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Abstract

Consolidating Resources for the Aged-Out Human Trafficking Population using a Mobile

Application

by

Soumya Nalli

April 17, 2018

Introduction: Human trafficking is a multibillion dollar industry that enslaves 20.9 million people across the globe. Trafficking is defined as the recruitment, harboring, transportation, or receipt of persons using force, fraud or coercion for the purpose of forced labor or sexual exploitation. The average age of a trafficking victim is 12-17 years; therefore, most resources are geared towards them. As the victim ages, he/she is more likely to be abandoned by their captors and with the lack of consolidated resources they are more likely to be re-trafficked or enter into prostitution.

Aim: The final product of this capstone will be the compilation of evidence-informed resources for a mobile application, which can be utilized by victims of human trafficking. It will consolidate tools and resources necessary to assist with recovery.

Methods: Market research and a series of informal interviews with the stakeholders were conducted prior to starting the capstone. Currently, mobile apps similar to the proposed one do not exist on the market. Literature review was conducted to identify valid and reliable assessment tools and resources by accessing governmental websites and attending local forums/panels on human trafficking.

Results: The proposed mobile application will be built using an existing platform and will include a valid risk assessment, an ecological momentary assessment, safety planning tools, a journal and informative videos. It will also include contact information on group homes/shelters, legal aid and immigration assistance.

Discussion: The content will be housed on an existing mobile platform developed by the Capstone Chair. A feasibility study will be conducted with a local metro-Atlanta based advocacy group that serves aged out human trafficking victims. This study will test for the acceptability of the mobile application and readability of the assessment tool.

Consolidating Resources for the Aged-Out Human Trafficking Population using a Mobile
Application

BY

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B.S., GEORGIA COLLEGE AND STATE UNIVERSITY

M.S., MISSISSIPPI COLLEGE

A Capstone Submitted to the Graduate Faculty of Georgia State University in Partial Fulfillment
of the Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA 30303

APPROVAL PAGE

Consolidating resources for Aging out Human Trafficking Population using a mobile

Application

BY

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Author's Statement Page

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Soumya Nalli

Signature of Author

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Introduction

Human Trafficking is a thriving multibillion-dollar industry which enslaves 20.9 million people around the world (Muraya, 2016). The global profits generated by this industry are approximately \$32 billion, of which \$28 billion is made solely by the sex trafficking industry (Urban Institute, 2014). According to the report published by the Urban Institute, trafficking is one of the fastest growing industries and the second largest enterprise in the United States (Urban Institute, 2014).

The United Nations defines trafficking as “the recruitment, transportation, transfer, harboring, or receipt of persons by improper means (such as force, abduction, fraud, or coercion) for an improper purpose including forced labor or sexual exploitation” (NIJ, 2017). Individuals can be trafficked across borders or within their own country (WHO). In the United States, approximately 1.8 million people are trafficked each year, of whom two-thirds are young girls (Muraya, 2016). Although both men and women are victimized, trafficking is mostly a gendered crime. Research shows that young women are more likely to be trafficked than their male counterparts (WHO).

Victims can be found in pimp-controlled prostitution, trafficked in intimate partner relationships or recruited as homeless/runaway youth (HHS, 2013). According to the Polaris Project, 49% of the victims are between the ages of 12-17 years, and less than 10% of the victims are 24 years or older (Polaris Project Factsheet, 2016). With the average age of the victim being 18 years old, most of the resources are geared towards them (Polaris Project Factsheet, 2016).

Victims under the age of 18 are put into the public child welfare system, they have access to licensed private therapists and healthcare providers (Fong, 2010). They are also given “support and crisis intervention, safety planning, education, mental health services, food and clothing,

sexual health services, and employment services” (Gibbs et al., 2015). In some cases, long-term, emergency, transitional housing, family reunification or counseling is also provided (Gibbs et al., 2015). However, these resources are not readily available if the victim is older than 18.

Human trafficking victims over the age of 18 encounter many challenges. Once the victim is deemed too old to be trafficked, they are abandoned by their captors. The victims either become homeless or turn back to prostitution (WHO). If they choose to return home, they are often discriminated and stigmatized (WHO). Studies have shown that victims who remain in the same location from where they have been trafficked, exhibit similar levels of stress as stateless or asylum-seeking populations (WHO). Regardless of their decision to relocate, abandoned victims are at a higher risk of being re-trafficked (Jobe, 2010).

Unlike child trafficking victims, adults aging out of the trafficking industry have fewer resources at their disposal. They must depend on self-referral to gain access to advocacy groups and programs (Gibbs et al., 2015). The resources that are available for the adult survivors are not consolidated in one place making it harder to rehabilitate. Since the majority of Americans utilize smartphones (77%), a mobile phone application will be a unique way to address this situation (Pew Research Center).

This capstone project will utilize the Host-Agent-Vector-Environment (HAVE) model. Historically, the HAVE model was used to describe how infectious diseases spread through the community (Gulis et al., 2015). However, in recent times it has been applied to more behavior-based, non-communicable diseases (Egger, 2003). This model has also been successfully applied to injury prevention, tobacco control, and coronary heart disease (Egger, 2003).

When applied to the human trafficking industry, the host is the victim who is being trafficked, the agent will be the perpetrator/captor who chaperones the victims. The vector will be the highly

organized criminal network that is moving victims across borders. The environment focuses on the geographic area within the metropolitan city of Atlanta and the way human trafficking is enabled within this area.

The overall goal of the capstone is to compile evidence-informed materials and resources for trafficking victims who are aging out. Thus, it will be critical to review the resources and materials currently available to ensure they apply to this populations. Therefore, the questions that inform this specific Capstone are:

1. What are the evidence-informed resources needed for aging out trafficked population in Metro Atlanta area?
2. What are the evidence-informed resources (safety planning tools; assessment tools; organizations that target providing resources) that can be appropriately utilized in a mobile phone application for the aging out trafficked population in Metro Atlanta area?

The final product of this capstone will be the compilation of evidence-informed resources on a mobile application, for utilization by victims of human trafficking. It will consolidate tools and resources necessary to assist with recovery. The capstone will also include a short proposal for testing the feasibility of the mobile application.

Review of Literature

Human Trafficking:

Human trafficking is a form of modern-day slavery that has been gaining global attention over the past decade (WHO). Precise estimates of trafficking are unknown due to its illegal and invisible nature (WHO). Despite numerous studies, reliable empirical research on this topic is limited (Dank et. al, 2017). A review of 700 literature articles revealed that only 46% of them contained empirical data, and of these, just 12 % were peer reviewed (Dank et. al, 2017). Due to these deficiencies in research, prevalence rates of trafficking are unknown.

In the United States, prevalence estimates vary widely based on the source and year of the data (Hopper, 2004). Prevalence rates are usually generated from “reports of specific trafficking incidents, counts of repatriated victims, estimates of victims worldwide, and victim demographic” (Hopper, 2004). Recent estimates are based heavily on data collected from foreign victims, rather than domestic victims; thereby, underestimating the real impact of trafficking in the United States (Hopper, 2004).

Despite these varying estimates, it has generally been accepted that trafficking has become a leading social and political issue (Hopper, 2004). To tackle this growing epidemic, the United States Government passed the Trafficking Victims Protection Act (TVPA) (Logan et al., 2009). Under the TVPA it is “illegal to use force, fraud, or coercion to exploit a person for profit or personal services (Logan et al., 2009). However, this definition does not align with the state anti-trafficking laws, which leads to fewer reported cases and fewer prosecutions of perpetrators (Hopper, 2004). Improving victim identification, documentation, and spreading awareness about this subject is vital to resolving these discrepancies (Hopper, 2004).

Victims:

Trafficking is an invisible and underreported public health issue. It affects both men and women regardless of their age, ethnicity, nationality and socio-economic backgrounds (HHS). However, certain commonalities between them make them more susceptible to trafficking (HHS). These include “poverty, young age, limited education, lack of work opportunities, lack of family support, history of previous sexual abuse, health or mental health challenges, and living in corrupt/crime-ridden areas, etc.” (HHS).

Trafficking is commonly viewed as migration across borders. However, victims can be trafficked within their country of origin (WHO). Domestic victims are recruited from homeless shelters, group homes, transportation hubs, etc. (HHS). However, in recent year, victims are being recruited using social media and other internet sites (NCSSL, 2015). In a report submitted by the California Child Welfare Council, nearly 50% - 80% of victims of sex trafficking were at some point enrolled in the child welfare system (HHS, 2013). In the United States, the average age at which girls are first exploited is 12 to 14 years, and this average is lower is in boys and transgendered youth (HHS). Regarding ethnicity, domestic victims tend to be either white or black, with African-American girls being exploited at a higher rate (HHS).

Internationally, victims of trafficking may be fleeing from conflicts, civil wars or economic crisis (HHS). Susceptible men and women are lured in from Asia, Africa, Latin America, Eastern Europe and are relocated to Western Europe and North America (Joshi, 2002). A significant portion of these victims are women and children (Joshi, 2002). In countries like Sudan, India, and Pakistan, victims are often used as “servants, carpet makers and concubines” (Joshi, 2002). In Thailand, victims are sold as prostitutes to Mauritania (Joshi, 2002). Initially, victims might make an autonomous decision to migrate in search of economic opportunities;

however, once they move across the border, they are subjected to intimidation and deception (Joshi, 2002).

After reaching their destination, victims are coerced into signing debt bondage which forces them to work in dangerous conditions (Joshi, 2002). Debt bondage might include the supposed travel expenses incurred by the trafficker, the cost of food, clothing, and shelter used by the victims (Joshi, 2002). Traffickers use this “debt” to prevent victims from escaping or seeking help (Joshi, 2002). Another disadvantage that most foreign victims face is the language barrier and the mistrust in law enforcement (Joshi, 2002). With no support system, most victims are isolated and subjected to emotional and physical abuse (Joshi, 2002).

Victims of trafficking face a myriad of physical and psychological issues like injuries, communicable diseases and post-traumatic stress disorder (PTSD) (Richards, 2014). A study conducted in Eastern Europe showed that 63% of rescued victims reported 10 or more physical injuries (Richards, 2014). Further examination revealed that most of their organ systems were severely affected including “dermatologic, eyes/ears, cardiovascular, respiratory, gastrointestinal, urogenital, neurologic and musculoskeletal” (Richards, 2014). Victims of sex trafficking are also exposed to sexually transmitted infections (STI), HIV and tuberculosis (Richards, 2014).

PTSD and depression are commonly reported mental health issues amongst victims (Richards, 2014). In a European study, most victims scored 2.5 points higher than the PTSD threshold (Richards, 2014). Another study showed that the rates of PTSD and depression among sex trafficked victims were significantly higher than non-sex trafficked victims (Richards, 2014). Most commonly reported symptoms are “nightmares, difficulty concentrating, becoming easily upset, having difficulty relaxing, mood swings, experience feelings of hopelessness, and sleep

disorders” (HHS). Minor who are internationally trafficked exhibit signs of depression, anxiety, survivors guilt, aggression and other behavioral problems (HHS).

Identifying trafficking victims has proven to be a challenge. Victims are, generally, reluctant to report because of the shame, fear, and stigma associated with trafficking (NCSSL, 2015). There are specific behavioral indicators that help in the identification process (NCSSL, 2015). These include signs of drug abuse, lack of control over personal schedule, bruises and signs of abuse, withdrawn behavior, a sudden change in attire, behavior and personal hygiene, etc. (NCSSL, 2015). Educating health care providers, law enforcement officers, and other bystanders about these indicators will assist in rescuing the victims.

Perpetrators:

The dynamics of human trafficking are based on supply and demand, the demand for victims is generated by the perpetrators and consumers of trafficking (Hughes, 2008).

Trafficking can be broken down into recruiting, sending, and receiving regions (Hughes, 2008).

Recruiting regions are areas where the demand for victims is tolerated, for example, countries with legalized prostitution can be classified as recruiting region (Hughes, 2008). Sending regions are areas with poverty, high levels of unemployment, or conflicts, making it easier for the traffickers to lure in victims (Hughes, 2008). Receiving regions are cities and countries where the victims are in demand (Hughes, 2008).

Traffickers engage in this lucrative business because of the “low start-up costs, minimal risks, high profits and large demand; for organized crime groups, human beings have one added advantage over drugs: they can repeatedly be sold.” (Human Rights first factsheet, 2014).

Traffickers can range from a small-time solo operator to a sophisticated criminal organization (Human Rights first factsheet, 2014).

Traffickers can be broken down into three categories: individual trafficker, a loosely organized group of criminals and a highly structured international network (Aronowitz, 2010). Individual trafficker work without a formal structure, they recruit, and transport victims themselves (Aronowitz, 2010). Individual traffickers account for 12% of all international cases and 66% of all domestic incidents (Aronowitz, 2010). These individuals import victims for domestic servitude, farm work, and other forms of hard labor (Aronowitz, 2010). The victims are usually local or migrant workers, homeless, or habitual drug users (Aronowitz, 2010). Individual traffickers also force victims into prostitution; they lure the victims in through courtship, and promises of marriage (Aronowitz, 2010). These lone operators are difficult to track because they work on a small scale without out a network (Aronowitz, 2010).

Trafficking organizations are highly flexible, segmented and specialized (Aronowitz, 2010). Research conducted in the Netherlands showed that these organizations are built on social relationships like family, friendship, and along ethnic lines (Aronowitz, 2010). However, the primary motive for their co-operation remains money (Aronowitz, 2010). These organizations have a hierarchal structure (Aronowitz, 2010). Usually, there is one individual who acts as an “investor” who plans and controls the organization, and the rest of the individuals are linked in a horizontal cluster (Aronowitz, 2010). The horizontal cluster involves the “recruiters, transporters, corrupt public officials or protectors, informers, guides and crew members, enforcers, money-launderers, supporting personnel and specialists” (Aronowitz, 2010). Individuals who run brothels and prostitution rings are not the primary perpetrators of trafficking. Instead, it is the middlemen that transport and surveil the victims (Aronowitz, 2010). Most traffickers are men

between the ages of 18-40 years and are they slightly better educated than other criminals (Aronowitz, 2010). Researchers in Russia stated that younger men tend to use violence to coerce the victims, while the older men use deception and manipulation (Aronowitz, 2010). Female traffickers are seen, mostly, in Eastern Europe and Central Asia (Aronowitz, 2010). They tend to act as “madams” that sponsor victims by paying their fees and then forcing the victims to pay off these debts (Aronowitz, 2010). Data on female trafficker is insufficient, Eastern European countries such as Latvia have higher rates of convictions for females (53%) than males (Aronowitz, 2010). One of the theories for this increase in female offenders is that former victims are changing into traffickers (Aronowitz, 2010). Due to their trauma, these women want to be liberated from their “victim” status and want to gain control by trafficking other individuals (Aronowitz, 2010). Improving counseling and assistance can reduce this number (Aronowitz, 2010).

Resources:

Once a victim is rescued, he/she is protected by the Trafficking Victims Protection Act (TVPA) (Polaris Project, 2015). Under this Act, Department of Health and Human Services (HHS), DOJ’s Office for Victims of Crime (OVC) became the primary federal organization that deals with trafficking (HHS). They are also responsible for allocating and determining eligibility for resources (HHS).

HHS and OVC fund several programs for victims under the age of 18 (minor victims) (Gibbs, 2015). These programs offer “intensive case management that included intake needs assessment, development of individualized plans, referrals, documentation of service provision, and routine follow-up” (Gibbs, 2015). Other services provided are housing, transportation,

specialized education, physical/mental/dental care, assistance with legal proceedings (Gibbs, 2015). As soon as these victims are rescued, they are placed in public child welfare systems with access to licensed private therapists and healthcare providers (Fong, 2010). Unaccompanied international minor victims are also provided with resettlement services, culturally appropriate alternative to the foster care system (HHS). They also assist with “English language training, career planning, health/mental health needs, socialization skills/adjustment training, residential care, education/training, and ethnic/religious preservation” (HHS). On the state level, they are eligible the same assistance given to every child in the state (HHS).

However, once the victim turn 18, these resources are no longer available to them. As victims age, they are more likely to be abandoned by their traffickers. Since they are no longer eligible to participate in the foster care system, these victims become homeless and are at a higher risk of being re-trafficked (WHO). Since the passage of TVPA, HHS is responsible for providing services to this aging out population (HHS). To access these services, the aging-out population must be certified as a victim of trafficking (HHS). These certifications are for the international victims of trafficking (HHS). The stipulations for this certificate are that the victims should have experienced a severe form of trafficking and they must cooperate with the investigation (HHS). In contrast, minor international victims do not require the certificate nor cooperate with the investigation (HHS).

The process to obtain this certificate is lengthy and has to be completed by law enforcement officers (HHS). These law enforcement officers are solely responsible for determining if the victim experienced a severe form of trafficking (HHS). While this process is taking place, most victims are not eligible for refugee-specific services (HHS).

Domestic aging out victims do not require the certificate, they are eligible for services like “Temporary Assistance for Needy Families (TANF), Medicaid, and the Supplemental Nutrition Assistance Program (formerly known as the Food Stamp Program)” (HHS). However, these victims have to apply through the State in which they reside (HHS). In order to qualify for the State’s assistance, they need to meet certain criteria like being a single mother, disabled, etc. (HHS). If they fall into one of the categories, they then required to provide legal documentation like driver’s license (HHS). Most victims lack these documents are denied access to the resources. Other issues for this population is the lack of knowledge about these resources, and the absence of a consolidated resources platform. Unlike the minors, most aging out victims must depend on self-referral to gain access to advocacy groups and programs (Gibbs et al, 2015).

METHODS

Before starting the capstone, it was observed that most victims of trafficking lack prior knowledge regarding the resources available to them. They also struggled to find appropriate avenues that could assist in their rescue. However, after attending several human trafficking forums and panels across metro Atlanta area, it has been determined that there are several resources available for this specific population. There is a knowledge gap regarding the available resources and the ways to access them.

Several informal discussions were conducted with the key stakeholders to validate these observations. The stakeholder included executives of advocacy groups, shelter, group homes and aged out victims of trafficking. Victims were asked questions regarding their prior knowledge of available resources and the process of gaining access to these resources. Advocacy groups and other stakeholders were asked about their client's experiences, and if they had any knowledge about the existence of a consolidated resources platform.

Since 77% of all Americans own a smartphone, and "64% of the overall US population and 82% of persons aged 18-49 years owned an app-enabled mobile phone", a mobile application might be a practical platform to consolidate resources for the aging out population (Krebs, 2015). Market research was conducted to check if there are any similar application available; Google, Google Scholar, and EBSCOhost was used to perform this research. There is one mobile application that had a similar S.O.S feature, however, this app does not consolidate resources for the victims.

The next step was identifying formal resources available for aging out human trafficking victims. A literature review of governmental websites: Department of Health and Human Services (HHS), Department of Justice (DOJ), Center for Disease Control (CDC) and National

Institute of Justice (NIJ), was conducted. DHHS provided information regarding temporary assistance for needy families (TANF), and supplemental nutrition assistance program (HHS). DOJ and NIJ provided resources on legal aid and immigration, specifically, “continued presence” documents, U-Visa and T-Visa (HHS). The CDC offered the Health-Related Quality of Life (HRQOL) measures, which will be used as the Ecological Momentary Assessment tool (EMA) on the app.

There are many screening tools available for this population, but identifying victims is not the aim of the proposed app. Since, the application is victim-oriented, meaning, the end user is going to be an aged out trafficking victim, a risk assessment was deemed appropriate for the app. However, self-administered risk assessments do not exist for this population. Research has shown that victims of trafficking exhibit the same “symptoms and needs of service similar to victims of domestic violence/sexual assault” (HHS). Therefore, risk assessments for domestic violence victims will be considered for the app.

In the literature, there are three methods/models of violence risk assessments, they are “unstructured clinical decision making, actuarial decision making, and structured professional judgment” (Kropp, 2008). Unstructured clinical decision making is the most commonly used spousal violence risk assessment, there are no guidelines for the evaluator, he/she must rely on their qualifications and experience as a professional (Kropp, 2008). This approach has been criticized for not having strong reliability and validity (Kropp, 2008). Due to this most evaluators are moving away from this method (Kropp, 2008).

Actuarial decision-making risk assessments predict violence based on “(a) a relative sense, by comparing an individual to a norm based reference group; and, (b) an absolute sense, by providing a precise, probabilistic estimate of the likelihood of future violence” (Kropp, 2008).

This method has better reliability and validity than the unstructured clinical decision-making method, but it's also been criticized for its lack of practical usefulness (Kropp, 2008).

Structured Professional Judgment tries to bridge the gap between the unstructured clinical decision-making method and the Actuarial decision-making method (Kropp, 2008). The evaluator conducts assessments based on guidelines that reflect theoretical, and empirical knowledge about violence (Kropp, 2008). This method systematically identifies risk factors relevant to the case, so that management strategy can be planned to prevent abuse (Kropp, 2008).

Currently, there are four existing risk assessments, Danger Assessment, Domestic Violence Screening Inventory, Ontario Domestic Assault Risk Assessment, and the Spousal Assault Risk Assessment Guide (Kropp, 2008).

Danger Assessment (DA) was designed to assess the likelihood of homicides in domestic violence cases (Kropp, 2008). The items on this assessment were based on retrospective studies on homicides and near-fatal injury cases (Kropp, 2008). The assessment consists of two parts, part one asks, "Potential victims to record the severity and frequency of violence in the past year" and the second part is 15 item yes/no questionnaire on the risk factors associated with domestic violence homicide (Kropp, 2008). The DA is a victim-oriented assessment designed to be used mainly by the victims (Kropp, 2008).

The DA has good interrater reliability (coefficients range between 0.60 and 0.86), and strong test-retest reliability (range = 0.89 to 0.94) (Kropp, 2008). Most studies supported convergent construct validity; there is moderate to strong correlations between the DA and validated instruments testing the frequency/severity of the abuse (Kropp, 2008).

Domestic Violence Screening Inventory (DVSI), created by the Colorado Department of Probation services, is a short risk assessment that is completed after a quick review of criminal

history (Kropp, 2008). The assessment “contains 12 social and behavioral factors found to be statistically related to recidivism by domestic violence perpetrators on probation” (Kropp, 2008). The social factors are current employment and relationship status, while the behavioral factors are perpetrator’s criminal history (Kropp, 2008). DVSI has adequate concurrent validity; it correlates strongly to spouses on the Spousal Assault Risk Assessment Guide (SARA) (Kropp, 2008). DVSI has also shown to have statistically significant predictive validity in a prospective design (Kropp, 2008).

Ontario Domestic Assault Risk Assessment (ODARA) is 13-item actuarial instrument developed in Canada (Kropp, 2008). Items were based on a pool of potential risk factors collected from police reports (Kropp, 2008). ODARA has adequate validity, and it correlates with the DA and the Spousal Assault Risk Assessment Guide (SARA) (Kropp, 2008).

Spousal Assault Risk Assessment Guide (SARA), is a guideline with 20 items (Kropp, 2008). These items were identified through review of empirical literature on wife assault and the reports of clinicians who evaluate male wife abusers (Kropp, 2008). SARA is not a test; instead, it is a guideline that improves professional judgments about risk (Kropp, 2008). SARA is not a formal psychological test so it can be used by other professionals (Kropp, 2008). SARA includes “interviews with the accused and victims, standardized measures of physical and emotional abuse, drug and alcohol abuse, and a review of collateral records, such as police reports, victim statements, criminal records, and other psychological procedures” (Kropp, 2008).

One Sample showed that SARA rating significantly discriminates between perpetrators with or without the history of domestic violence ($t = 27.04, p < .0001$) (Kropp, 2008). SARA rating also has a good convergent and discriminant validity regarding measures related to the risk of general and violent crimes (Kropp, 2008).

RESULTS

Risk Assessment:

Based on the literature review, the Danger Assessment (DA) is selected as the primary risk assessment for the proposed mobile application. Though the contents of the four risk assessments were similar, and each one had good reliability and similar predictive validity, DA was the only one which was victim-oriented (Kropp, 2008). A victim-oriented assessment will provide critical information on the perpetrator's personality, attitudes and mental health status (Kropp, 2008).

Other benefits of the DA are that it can be revised and used to assess the re-assaults in same-sex relationships and female perpetrators (Campbell et al., 2008). The DA can be completed by the victim or with the help of healthcare professionals, advocates or law enforcement officers (Campbell et al., 2008). Various studies have tested the reliability and validity of the DA. The DA has acceptable internal consistency (0.7-0.8), and strong test-retest reliability (0.89-0.94) (Campbell et al., 2008).

Ecological Momentary Assessment (EMA):

Ecological momentary assessment is a repeated sampling of an individual's current behavior and experiences in real time (Shiffman, 2008). Most studies employ a retrospective questionnaire to assess the behaviors and emotions of the subject. However, this approach does not elucidate the situation that caused the change in behavior (Burke et al., 2017). An EMA "reduces recall bias, maximize ecological validity, and allows the study of micro-processes that influence behavior in real-world contexts" (Shiffman, 2008). An EMA will be included in the proposed mobile phone application; it will allow the victims to track their mental and physical

wellbeing over time. CDC's, health-related quality of life measures (HRQOL-4) will be used as an EMA.

CDC developed the Healthy day's measure, HRQoL-14, to assess and individuals' perception of physical and mental health over time (Moriarty et al., 2003). HRQoL-14 has 14 items, split into three modules (Open Research Exchange, 2014). The three modules are "the 4-item Healthy Days Core Module (CDC HDQOL-4), 5-item Activity Limitations Module, and 5-item Healthy Days Symptoms Module" (Open Research Exchange, 2014). The core questionnaire, HRQoL-4, contains four questions, which ask about general health and the number of "unhealthy day" an individual had in recent time (Moriarty et al., 2003). The first question is a global assessment question that is very useful in community studies (Andresen et al., 2003). The second and third questions refer to the number of "unhealthy days" and individual had in the past 30 days (Andresen et al., 2003). The fourth question measures the number of days in the past 30 days, where the individual experienced limitation of activity due to poor physical/mental health (Andresen et al., 2003).

Studies were conducted to test the validity and reliability of the core questionnaire, HRQoL-4. For self-reported health and healthy day's measures, the retest reliability was moderate to excellent (0.75 or higher) (Andresen et al., 2003). Studies conducted in Hamilton, Ontario, Canada, Sweden, and Puerto Rico showed that CDC HRQOL-4 has good construct validity for use in general noninstitutionalized adult populations (Moriarty et al., 2003). The measures also had an acceptable test-retest reliability and strong internal validity (Moriarty et al., 2003).

Evidence Informed Content:

The content of this app will be built using an existing platform, mWELL©™ created by Dr. Shanta Dube. This app will include formal resources identified through literature review, a valid risk assessment and an Ecological Momentary Assessment (EMA).

MyWellness™, a feature within mWELL©™, will house the danger assessment. The DA will be administered once every six months; the victims will be able to assess the situation and make decisions regarding their removal. MyProgress™ will feature a journal and an EMA (HRQOL-4). After their rescue, victims might have difficulty recalling specific details about the abuse, and this might hinder the prosecution of the traffickers. The journal will allow the victims to discreetly and securely document the different “events.” An EMA will be administered once a month. The purpose of an EMA is to track the victim’s perceived mental and physical health over time.

MyCommunity™ will include information of shelters and group homes, legal aid, immigration, advocacy groups, housing/HUD funding and, a safety planning checklist. It will also have information on availability and turnover rates of shelters and group homes. A safety planning checklist will be included in this section; it will be a practical guideline that will allow the victims to assess the situation and plan their escape.

For legal aid, contact information for the local lawyers’ association (ex: Atlanta Volunteer Lawyers Association) will be made available. Information regarding T-Visa, U-Visa and Continued presence documents will be available along with the contact information for the local immigration law offices (ex: Georgia Asylum and Immigration Network, GAIN).

Information regarding rent assistance and HUD funding opportunities will also be provided.

Mylearning™ will feature informational videos on legal aid, immigration, advocacy, etc. The videos will be made in collaboration with local agencies like Atlanta Volunteer Lawyers Association, GAIN, Tapestri, Women's Resource Center, and GCADV.

Other features of this app are the S.O.S and decoy buttons. The S.O.S button will allow victims to pre-program points of contact, who will then assist them in safely escaping their traffickers. The Decoy button will enable the victims to access the app inconspicuously. If the trafficker enters the same room as the victim, he/she will be able to click this button to change the display of the app.

DISCUSSION

Feasibility Test:

Feasibility test can be defined as a study that tests the viability of an idea and identifies any potential problem that may arise (Wolfe, 2008). Feasibility studies are conducted to test for acceptability, implementation, practicality, integration, and expansion (Bowen, 2009).

The pilot app will be built on the existing mobile platform developed by the Capstone Chair. A feasibility study will be conducted with a local metro-Atlanta based advocacy group that serves aged out human trafficking victims. The proposed feasibility study will be testing the acceptability of the mobile application and readability of the assessment tool. Institutional Review Board approval will be obtained before starting the test.

Phase I:

Prior to starting phase I, 5-8 key stakeholders will be identified and recruited into a one-time focus group. These stakeholders will be the executives of advocacy groups, employees of shelters and group homes and survivor of trafficking. After the pilot app is built out, screenshots of the interface will be taken. These screenshots will include pictures of the modified Mywellness™, Myprogress™, Mycommunity™, and MyLearning™. Using Qualtrics, these screenshots will be sent to the focus group. Based on their feedback, necessary changes will be made.

Phase II:

Phase II will involve beta testing. 5-8 individuals will be invited to test the app, four people will be from the R&D team, and two will be from a local advocacy group. The beta tester

will provide the developer their phone serial number to gain exclusive access to the app. The app will be beta tested for two weeks, and within this time, readability of the assessments, ease of use, and functionality of the overall app will be examined.

Phase III:

In phase III, the app will be tested with the target population. Victims and survivors of trafficking will be recruited from local advocacy groups, and each participant will be given exclusive access to the app. They will be testing the comprehensibility of the risk assessment, the accessibility, and the functionality of the overall app. Based on their feedback necessary changes will be made before the app is launched in the app store.

This app will not be advertised publicly. Instead, local advocacy groups and shelters will inform the victims about this platform.

Target Population:

This app is built mainly for the aging out human trafficking victims; however, it can also be utilized for other vulnerable populations. Research has shown that victims of trafficking exhibit “symptoms and needs for service like torture victims, victims of domestic violence/sexual assault,” (HHS). There are also several similarities between the domestic violence and aging out human trafficking populations. These include age (>18), race (all races and ethnicities), gender (mainly female), SES. Table 1, shows similar resources available for both populations.

Table 1:

Resources	Serves both populations	Serves specific population	
		DV	Aged-Out
Shelters & Group Homes	Tapestri	Georgia Coalition Against DV	Wellsprings
Housing	Continuum of Care rapid re-housing (CoC-RRH) HUD Funding	All funding options can be applied to both populations	All funding options can be applied to both populations
Legal Aid	Atlanta Volunteer Lawyers Foundation	Temporary Protective (TPO)	TPO
Immigration	Georgia Asylum and Immigration Network (GAIN)	Battered Spouse Waiver	Continued Presence- Temporary immigration Status
Visas	U-Visa	I-765V	T-Visa
Assessments	Danger Assessment Health-Related Quality of Life Measures		

Strengths:

This app is the first of its kind to consolidate resources onto a single platform for the aging out human trafficking population. It reduces the number of barriers, making it more accessible to the victims. It can also be opened discreetly, and the trafficker cannot trace any messages and emails sent through the app.

Limitations:

There is limited research on the mobile phone usage amongst this population. Therefore, actual accessibility of this app is unknown. Since the app is not publicly advertised, the reach of this app will be limited. Advertising can only be done through local advocacy groups, shelters, group homes, ER personnel and law enforcement officers.

Conclusion:

Despite the limitations of this app, it addresses the primary concerns of the aging out human trafficking population. It educates them about the available resources and improves accessibility discreetly.

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