Prefer Not To Say	**Dichotomized** 'No' 'Yes'
Having a Partner	*What is your marital status (choose only 1)?*	- Married / In A Union - Divorced / Separated - Widowed - Single, Never Married - Prefer Not To Say	**Dichotomized** "Married/In a Union" "Not Married/Not in a Union"
Identifying as LGBTQ+	*Did the women or girl in the shared story identify as LGBTQ+ (choose only 1)?*	- Yes - No - Prefer Not To Say/Not Sure	Unchanged
Length of Displacement	*How long ago did you leave your home in Venezuela (choose only 1)?*	- < 1 Year - 1 – 3 Years - 3 – 5 Years - > 5 Years - Prefer Not To Say / Not Sure	Unchanged
Miscellaneous Health Issues	*Which of the following groups, if any, did the*	- Having A Disability	Unchanged

	woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?	- Experiencing Mental Health Problems - Use of Alcohol And Drugs - Did Not Identify With Any Of These Groups	
Relative Wealth	*Relative to the wealth level of others in the community, was the woman / girl in your story (choose only 1)…*	- Very Poor - Poor - Average - Wealthy - Very Wealthy - Prefer Not To Say / Not Sure	'Average', 'Wealthy', and 'Very Wealthy' were combined into 'Average or Above' due to small cell sizes

Appendix B

2022 Survey Questions

Question	**Possible Responses**
Micro-narrative prompts	
Share a story that exemplifies what is the biggest *advantage* or *disadvantage* to being a woman/girl when it comes leaving Venezuela to come to a place like this.	Micro-narrative recorded by participant
Provide a story that illustrates the biggest *fear* or *dream* of women/girls who have left Venezuela.	Micro-narrative recorded by participant
Provide a story that illustrates how being a woman/girl most *increases* or *decreases* the risks faced by women/girls who have left Venezuela.	Micro-narrative recorded by participant
Triads	
The shared story was mostly about…	1) Insecurity/violence; 2) Financial needs; 3) Lack of access to rights, goods, or services or some combination thereof
What caused the events in the shared story?	1) Being a woman or girl; 2) Lack of documentation; 3) Lack of assistance/services or some combination thereof
What type of support or services were most needed by the woman/girl in the shared story?	1) Improved security/protection; 2) Medical care/psychosocial support; 3) Basic necessities like food, water, shelter or some combination thereof
What were the main barriers or facilitators to accessing care and services in the shared experience?	1) Information or knowing where to go; 2) Financial resources; 3) Availability of assistance/services or some combination thereof
If relevant, what was the primary impact of the experiences shared?	1) Poor mental health; 2) Injury/illness; 3) Discrimination/isolation or some combination thereof
Dyads	
In the story you shared, who had power and control?	1) The woman or girl; 2) Others around her

	or some combination thereof
The events in the story…	1) Occurred because of leaving Venezuela; 2) Would have occurred anyway in Venezuela or some combination thereof
The woman/girl in the shared story was…	1) Provided with too many supports/services; 2) Provided with absolutely no supports/services or some combination thereof
As a result of experiences in the shared story, is the woman/girl's future…	1) Extremely compromised; 2) Secured more than necessary or some combination thereof
Star Question	
Think about the story you shared and select the choices that relate to the story. Drag the corresponding stars into the square placing them where they best represent your perspective. Leave any choice in the list that doesn't apply to your experience. Axes: Y-axis: What was the impact on the girl's/women's physical and emotional wellbeing (nothing – a lot) X-axis: What was the impact of this on the women's/girl's financial security (nothing – a lot)	1) Informal work 2) Exchange of sex for goods, services, and protection 3) Taking care of family members 4) Accessing services 5) Transportation 6) Discrimination for being Venezuelan 7) Access to contraceptives, gynaecological services and family planning
Multiple Choice Questions About the Shared Experience	
Who is the story about (choose only 1)?	1) About me 2) About someone in my family 3) Someone else I know 4) Something I heard or read about 5) Prefer not to say/not sure
How often does the situation in your story occur (choose only 1)?	1) It is very rare 2) It happens from time to time 3) It is somewhat typical 4) It happens all the time 5) Prefer not to say/not sure
What is the emotional tone of this story (choose only 1)?	1) Strongly negative 2) Negative 3) Neutral 4) Positive 5) Strongly positive 6) Prefer not to say/not sure
How does this story make *you* feel (choose up to 2)?	1) Relieved 2) Embarrassed 3) Afraid 4) Ashamed 5) Happy 6) Disappointed

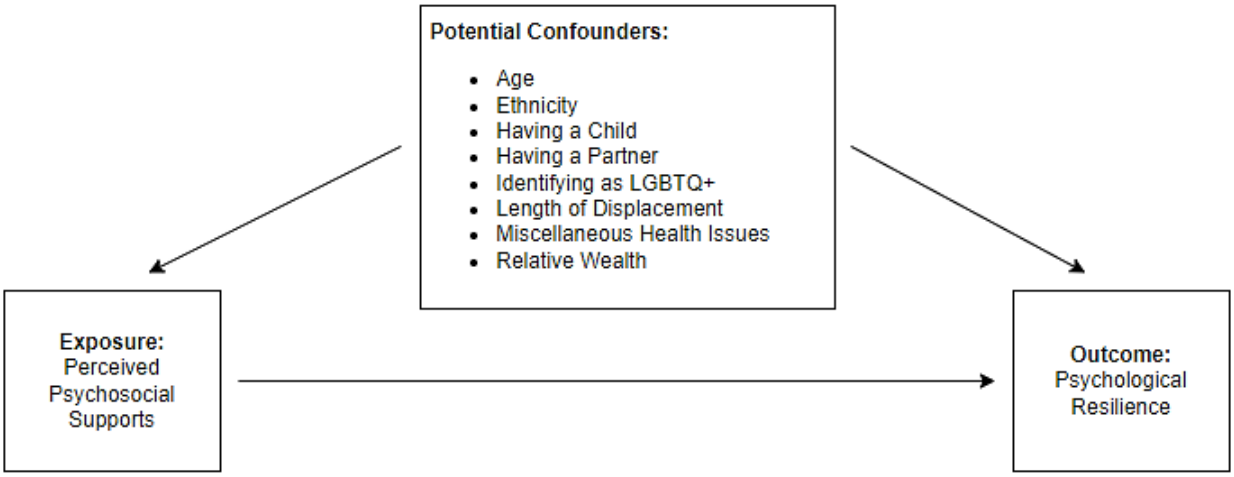
	7) Angry 8) Hopeful 9) Frustrated 10) Helpless 11) Worried 12) Lonely 13) Sad 14) Prefer not to say/not sure
What was the age of the woman/girl in the story (choose only 1)?	1) Under age 18 2) 19 - 30 years 3) 31 - 45 years 4) > 45 years 5) Prefer not to say/not sure
Relative to the wealth level of others in the community, was the woman/girl in your story (choose only 1)...	1) Very Poor 2) Poor 3) Average 4) Wealthy 5) Very Wealthy 6) Prefer not to say/not sure
Which of the following groups, if any, did the woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?	1) Having a disability 2) Experiencing mental health problems 3) Use of alcohol and drugs 4) Did not identify with any of these groups
Did the women or girl in the shared story identify as LGBTQ+ (choose only 1)?	1) Yes 2) No 3) Prefer not to say/not sure
Which of the following groups, if any, did the woman/girl in the story identify with and was most relevant to her experience shared in the story (choose only 1)?	1) Mestiza 2) Afro descendant 3) Indigenous 4) Prefer not to say/not sure 5) Did not identify with any of these groups 6) Other: _____
How did COVID19 impact the woman/girl's experience in the shared story (choose only 1)?	1) COVID19 made the situation much worse 2) COVID19 made the situation a little worse 3) COVID19 had no impact on her situation 4) COVID19 made the situation a little better 5) COVID19 made the situation much better 6) Prefer not to say/not sure
Was contraception mentioned in this story?	1) Yes 2) No 3) Not sure
Was there a pregnancy in this story?	1) Yes 2) No 3) Not sure
Multiple Choice Questions About the Respondent	

What is your age?	Participant enters age in free text field
How do you identify (choose only 1)?	1) Woman 2) Man 3) Non-binary 4) Not sure / prefer not to say
Do you identify with any of the following groups?	1) LGBTQ+ 2) Indigenous 3) Afro descendant 4) Prefer not to say
How many children do you have (choose only 1)?	1) 0 2) 1 – 2 3) 3 or more 4) Prefer not to say
What is your marital status (choose only 1)?	1) Married 2) In a union 3) Divorced/Separated 4) Widowed 5) Single, never married 6) Prefer not to say
How long ago did you leave your home in Venezuela (choose only 1)?	1) < 1 year 2) 1 – 3 years 3) 3 – 5 years 4) > 5 years 5) Prefer not to say/not sure
Where are you from (choose only 1)?	1) Caracas D.F. 2) Amazonas 3) Anzoátegui 4) Apure 5) Aragua 6) Barinas 7) Bolívar 8) Carabobo 9) Cojedes 10) Delta Amacuro 11) Falcón 12) Guárico 13) La Guaira 14) Lara 15) Mérida 16) Miranda 17) Monagas 18) Nueva Esparta 19) Portuguesa 20) Sucre 21) Táchira 22) Trujillo 23) Yaracuy 24) Zulia

	25) Prefer not to say
At this time, I am able to cope with the challenges I face:	1) All the time 2) Most of the time 3) Some of the time 4) Never 5) Prefer not to say
I have access to things that make me happy:	1) All the time 2) Most of the time 3) Some of the time 4) Never 5) Prefer not to say
Where was this micronarrative collected (choose only 1)?	1) Tumbes 2) Lima 3) Tacna 4) Tulcán 5) Manta 6) Huaquillas 7) Boavista 8) Pacaraima 9) Manaus
What story number is this for the participant?	1st 2nd 3rd 4th
Comments or anything else you would like to share	Free text field
*Response was optional for all questions.	

Appendix C

Conceptual Model



Appendix D

Sample Size Calculation

$$n = \frac{Z^2 pq}{d^2} = \frac{1.96^2 * 0.192 * 0.808}{0.05^2} = \sim 240$$

n: Minimum sample size required

Z: Statistic corresponding to desired level of confidence (two-sided with 95% confidence)

p: Conservative estimate of the prevalence of resilience

q: 1 – p

d: Desired detectable effect size

Appendix E

Ethics Approval and Renewal

Queen's University General Research Ethics Board (GREB)

GREB Initial Ethics Clearance

August 02, 2023

Mr. Josic
Public Health Sciences
Queen's University

TRAQ #: 6039328
Study Title: "GPHS-001-23: An Analysis of the Association Between Perceived Power/Control and Supports and Resilience Among Forcibly Displaced Venezuelan Women and Girls"
Date Ethics Clearance Issued: August 02, 2023
Ethics Clearance Expiry Date: August 02, 2024

Dear Mr. Josic:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled **"GPHS-001-23: An Analysis of the Association Between Perceived Power/Control and Supports and Resilience Among Forcibly Displaced Venezuelan Women and Girls"** for ethical compliance with the Tri-Council Guidelines (TCPS 2) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405), your project has been cleared for one year.

Renewals: An annual renewal event form or a study closure event form must be submitted annually as per the TCPS 2 Article 6.14. As a courtesy, the Office of Research Ethics Compliance may send reminders 30 days in advance of the ethics clearance expiry date. All lapses in ethics clearance will be documented on the annual renewal clearance letter. A Suspension letter may be issued for lapses in ethics clearances, with subsequent termination and closure of the ethics file for lapses greater than 10 business days.

Completion/Termination: The GREB must be notified of the completion or termination of this study through the submission of a study closure event form in TRAQ. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

Amendments: No deviation from, or changes to the protocol, informed consent form and conduct of study should be initiated without prior written clearance or an appropriate amendment event from the GREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the study. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at http://www.queensu.ca/traq/signon.html; click on "Events;" under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies." Once submitted, these changes will automatically be sent to the Ethics Coordinator, GREB, at University Research Services for further review and clearance by GREB or the Chair, GREB.

under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

Chair, General Research Ethics Board (GREB)
Associate Professor and Distinguished Faculty Fellow of Marketing
Master of Digital Product Management
Smith School of Business
Queen's University
chair.GREB@queensu.ca

RE: GREB Annual Renewal Approval

TRAQ #: 6039328
Study Title: "GPHS-001-23: An Analysis of the Association Between Perceived Power/Control and Supports and Resilience Among Forcibly Displaced Venezuelan Women and Girls"
Review Type: Delegated
Date of Full Board Meeting: N/A
Date Ethics Approval Issued: July 15, 2024
Date of Expiry of Ethics Approval: August 02, 2025
Active Renewal Period: August 02, 2024 to August 02, 2025
Lapse: N/A

Dear Mr. Josic:

The Queen's University General Research Ethics Board (GREB) has reviewed and approved the application. This study, including all currently approved documents, has been **re-approved** until the expiry date noted above.

If your study has been reviewed through a delegated review process, this communication serves as your renewal response. If your study has been reviewed through a full board review process. Please find attached the Annual Renewal Approval letter that has been reviewed and approved.

Prior to the expiration of your ethics approval, you will be reminded to submit your renewal report through TRAQ. Any lapses in ethical approval will be documented. Ethics approval from the GREB must be renewed at least once per year in accordance with Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2, Article 6.14).

If you require clarifications, or have any questions, do not hesitate to contact the Research Ethics Office at:
chair.greb@queensu.ca.

Sincerely,

Jacob Brower
Chair, General Research Ethics Board (GREB)
Associate Professor and Distinguished Faculty Fellow of Marketing,
Academic Co-Director (Business), Master of Digital Product Management
Smith School of Business
Queen's University
Kingston, ON K7L 3N6

Appendix F

Exclusion Process Flow Diagram