Kratom: A Collective Analysis

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Author Note

The mission of the United Kratom Association is to protect *Mitragyna speciosa* (Kratom) and the rights of its supporters by way of political education and awareness on state and federal levels. Influencing legislation through grassroots social, media, and local mobilization, we aim to unite the industry, consumers and companies alike through science and research. The United Kratom Association would like to acknowledge all those that participated in this project.

About the Author

In 1991, Mr. Jerue began his career in the field of substance abuse working as a counselor for Seton Center Detox/St. Elizabeth Hospital in Elizabeth, New Jersey. In 1996, Mr. Jerue was directly responsible for the development and management of Seton Center Outpatient Program (SCOP) at St. Elizabeth Hospital. Also in 1996, SCOP participated in the pilot implementation of the New Jersey Drug Court and worked in collaboration with many Employee Assistance Programs; to include Continental Airlines. In his 23 years as an addictions professional he has amassed clinical, consultation, training, and administrative expertise. In 2003 Mr. Jerue obtained his Master Degree in Human Services and graduated with honors from Lincoln University. Dale was the recipient of the prestigious Martin Mc Gurrin Award for his outstanding contribution to the field of human services and application of modern technology in his master thesis entitled “A Staff Training to Empower Criminal Offenders through Self-Assessment and Employment.” Mr. Jerue is presently retired and presently living in Daytona Beach, Florida.

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Abstract

Over the past decade or more consumers have sought out organic remedies from a host of biomedical and psychological conditions. Among just one of these natural substances of interest is kratom. There has been concerted efforts by lobbyists, agencies, and lawmakers to ban the substance here in this country. A consumer-focused survey collected 466 individual's responses that represent a high-functioning and well-educated group who, through the responsible use of kratom are benefitting from its healing properties. For this group, it appears the overarching majority are thriving in their ability to maintain employment, care for their children, appreciate their relationships with others; and served their country in time of need. It is hoped additional studies of this type will contribute to and advance the need for more studies as it relates to wellness

Keywords: kratom, consumer profile.

Defending Kratom

The use of plants in their role of healing predates modern history. Of late, herbal preparations have gained renewed popularity and often thought to be safe and affordable. Among one of the many herbal substances said to possess healing properties is kratom. This herbal preparation is said to have both analgesic and stimulating properties (Sabetghadam, Ramanathan, Sasidharan, & Mansor, 2013). Found primarily in South East Asia, kratom is a relative to the coffee tree. The pain relief effects found in kratom are produced by alkaloids found in the leaves. Historically, because of its reported analgesic and energizing effects kratom was used for centuries by farmers and tribes people in the region (Jansen & Prast, 1988; Prozialeck, Jivan, & Andurkar, 2012)

Over the past decade, a resurgence in Kratom's popularity has emerged as consumers pursued natural solutions to a host of conditions. Today, a thriving community of kratom consumers, advocates, and other supporters exist on Facebook. Individuals or other organizations usually create these groups. They are self-governed and moderated by other established group members. New members are referred for membership by existing group members. Once accepted, one can take advantage of opportunities to discuss issues affecting their lives. As an active group member, one could quickly develop increased trust in others and boost one's self-confidence. However, other groups and movements embrace opposing views concerning kratom.

Initiatives are presently ongoing that could potentially make kratom an illegal substance in the United States. In 2010, The Drug Enforcement Agency (DEA) placed kratom on their "Drugs and Chemicals of Concern" watch list (Barceloux, 2012). Based on the premise that kratom ingestion causes aggression, nervousness, hallucinations, and sleeplessness the Food and Drug Administration (FDA) began raising concerns about kratom at trade shows in 2013, leading to ongoing indiscriminant detention of products containing kratom (Troy, 2013).

Kratom is presently illegal in Indiana, Tennessee, Wisconsin and Vermont. In Florida, kratom is legal with the exception of Sarasota County. In November 2015, officials from Talladega County, Alabama issued a warning about kratom after parents alleged liquid kratom drinks containing kratom were causing their children to become impaired. In February 2016, the Oxford, Alabama police department issued an emergency ban on the substance; with their chief stating were working hard to "stay on top of these synthetic drugs" (Schauer, 2016). Several other states have filed legislation to make the possession, importation, and sale of kratom a criminal offense. Legislation introduced in the New Hampshire Senate could make any involvement with kratom a felony; with a maximum term of seven years imprisonment and a fine of not more than $100,000.00-or both (Senate, 2010). Depending on one's position, these efforts created a major concern for some; while for others-a major step towards victory.

Project Goals

With all the negative attention kratom has received, it can be difficult to realize the benefits associated with responsible kratom use. A basic internet search using the keyword "kratom" produced close to 2.5 million results for vendors, blogs, and a wide variety of other kratom related information. Other articles, written by professional researchers attempt to explain alleged kratom overdose and related fatalities (Neerman, Frost, & Deking, 2013). Some documented clinical studies conducted on laboratory animals (Kachamas. Srichana, Janchawee, Prutipanlai, Raungrut, & Keawpradub, 2015). Throughout the search for information, what became apparent was the lack of professional documents exploring the widely self-reported benefits of kratom use (Appendix A.).

The two goals for this paper are straightforward. First, to provide the individual consumer with a collective voice to assist them in the efforts to keep kratom legal and available. Most research literature

available on kratom-utilized methods that, by design, either limited or prohibited consumer participation.

Instead, this paper will use a widely accepted research model known as Action Research (AR)- sometimes referred to as participatory research (Johnson, 2012; O'Brien, 1998). To gather data, a consumer-focused survey will be designed to gather information and insight into the positive life improvements afforded to those consumers using kratom in a responsible manner.

Over the past years there have been a countless number of sensationalized reports about psychoactive substances have been found in the media and academia. While some turn into significant public health issues, most do not become substantial public health threats (Stonger, 2015). In some cases, kratom is mistakenly referred to as a synthetic compound (Miller et al., 2014; Troy, 2013). Thus, through a review of selected professional literature we will identify and discuss similarities, differences and contradictions found within the professional literature on kratom. This paper will attempt to provide a fair analysis of all sides; and more importantly identify the positive benefits of those using kratom with a unified voice.

Project Design

Action Research (AR) gained notoriety in the 1940s when the method was applied to problematic issues in education, the military, and women's rights. As a research model, AR is used when the focus is on real-time problem solving. A key element in AR's suitability to the project is its ability to focus attention on elements hold opposing views on a particular issue. In this case, both groups hold a range of opposing views, which on their own merit could lead to possible action. For validity and reliability purposes it is recommended the inclusion of at least one additional data source be used (Johnson, 2012). Therefore, an additional one question survey "What is Your Zip Code?" was posted in

three kratom-related Facebook groups gathered 420 responses. The results were imported into a mapping software program and used in this document as an additional data source.

Survey Design

A survey was designed to gather information from individuals that use kratom on a regular basis. The survey consisted of forty-three thoughtfully placed close-ended questions whose goal was to answer the question: "Who are and how are people benefiting from responsible kratom use?" To this end, any of the information available on kratom failed to provide an answer. The survey consisted of three main sections: (a) demographics, (b) kratom related and (c) use of current support systems. Additional subsections on substance abuse treatment, children, and veteran status employed an option to assist respondents in skipping those sections not applicable. The survey was pre-tested with a select group of fifteen respondents, all known to the author. Posttest survey interviews conducted with the all these respondents indicated their understanding of the survey's purpose, intended use, and confidentiality.

Data Collection

Snowball sampling is a non-probability data collection technique used when respondents are difficult to locate. As a variation, respondent driven sampling relies on word of mouth recommendations to participate in the survey. The survey was posted on The United Kratom Association's Facebook page. Within three days, 150 responses were collected from the Facebook posting; along with individuals requesting to post the survey in other groups. In essence, the additional efforts from others created two collection streams. The total number of responses from the direct Facebook posting produced 308 responses. The web link collected an additional 158 responses for the total of 466 participants. These efforts not only gathered much needed data and additionally demonstrated the cohesion of the kratom community.

Literature Review

An internet search using kratom as the only keyword was conducted on Google Scholar to locate articles relating to kratom; producing 1,260 academic articles. Subsequent Google Scholar searches beginning 1940 identified significant gaps in kratom related literature. For the period beginning 1940 through 2000 96 articles were located, in 2001through 2011-397 articles were located. Further, in the years 2012-2015 yielded 534 results (Figure.1). To this end, a similar gap in literature gap was found in another article entitled, "Pharmacology of Kratom: An Emerging Botanical Agent With Stimulant, Analgesic and Opioid-Like Effects". According to the authors' their 2012 search on the US National Library of Medicine's PubMed database using the keyword "kratom," yielded a total of 35 published articles and reviews. Of those, thirty were published in or after 2004, four were published between 1988 and 1997, and 1 published in 1975. In another PubMed search by the same authors, this time using the keywords "*Mitragyna speciosa,*" produced sixty-five published articles. Of those, forty-nine were published within the past 10 years (Prozialeck et al., 2012) .

In 2012, an increase of emergency room visits for synthetic cannabinoids and synthetic cathinone were being reported. Beginning late 2009 through early 2011, graphic reports of those suffering with adverse reactions to these synthetic substances more commonly known as "spice" or "bath salts" started surfacing in the media. Soon after the attention, these synthetic substances quickly earned the reputation as being inexpensive, potent-and potentially lethal substances (Marsch & Mllvile, 2011; Miller et al., 2014; Troy, 2013). However, in some of these reports kratom is mentioned in association with these synthetic substances.

In the United States, the Department of Health and Human Services (HHS) is responsible for the nation's mental and behavioral health care. Among one the many agencies within that department is SAMHSA; or the Substance Abuse and Mental Health Services Administration. Their goal is to reduce

the impact of substance abuse and mental illness in our communities. Within SAMHSA, other committees rely on public and professional input to achieve their mission. One agency, the Center for Substance Abuse Treatment (CSAT) National Advisory Council-reported that in 2012 an increase of kratom related emergency room admissions. (CSAT, 2013; Rosenbaum, Carreiro, & Babu, 2012). However, no supplementary data was found on the SAMHSA website to support this claim**.** Further, an additional search of SAMHSA's drug abuse warning network (DAWN) retuned no mention of kratom in these files.

In the article, "Marketing a Panic: Media Coverage of Novel Psychoactive Drugs (NPDs) and its Relationship with Legal Changes" explored the proliferation of media reports found in the media between 2005-2013 on synthetic substances. Here, kratom is identified as a natural substance and referred to as an emerging "new market botanical" once again receiving mention within a discussion on synthetic substances. The article is relevant for a number of reasons. First, the study provides verifiable quantitative data showing the presence of such reports occurring during that period. Moreover, media coverage ranked these media reports by region, topic, age, gender (Miller et al., 2014) (Figure. 2-3). Lastly, another article *"*New 'Legal' Highs: Kratom and Methoxamine*"* introduced kratom (a naturally occurring substance) and methoxamine (a synthetic compound) as substances of concern; thus associating kratom with synthetic substances (Troy, 2013).

In both the popular and professional literature on kratom, fatalities were reported. One 2013 article, "A Drug Fatality Involving Kratom" presents a case study of a 17-year-old male whose cause of death was reported as possible kratom toxicity; and classified as an accidental death. In this case, kratom, along with klonopin, restoril, and over the counter medications; diphenhydramine and dextromethorphan were found present in the toxicology report. The authors maintain the additional substances found were not a contributing factor in his death. However, these substances are easily

purchased and known to have a high abuse potential amongst this age group (Neerman et al., 2013) (Figure.4).

The article, "Self-treatment of opioid withdrawal using kratom (Mitragynia speciosa korth)" presents the case of one individual with a four-year history of kratom use, who arrived in the emergency room with seizures who unfortunately passed away. Subsequently, a sample of the ingested material was sent to the University of Mississippi for analysis. The analysis found no contaminants and determined the seizures resulted from co-administration of modafinil twenty minutes prior to admission (Boyer, Babu, Adkins, McCurdy, & Halpren, 2008). The "Subchronic Exposure to Mitragynine, the Principal Alkaloid of Mitragyna Speciosa, in Rats" authors researched possible negative reactions, such as seizure, coma and death; although none were related to the sole ingestion of kratom. However, the author's did locate one report of death in Thailand after the ingestion of a prepared kratom cocktail known in that region as "4 X 400"-made from kratom leaves, a caffeine-containing soft drink, and codeine-or diphenhydramine-containing cough syrup as the three basic ingredients to which ice cubes, an anxiolytic, an antidepressant or an analgesic drug is added (Sabetghadam, Ramanathan, Sasidharan, & Mansor, 2013).

Further, questions and concerns have been raised regarding the alleged adulteration and contamination of kratom products. In the article "Effects of Mitragynine and a Crude Alkaloid Extract Derived from Mitragyna speciosa Korth on Permethrin Elimination in Rats" analyzed for the presence of possible pesticides in rat elimination samples. This not only suggests continued quality control, but provided additional information on "4 X 400" indigents such as mosquito coils and powders from fluorescent lighting fixtures (Kachamas Srichana, Janchawee, Prutipanla, Raungrut, & Keawpradub, 2015). Thus, based on the severity and sensitivity about the issues presented it is clear more research is needed in all areas relating to kratom.

Discussion of Collected Data

The survey collected sufficient data to construct a profile of those consumers using kratom in a responsible manner. The data from this survey and additional information from the zip code project provides a snapshot of consumer distribution. The sample size for this project consists of 339 females and 127 males, or 466 respondents. Of those, ninety-four percent identified as Caucasian with six percent identifying with other ethnic groups. Consumers were asked to identify the type of community in which they reside. According to information provided an almost an equal number reside in urban (164), suburban (156), and (140) in city settings (Figure 5). In comparing the two zip code maps despite each having an almost twenty-five percent response difference, both possess similar characteristics. To this end, each show large concentrations of consumers on the eastern half of the country. Further, both images appear to have a line of respondents separating the eastern and western portions of the country. In the western portion, a high concentration based in the major cities of California and Washington. The Midwest, along with Alaska and Hawaii produced minimal responses. The data indicates these participants reside primarily in suburban and rural communities with a growing number in city settings (Figure 6-7).

There are reports associating kratom and synthetic substances mainly centering on younger teenage group allegedly using kratom for its psychoactive effects (Miller et al., 2014; Oliveira et al., 2016) In contrast, the survey data shows older groups 25 years or over using kratom for a variety of other reasons. From the information provided, there is an almost equal age distribution in the age group of 45 to 65 years or older and those reporting to be 35 to 44 years of age. In regards to those younger age groups, twenty-four percent indicated they were between 25 to 34 years old. Lastly, those between 18 to 24 years old totaled two percent of the respondents (Figure 8).

There are many assessment tools and rating scales used to define and measure quality of life (Ventegodt, Merrick, & Andersen, 2003) One of the most widely accepted and easily understood theory of human developmental theory tool used to subjectively rate social, occupational, and psychological functioning of adults is Mazlow's Hierarchy of Needs. Here, Mazlow suggests happiness and true well-being achieved because of meeting these human needs.

Seventy percent of survey respondents were introduced to kratom because of medical conditions, such as fibromyalgia, chronic pain, and assorted back issues that in most cases required narcotic pain medication. Another fifteen percent reported dependence on illicit opiates as precipitating factors leading to their introduction to kratom. The remaining fifteen percent reported mental health issues (Figure 9-10). Consequentially, despite the difference in circumstance both result in physical dependence and a diagnosis of opioid dependence (Association, 2013). Of those reporting use of illicit substances, an equal number report prior addictions treatment (Figure 11). This diagnosis, like other substance related disorders carry a great deal of stigma due to the public's perception of those suffering with advanced stage of illness (Kosten & George, 2002). To this end, self-help groups has a well-documented history of success for those afflicted with the disorder. Thus, respondents were asked if they are, or ever have attended self-groups. Here eighty percent stated they have attended self-help groups. For those respondents identifying substance abuse issues; thirty-six percent reported their longest abstinence period without the use of kratom was one to eleven months, twenty-three percent reporting one to four years, nineteen percent reported 5 to 10 years or more (Figure 12).

The stressors associated with mental health treatment are many. Historically, those with mental health issues were hospitalized in institutions far away from public view. In the late 1960s, mental health services were drastically cut or discontinued in many psychaitric hospitals. As a result, many of the patients were discharged and referred to community based health outpatient clinics. One issue impacting

treatment outcomes in all types of setting is that of non-compliance. It is estimated that approximatley 450 million people suffer with a mental disorder and require some level of treatment (Frank & Glied, 2006). Of the 466 survey respondents, approximatley twelve percent identified mental health issues-eventually leading to their introduction to kratom. The most common disordrers reported are depression, anxiety, bi-polar, ADHD, and PTSD (Figure 13).

Prior to their introduction to kratom, forty-six percent of the respondent's report suffering with their illness for ten years or more. Approximately twenty-five percent reported issues with their illness lasting from seven to six years to nine years. The remaining small percent reported illnesses from two or less years (Figure 14). Consumers provided a subjective rating regarding the severity of their illness. To this end, forty-six percent identified the severity of their issues as overwhelming; thirty-six percent reported their situation as being severe. An additional twelve percent felt as their situation as getting progressively worse; and the remaining seven percent felt they were making no progress in efforts to address the primary issue (Figure 15). In comparison, consumers provided their perception of overall quality of life. The majority of respondents felt as though life was great or improving. Secondly, others described their present situation as good. Lastly, a small number of respondents felt their situation as not good (Figure 16). Many respondents report maintaining professional relationships with their providers. When asked if they ever spoke with these providers about kratom with their providers. Twenty-five percent report good outcomes, approximately thirteen percent reported fair responses, and six percent reported poor outcomes (Figure 17-18).

There is an almost equal number of respondents using kratom for one year or less, and those using kratom from one to six years. Lastly, two percent reported kratom use for ten or more years. In terms of frequency, seventy-six percent specified ingesting kratom from two to four times daily. Eight percent reported using kratom daily. On the other extreme, seven percent reported using kratom five or

more times daily while eight percent reported sporadic use-less than once a week (Figure 19). Seventy-three percent report ingesting one the three grams per each setting. Approximately forty-eight percent report ingesting three to five grams while a remaining ten percent report ingesting five or more grams at each episode (Figure 20).

There are three "strains" of kratom usually identified by color. It is thought red strain to be efficient in pain relief. Green for its mental clarification and well-being effects. In addition, white for its energizing effect. Of those respondents, fifty-five percent reported a preference for red strain, thirty-two percent for green, and fourteen percent preferring the white strain (Figure 21).

For those especially new to kratom it can be sometimes difficult to ingest. In response to a preferred method of ingestion, seventy-six percent report mixing kratom with liquid, twenty percent report using capsules. The remaining four percent report mixing kratom with food; and the remaining one percent preferring pre-packaged liquid kratom (Figure 22). One concern common to both sides is that of adulteration and/or contamination of kratom preparations. (Sabetghadam et al., 2013). For the survey respondents ninety-seven percent denied any need for medical or psychiatric intervention. However, further analysis showed two respondents were referred for testing for gastrointestinal issues that were allegedly to have been created by a contaminated kratom product (Figure 23).

Almost three quarters of the participants are married or in a committed relationship-and very satisfied with the quality of the relationship (Figure 24-25.). Approximately sixty percent have between two and five children. The remaining thirty percent report having one, or five or more children. Concerning age, the majority of children range in ages between two through twenty-two (or older) and a small number being one year of age or younger (Figure 26-27). Sixty percent with children report these children presently reside full-time in the home. Ten percent stated their childcare needs are jointly shared. Thirty percent reported their children are not presently with them (Figure 28). Lastly, the

majority of respondents describe the relationship with their children as excellent or good. The remaining respondents fair and improving relationships; and a small number stated no improvements in their relationships with children (Figure 29).

In regards to education, forty percent of survey respondents attended college but do not have a degree. Approximately eighteen percent have attained an Associate Degree; twelve percent reported having a Bachelor or Graduate Degree. Lastly, twenty-one percent report having a high school or equivalent. Approximately three percent do not possess a GED or high school diploma (Figure 30). Consumers were also asked to classify their employment status. To this end, forty percent are employed full-time; approximately twelve percent have part-time jobs. Thirty-two percent are disabled and not able to work (Figure 31).

Less than twenty percent reported military service (Figure 32). Of those veterans, fifty percent served in the Army, and an equal twenty-five percent serving in the Air Force and Navy. The one respondent serving in the Marine's reporting serving in two or more branches (Figure 33). Fifty percent report serving from one to four years, twenty-five percent reported serving between 10 to 20 years. The remaining three respondents stated they are retired from the service (Figure 34). Lastly, seventy percent reported being honorably discharged and thirty percent discharged honorable under medical conditions. Seven percent of the veteran's report serving in combat (Fig.35-36).

In terms of recovery support, approximately eighty present report past or present attendance to self-help groups such as Alcoholics and Narcotic Anonymous (Figure 37). For other respondent's family, outside friends, professional counseling, and church involvement are major support systems (Figure 38). Even with the overwhelming of information available on kratom, most professional; as well as the public do not possess a clear understanding about the substance. According to survey data, attempts to educate other individuals about kratom were perceived as supportive to discouraging.

Since its inception, Facebook has attracted countless numbers of individual and organizations; thereby establishing itself as an integral component of the social landscape. For those in the kratom community, eighty percent of respondents identified Facebook as a major adjunct in their recovery efforts (Figure 39). Here, respondents perceived the kratom community as extremely to very close (Figure 40). Over half of those respondent's report affiliation with one to three kratom related groups, where others report membership in four to nine groups. Ten percent report involvement with ten or more groups (Figure 41).

In summary, these 466 individuals represent a high-functioning and well-educated group of who-through the responsible use of kratom benefit from its healing properties. For this group, it appears the overarching majority are thriving in their ability to maintain employment, care for their children, appreciate their relationships with others; and have served their country in time of need. Here one might pause and reflect for a moment. This is the same group reporting that prior to their introduction to kratom, endured extended periods of with illnesses such as fibromyalgia, back issues, depression, and anxiety; for some as long as ten or more years; and to no surprise-described their past situations as overwhelming or severe. For this representative survey group and others like them banning kratom would likely cause extreme circumstances in the home; and place a strain on our healthcare systems.

For those approximate fifteen percent identifying illicit abuse of opioid drugs in their introduction to kratom there is some light at the end of the tunnel. Historically, kratom was used as a treatment for opiate addiction in Thailand for over seventy years and by the native Southeast Asian tribes as a substitute for opium when it was unavailable (Jansen & Prast, 1988; Sabetghadam et al., 2013). Here, in early 1960 methadone maintenance programs were introduced in a number of community clinics. The anticipated goals for this outpatient modality were expected to decrease in (a) criminal activity (b) transmission of sexually transmitted disease and (c) the transmissions of blood-

borne disease. However, even with improvements in these areas, the numbers of newly addicted grew exponentially as advances in pharmaceutical technology flooded the market with synthetic opioid-based pain relief medications. In conjunction with an overwhelming demand for services, it became evident that other social and behavioral issues needed to be addressed in conjunction with the physiological aspects of opiate addiction (Marion, 2005). Therefore, counseling became an integral component of methadone maintenance and remains so today. Thus, any initiatives in using kratom in the scope of addictions treatment must include detailed documentation and collaboration with legitimate authority to oversee a possible future pitot programs.

In 2014, the Center for Disease Control (CDC) reported 47,055 opioid related overdoses (not to include methadone), and a total of 4,462 methadone poisoning deaths in 2005-a 468 percent increase from 1999 (from latest available data) (Fingerhut, 2008). Jansen and Prast (1988) suggested "the market now has many non-opiate analgesics, kratom may have a special role as a replacement for methadone in addiction treatment…there is a definite place for further research on kratom, at each level from folklore village use to receptor binding assay" (pg. 118). Later, other studies also have suggested kratom may be appropriate as a treatment for opiate addiction (Barceloux, 2012; Boyer et al., 2008; Singh, Muller, Vicknasingam, & Mansor, 2015) .Unfortunately, there are no known addictions treatment programs using kratom in a clinical setting. To this end, any additional treatment options to address opiate addiction, now at near a pandemic level should be received with welcome arms.

Moral panic is described as "an exaggerated reaction, from the media, the police or wider public, to the activities of particular social groups." (Marsch & Mllvile, 2011, p. 2). The breadth and scope of potential problem substances has lead policymakers, law enforcement officers, and healthcare providers alike to feel powerless and underprepared when dealing with these situations (Stronger, 2015) Thus, under intense increased public scrutiny and mounting frustrations lawmakers from several states

quickly passed laws banning synthetic cannabinoids and cathinone; some to include kratom. On a positive note, the state of Indiana in 2013 proposed the removal of mitragynine (kratom) from its definition of a synthetic drug. Likewise, the state of Oklahoma withdrew legislation to have the substance banned after a lobbyist citied legitimate uses for kratom (Long, 2014).

As of this writing, there a number of initiatives continue that would make kratom an illegal substance. Thus, it is hoped that this research project (and others to come) will provide a resource for those involved in making kratom a safe and available for those who choose to peruse a more holistically based treatment option coordinated by a competent and better informed team of healthcare professionals.

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Figure 1. Google Literature Review Gaps.

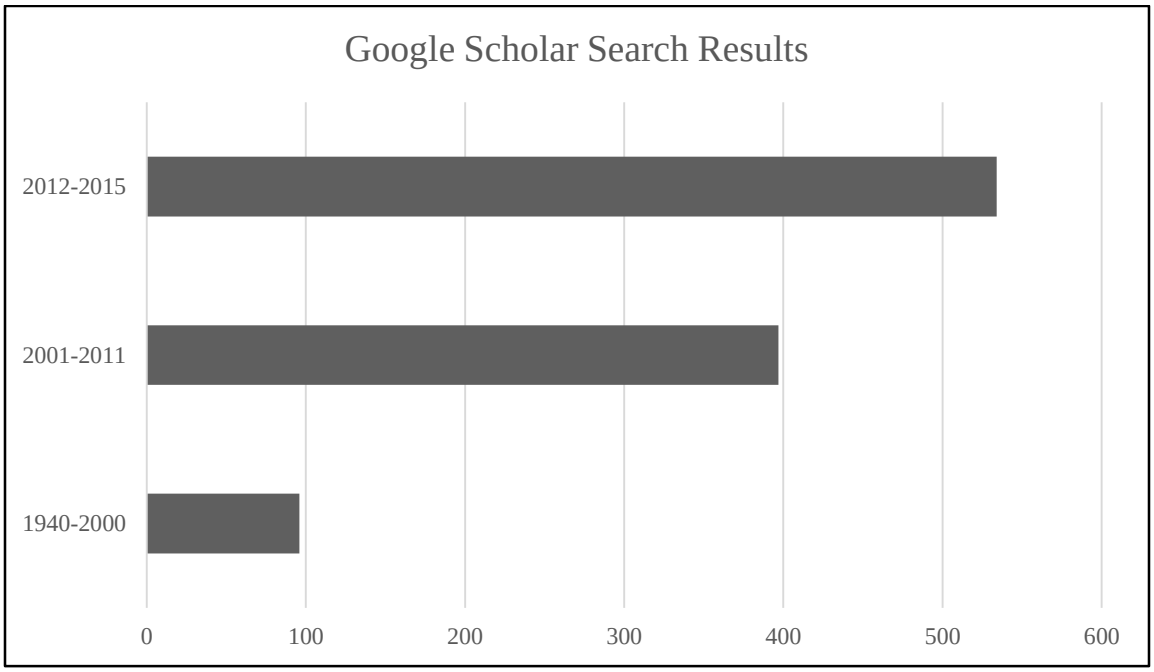


Figure 2. Media Coverage Topic 2010-15.

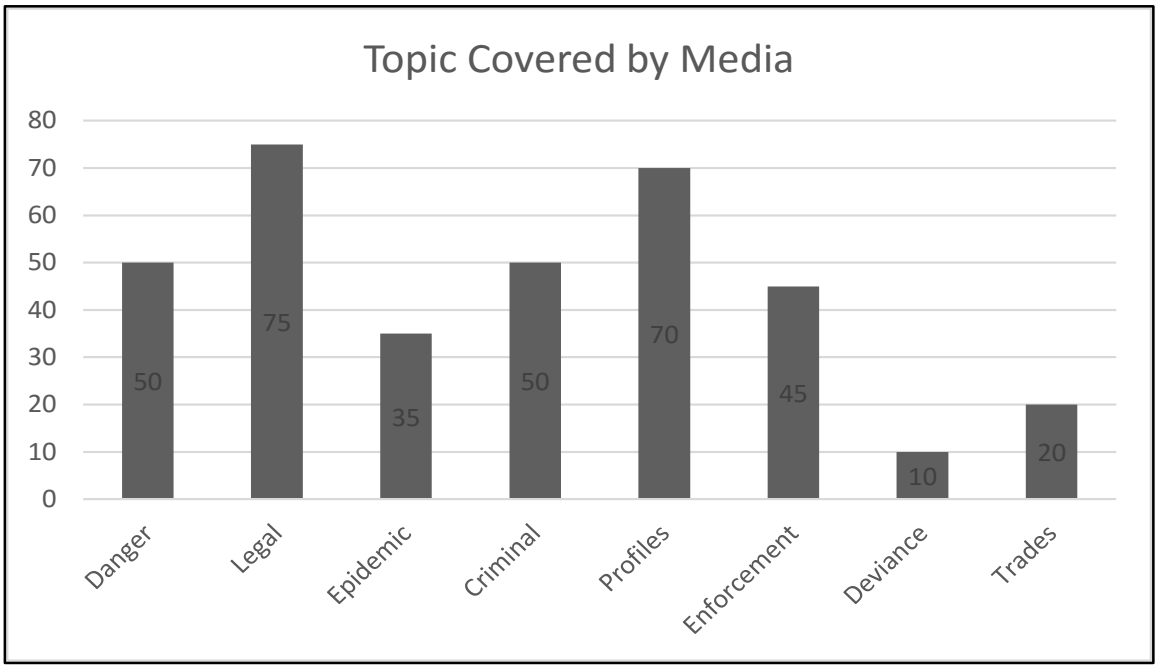


Figure 3. Age Groups-Media Coverage.

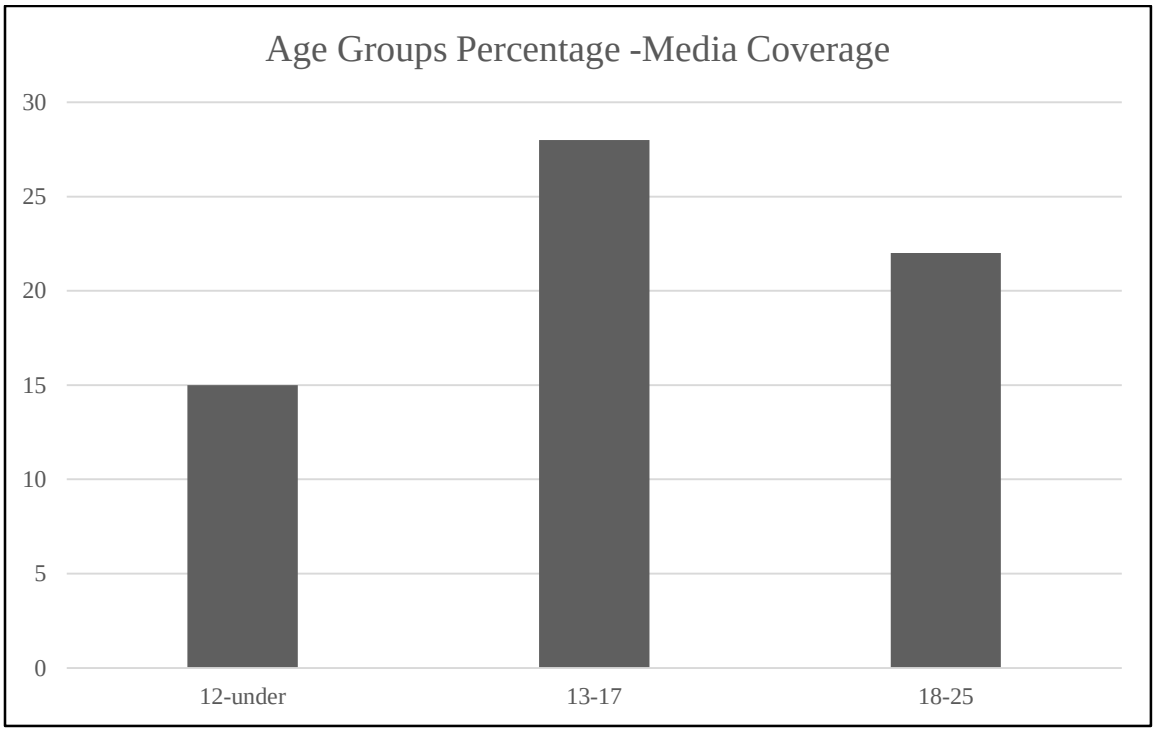


Figure 4. SAMHSA Search Results.

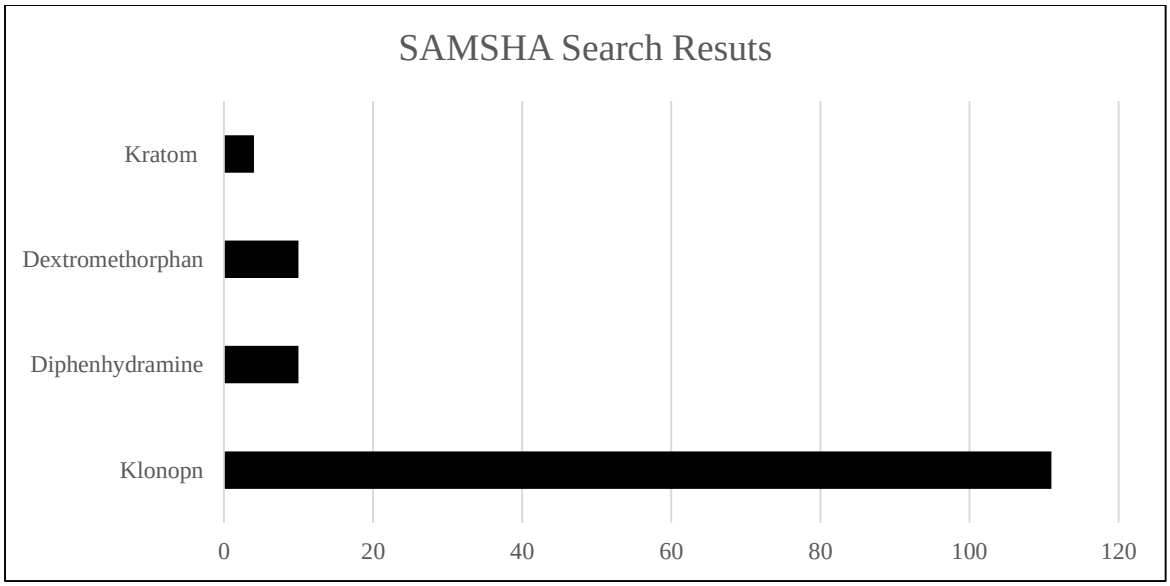


Figure 5. Community Settings.

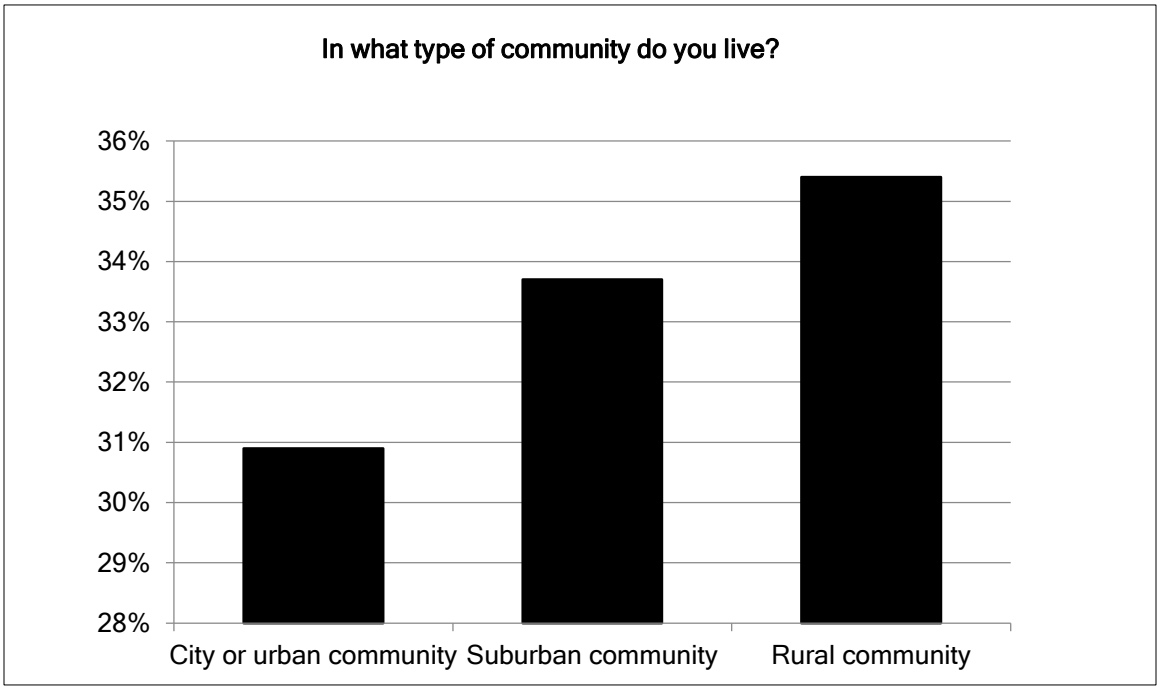


Figure 6.One Question Zip Code Results

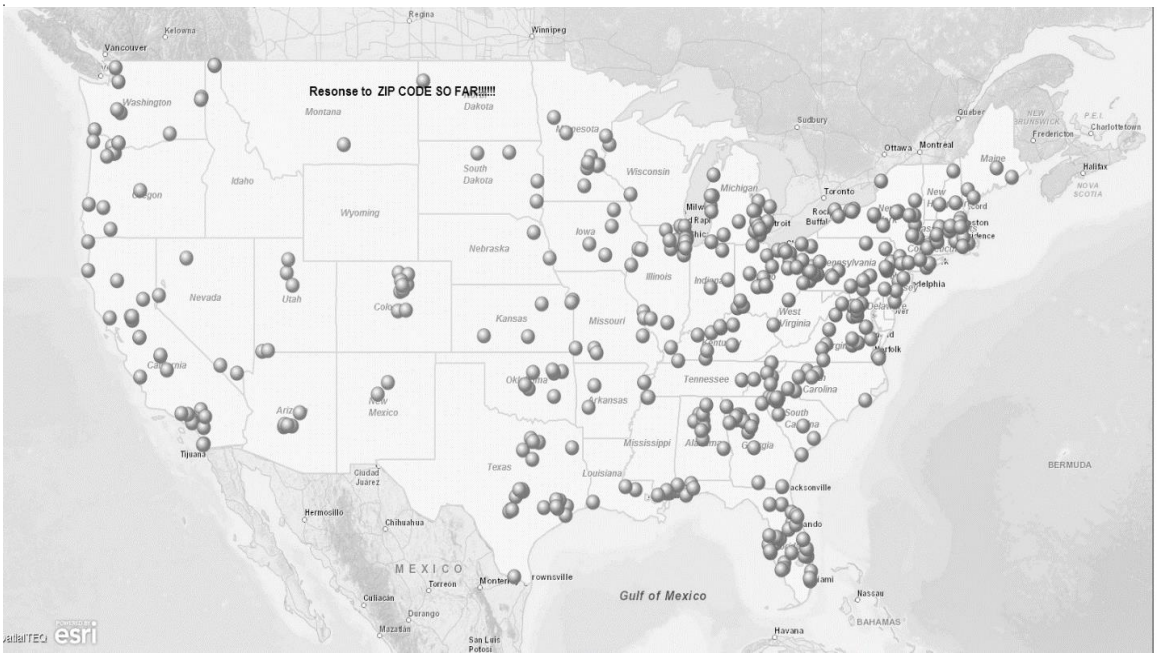


Figure 7. Zip Code Survey Results.

Figure 8. Consumer Age Range.

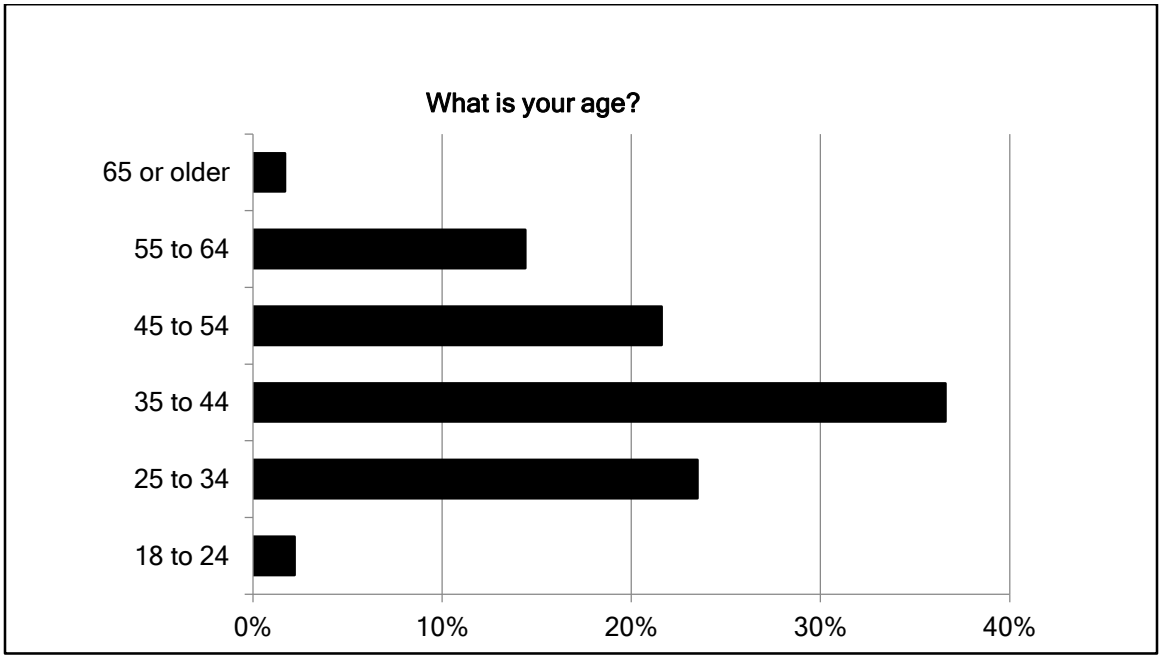


Figure 9. Factors Leading To Kratom Introduction.

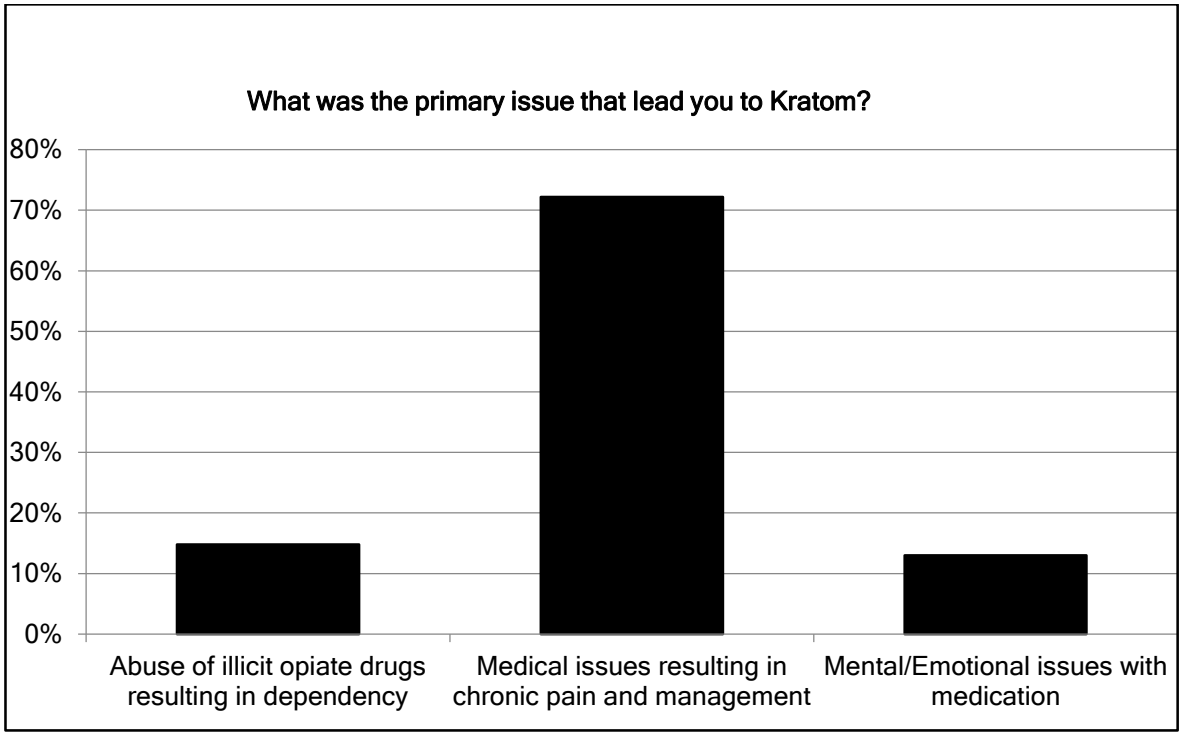
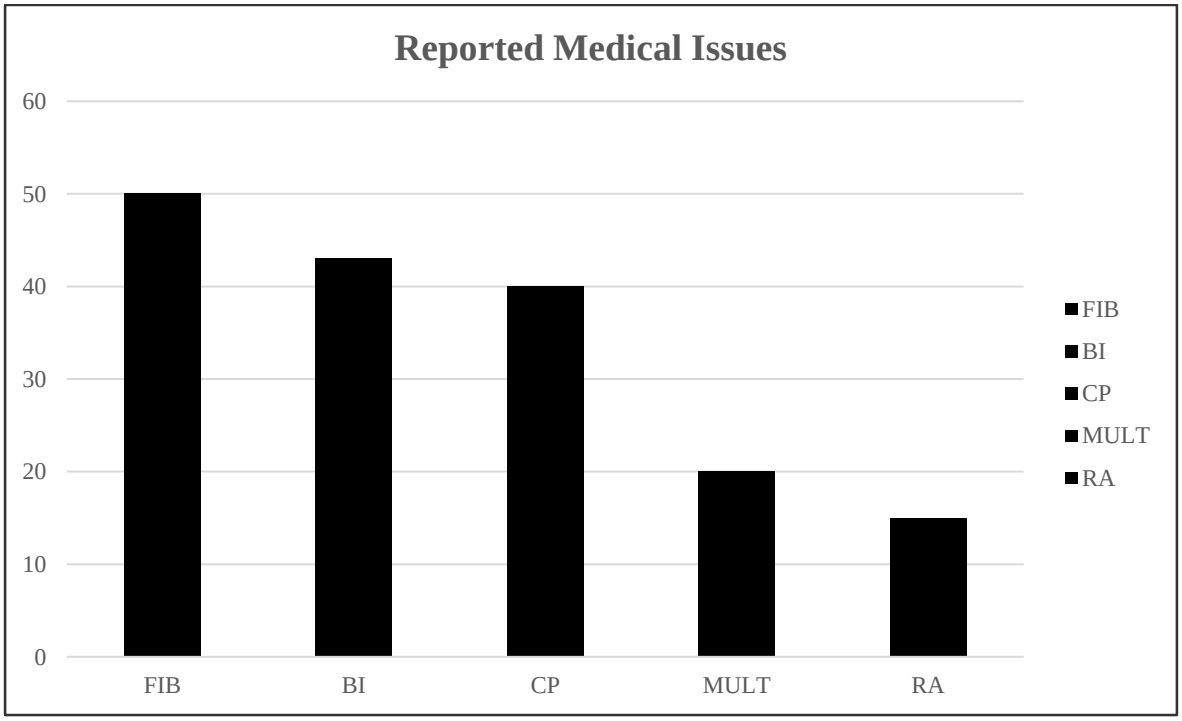


Figure 10.Reported Medical Conditions.



FIB-Fibromyalgia BI-Back Issues CP-Chronic Pain MULT-Multiple Issues RA-Rheumatoid Arthritis

Figure 11. Prior Addictions Treatment.

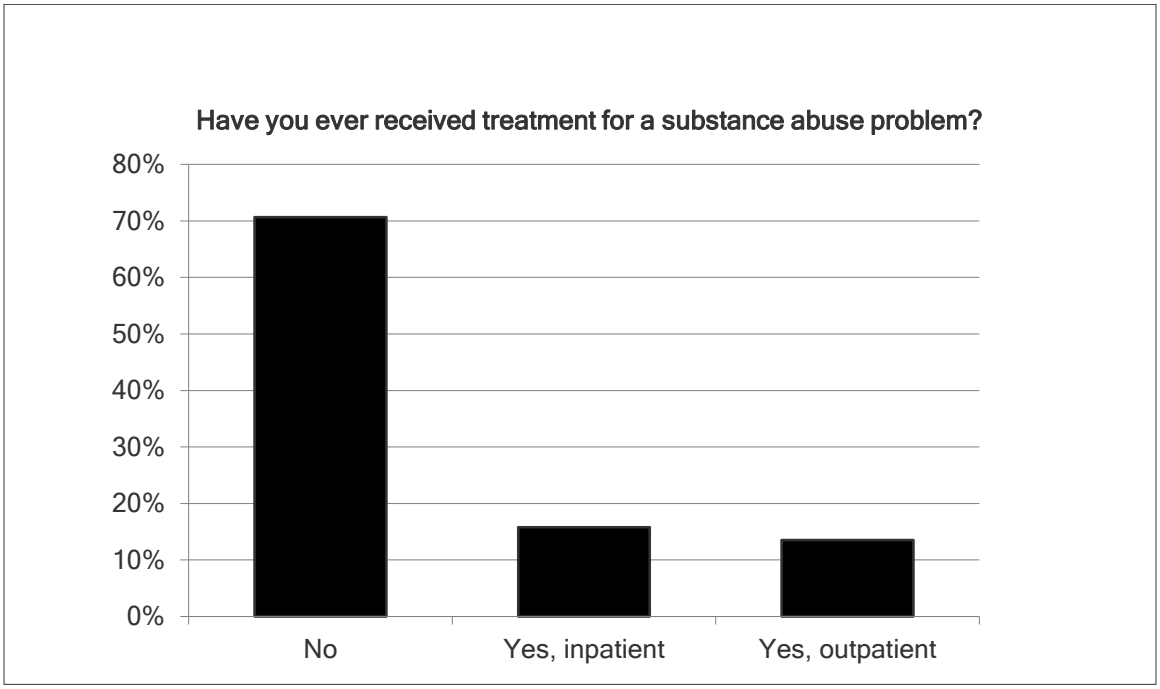


Figure 12. Abstinence Periods-Prior to Kratom.

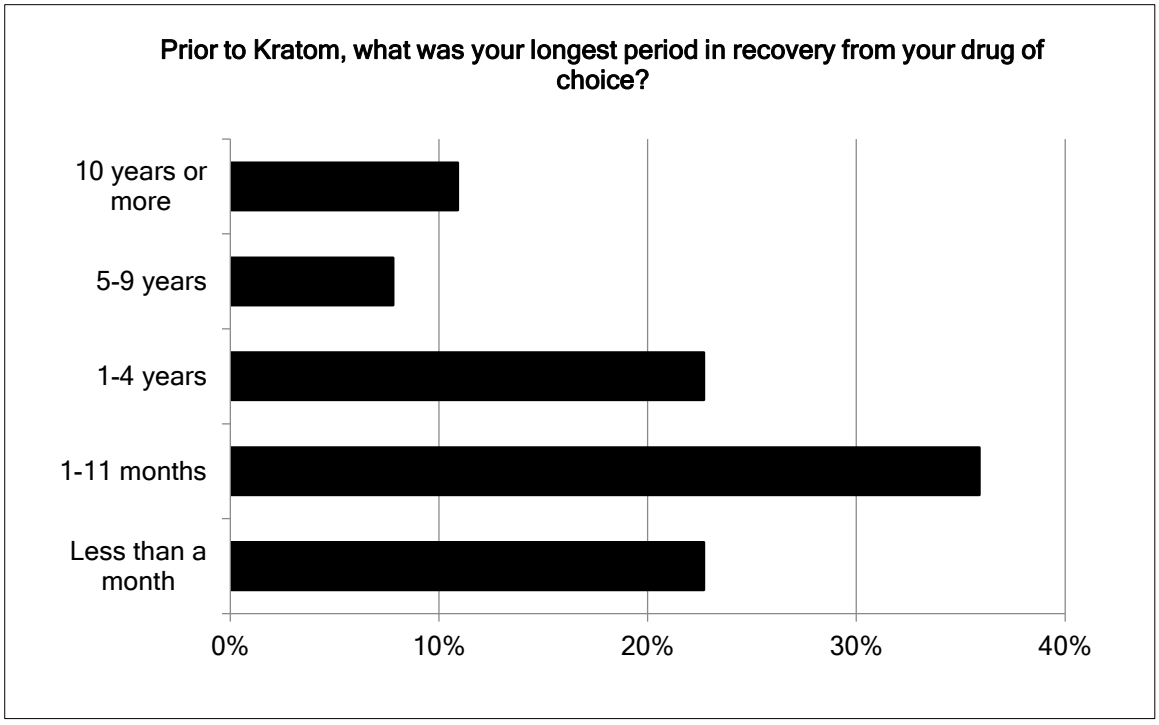


Figure 13. Reported Mental Health Conditions.

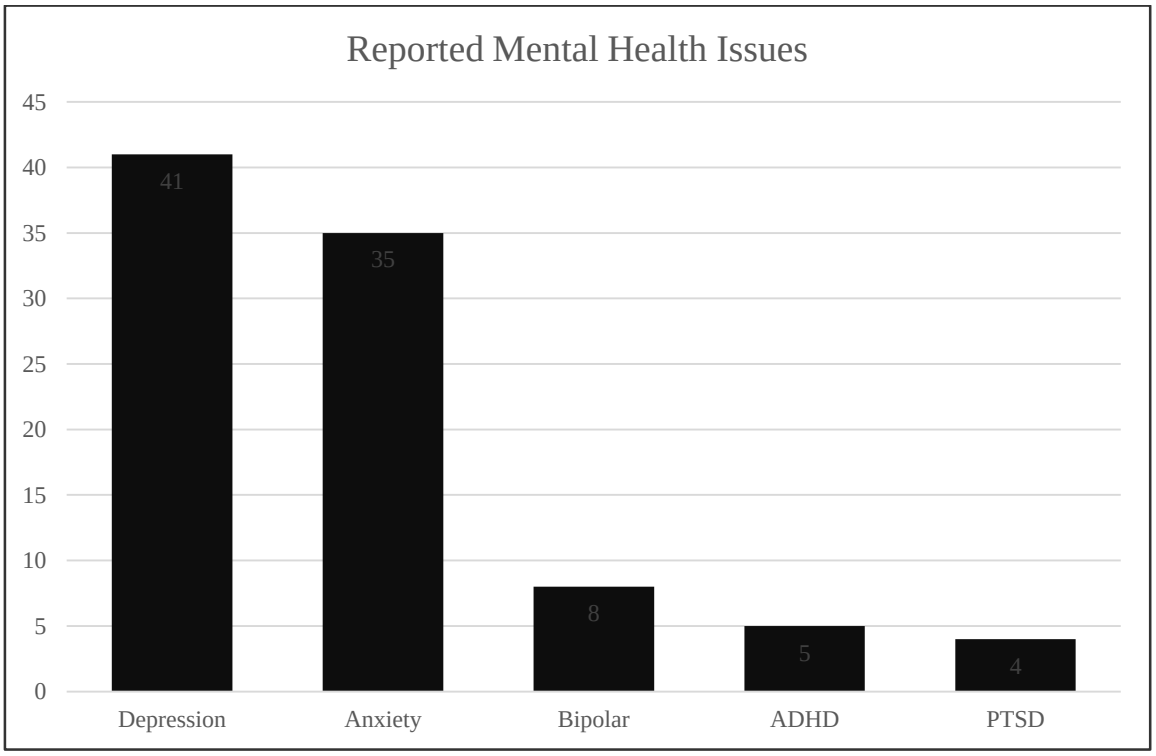


Figure 14. Duration of Illness.

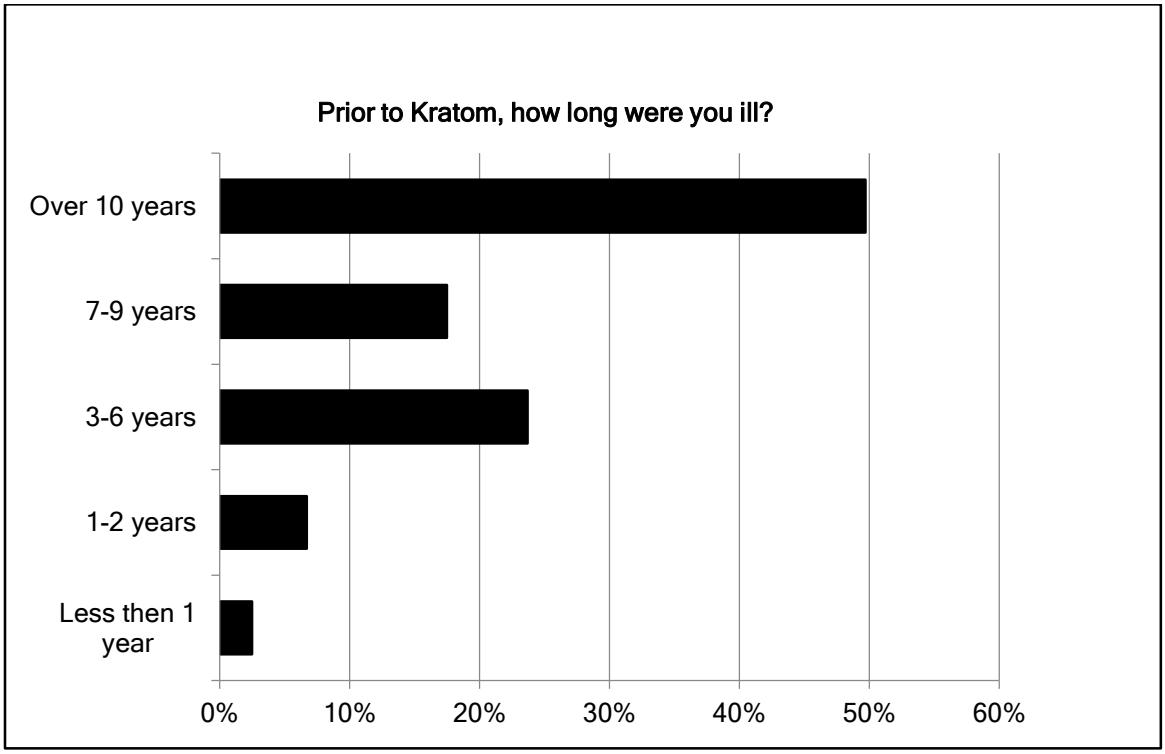


Figure 15. Severity of Illness.

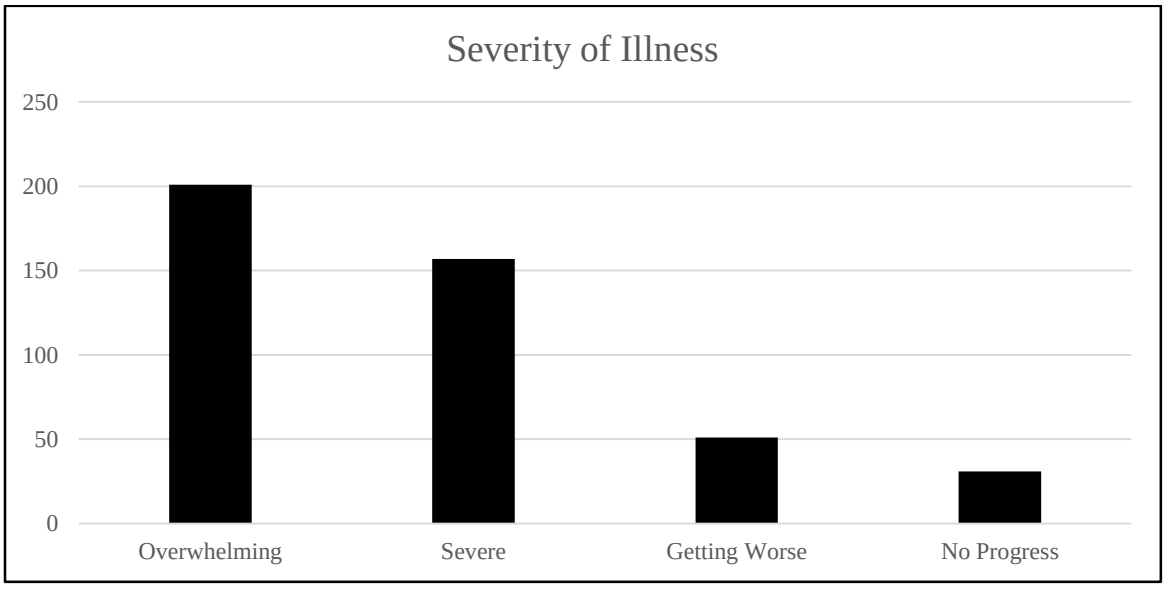


Figure 16. Quality of Overall Life Since Kratom.

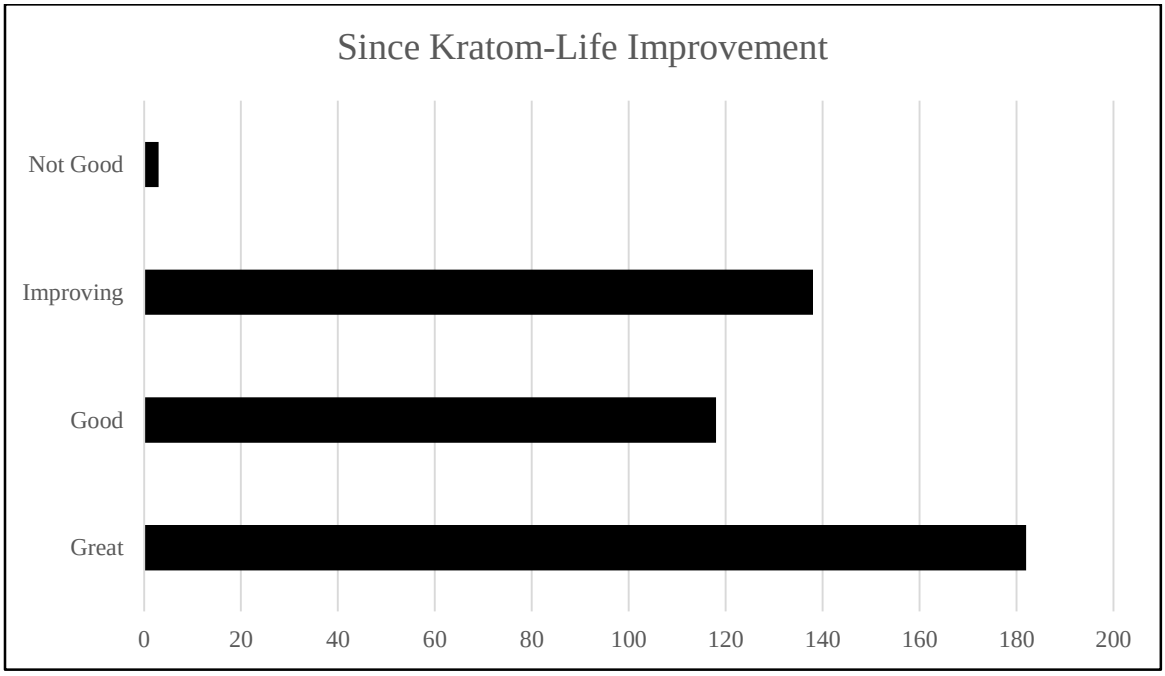


Figure 17. Attempts to Educate Professionals.

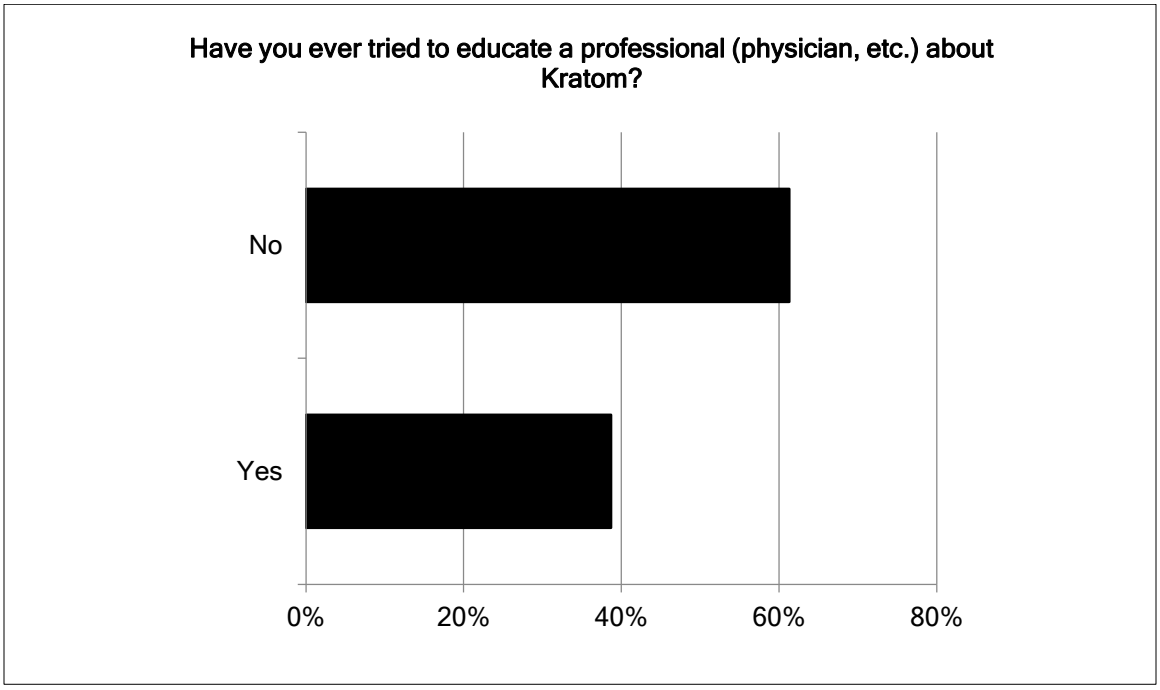


Figure 18. Professional Responses to Education.

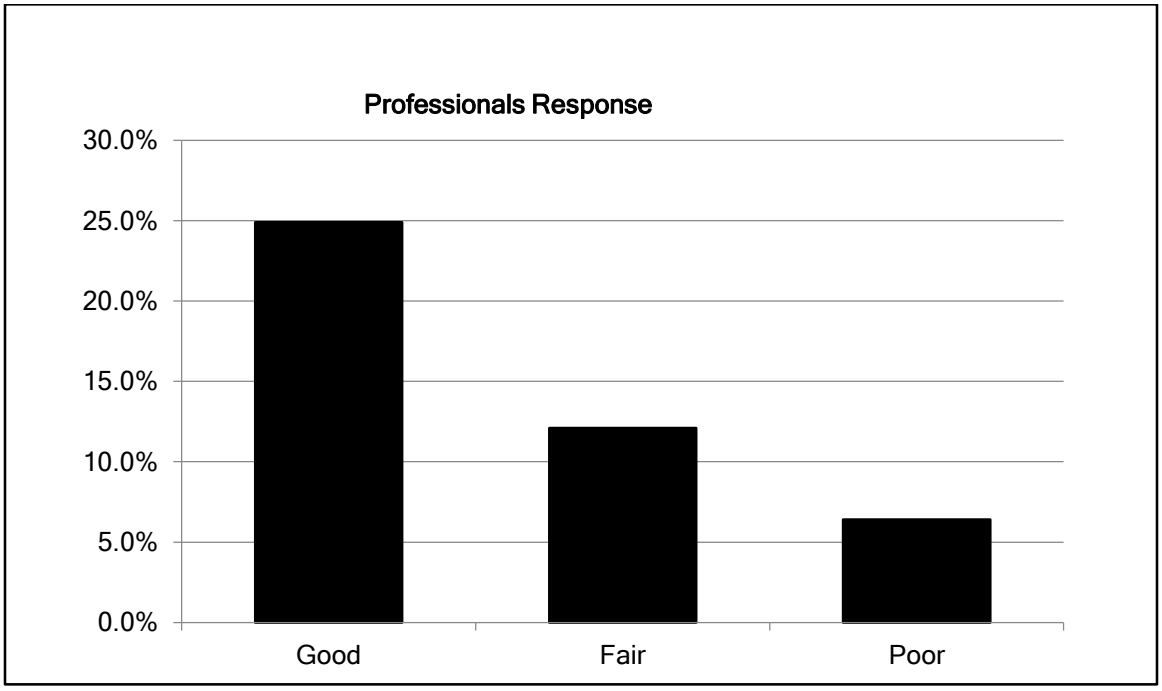


Figure 19. Duration of Kratom Use.

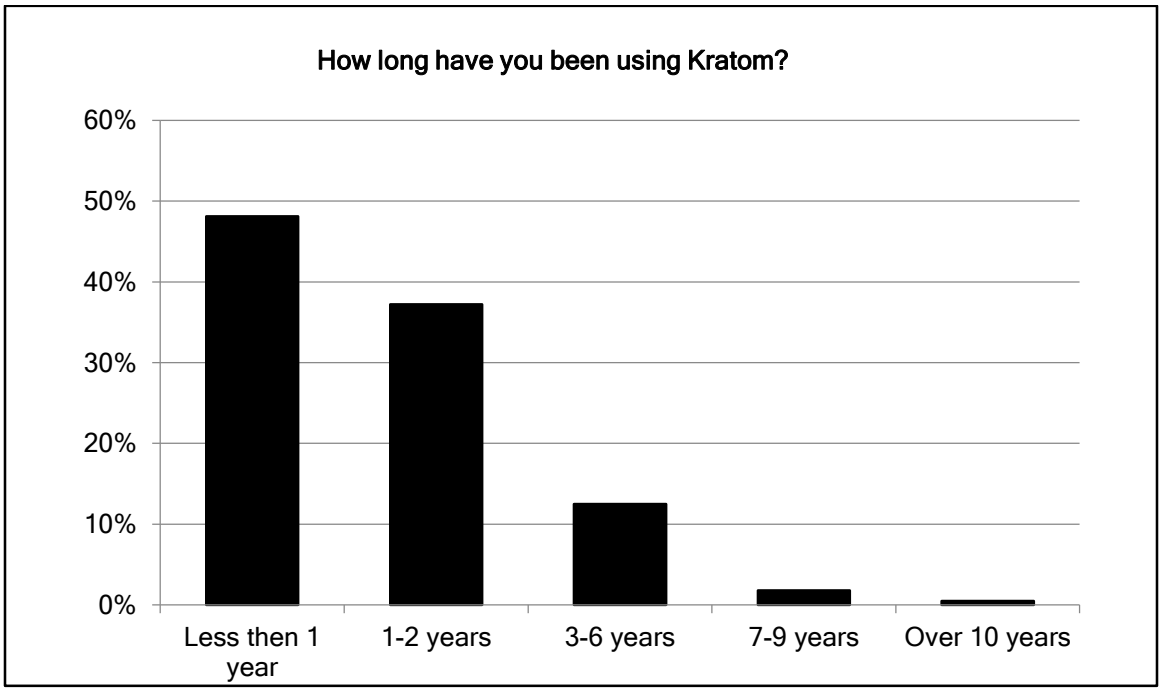


Figure 20. Typical Amount per Ingestion.

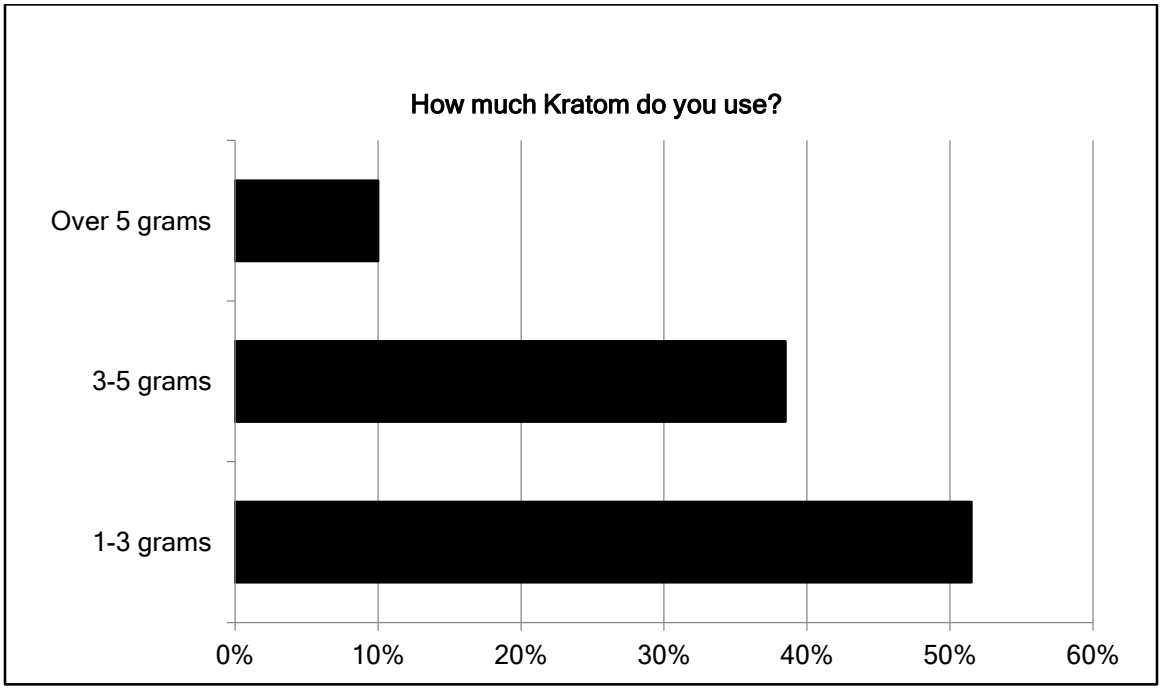


Figure 21. Preferred Strain.

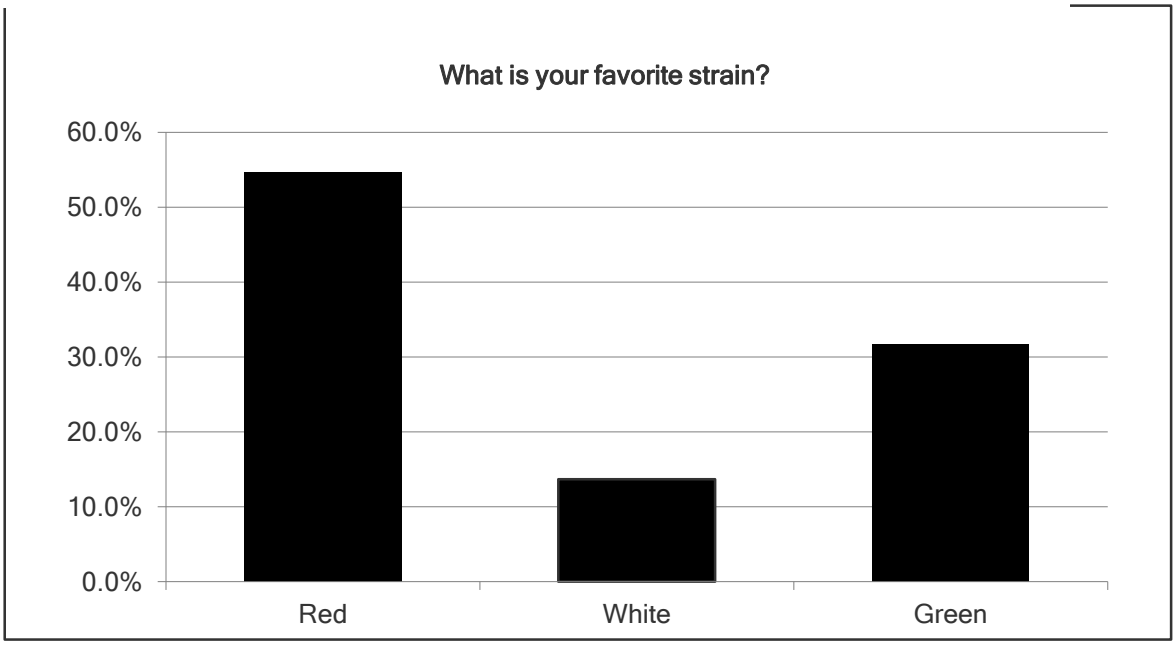


Figure 22.Method of Ingestion.

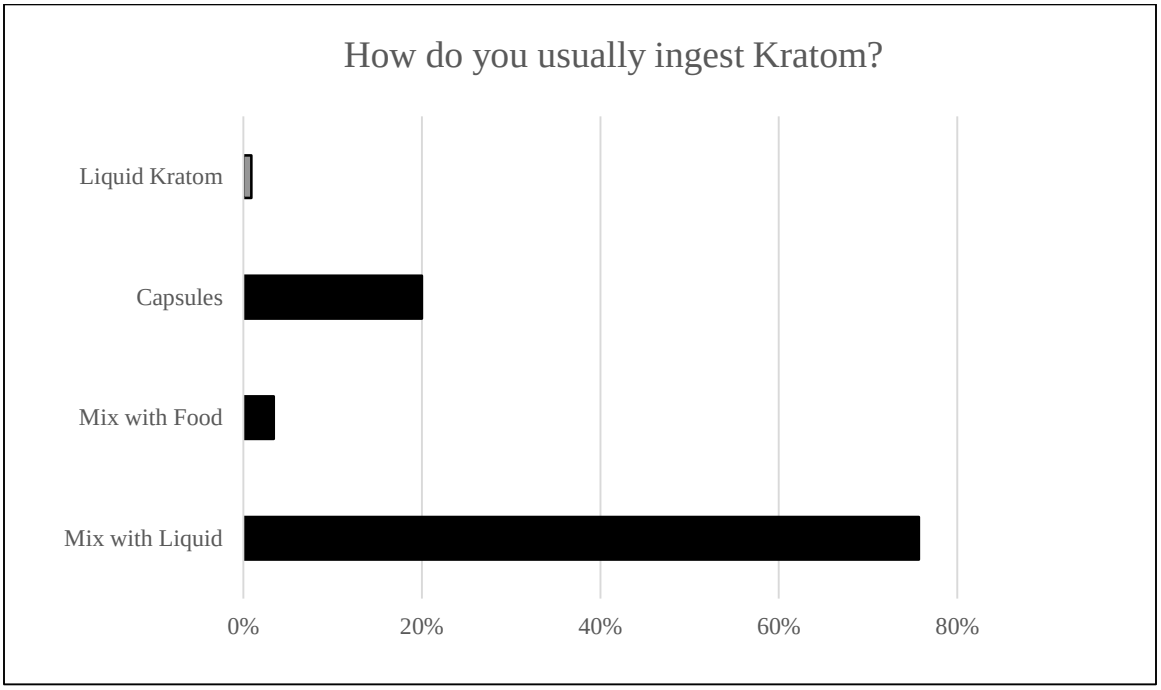


Figure 23. Need for Kratom Related Treatment.

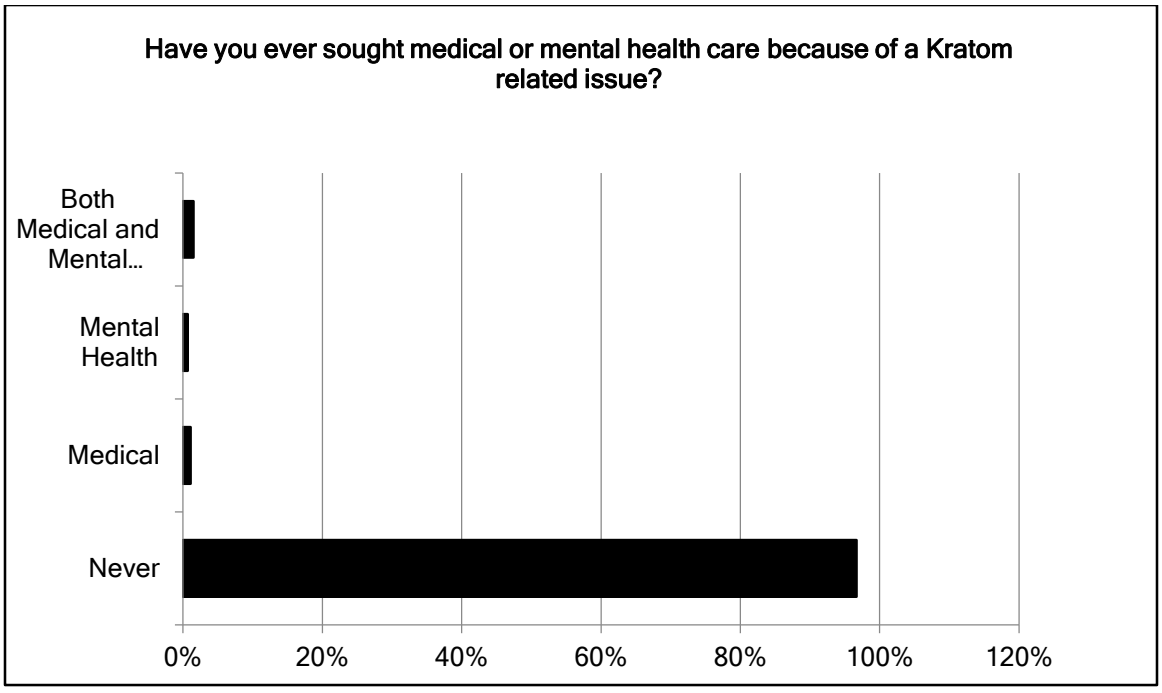


Figure 24.Relationship Status.

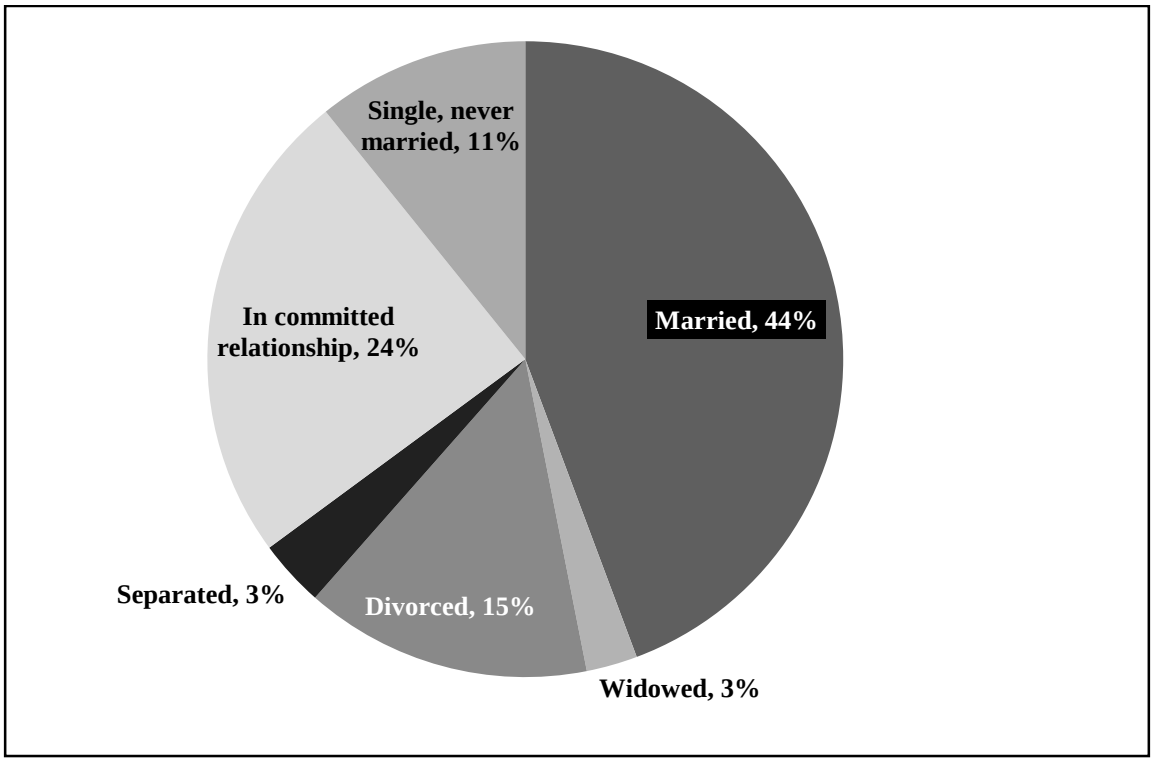


Figure 25. Overall Satisfaction with Relationships.

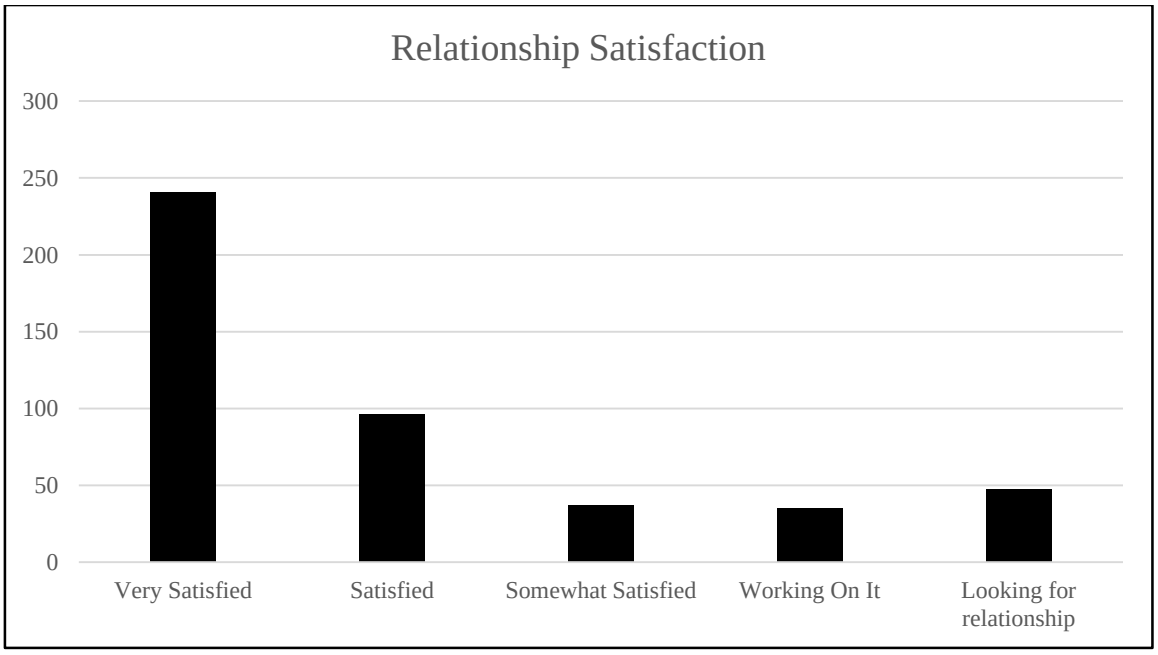


Figure 26. Number of Children.

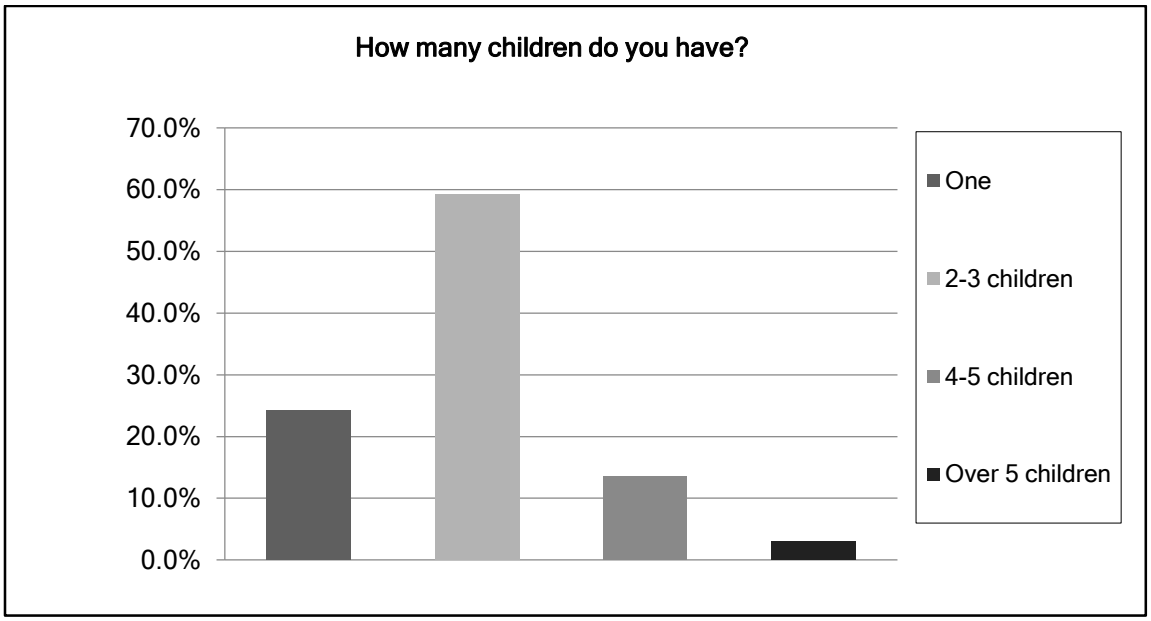


Figure 27.Age of Children.

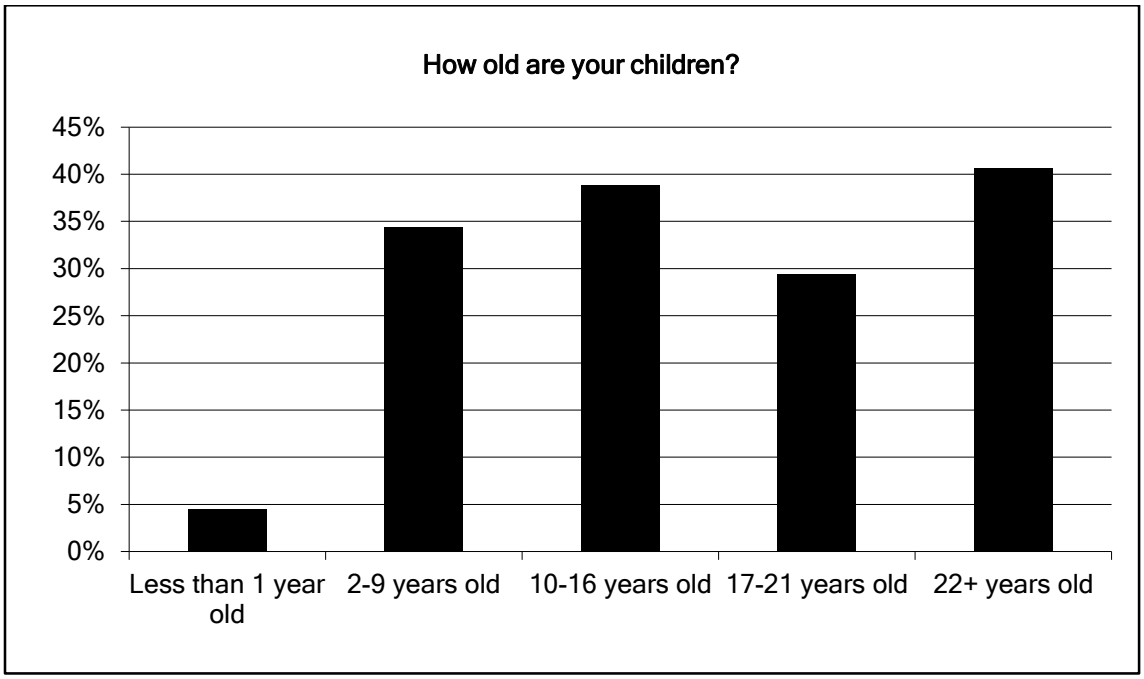


Figure 28. Child Care Duties.

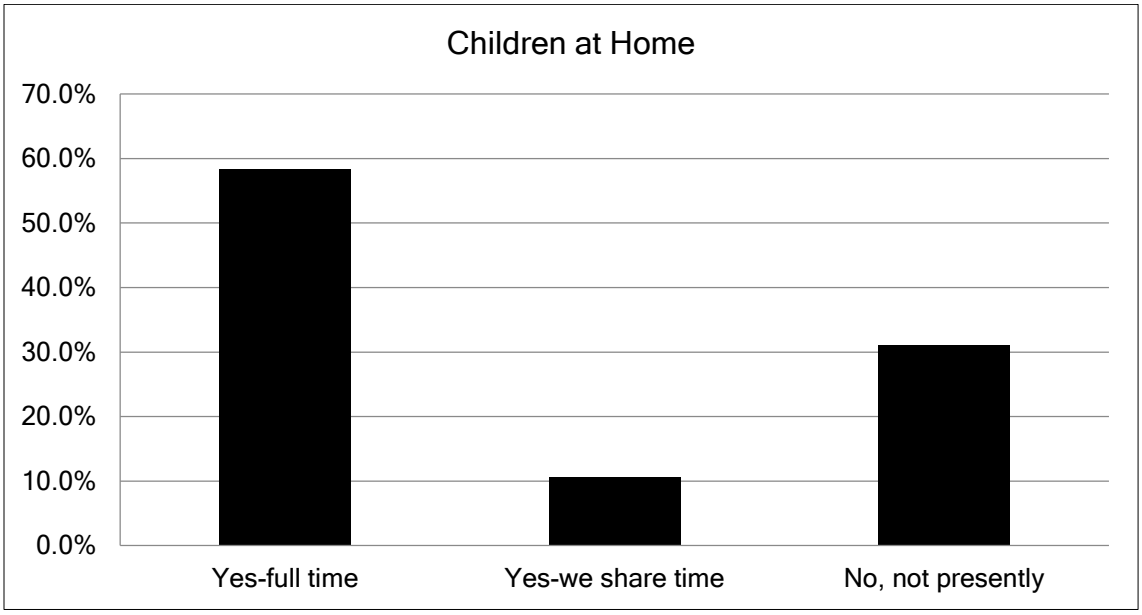


Figure 29. Relationships with Children.

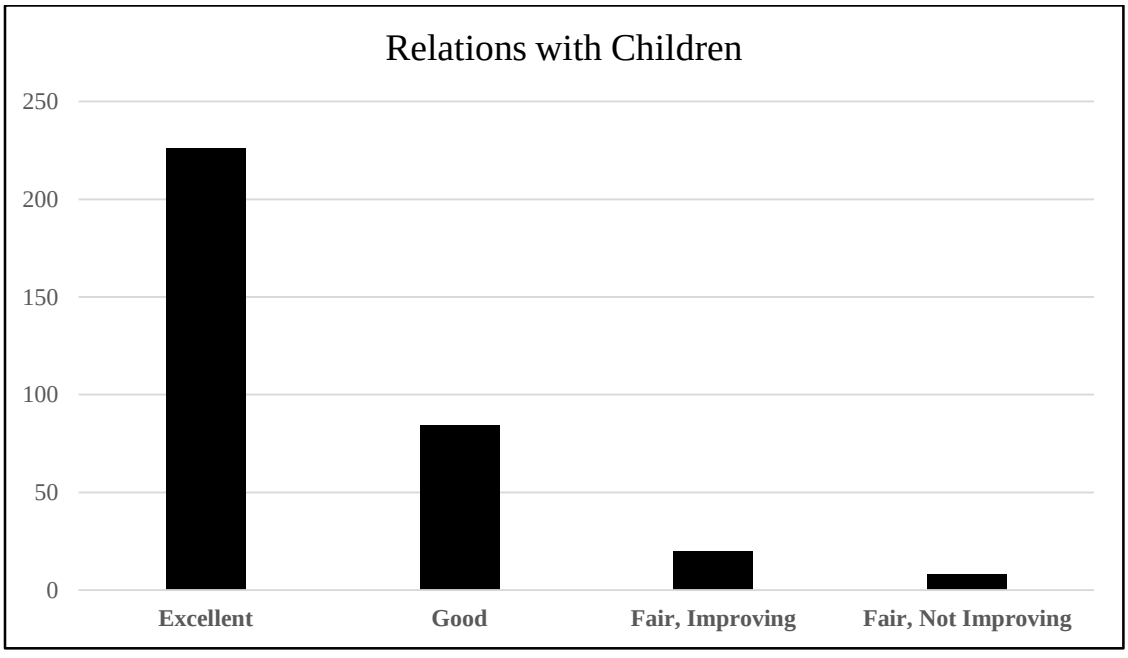


Figure 30.Education Levels.

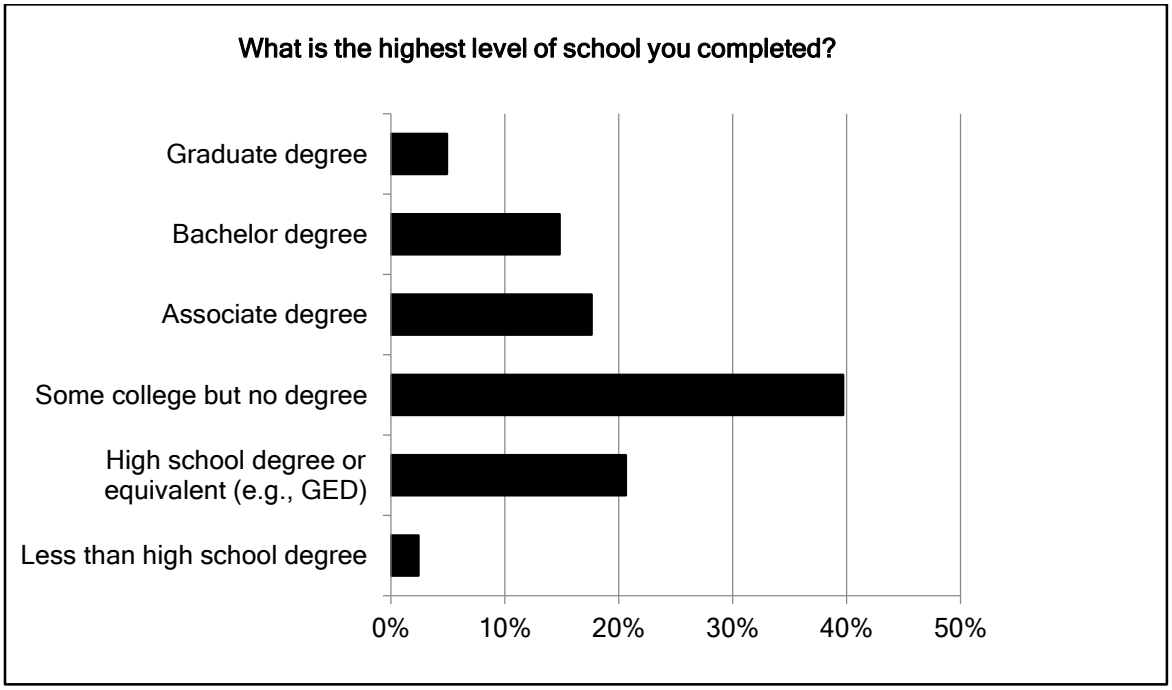


Figure 31.Employment Status.

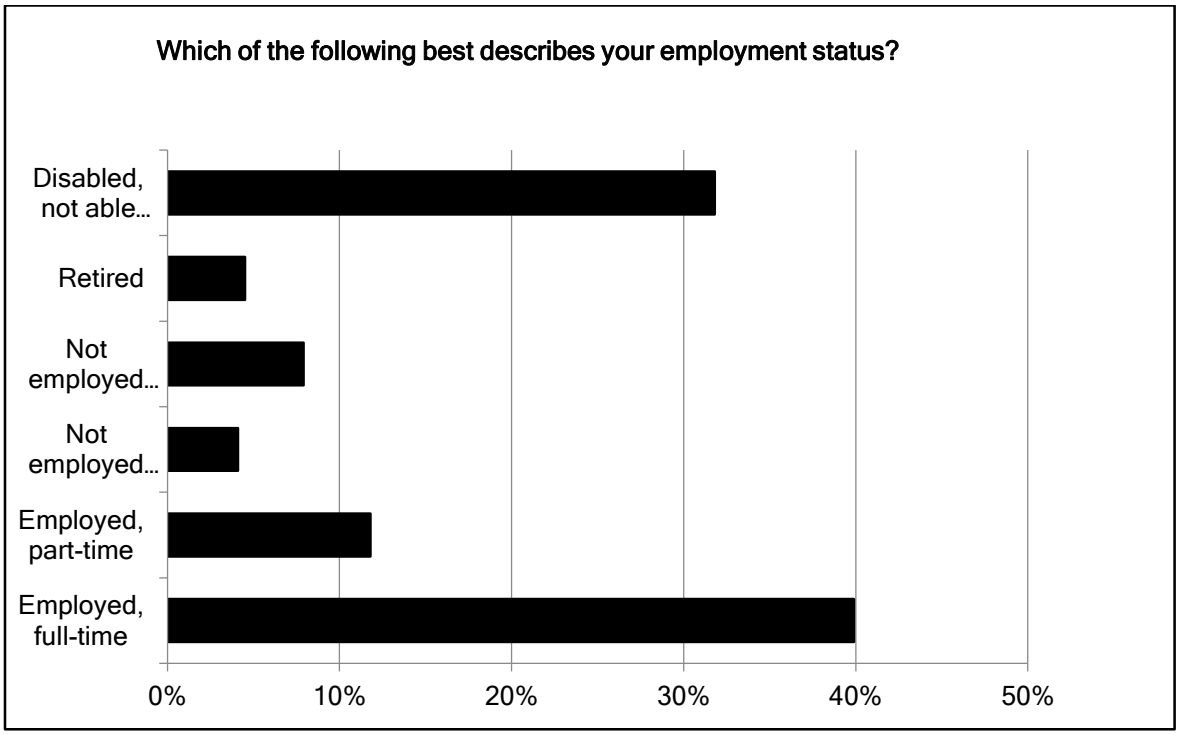


Figure 32.Veteran Status.

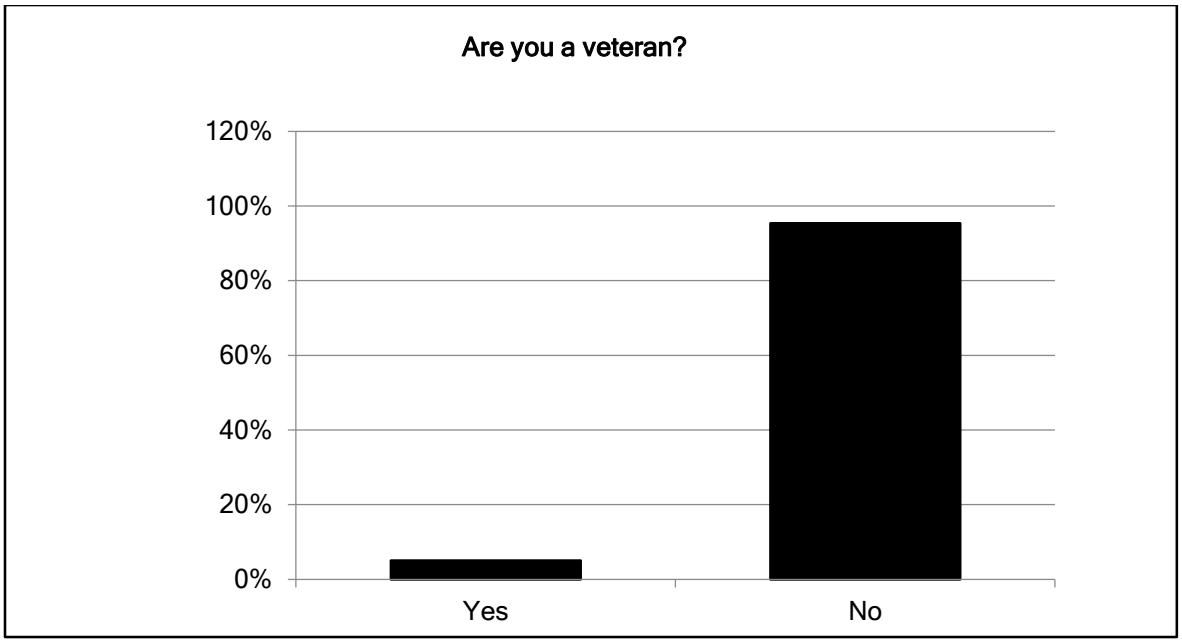


Figure 33. Branch of Service.

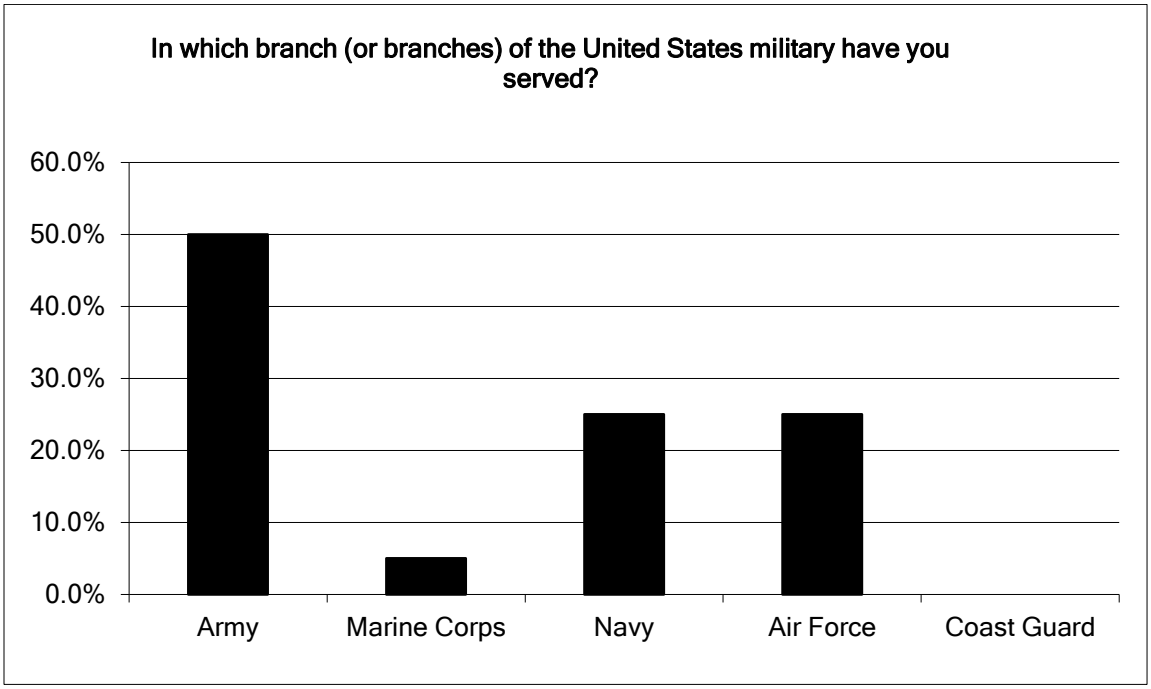


Figure 34.Length of Active Duties.

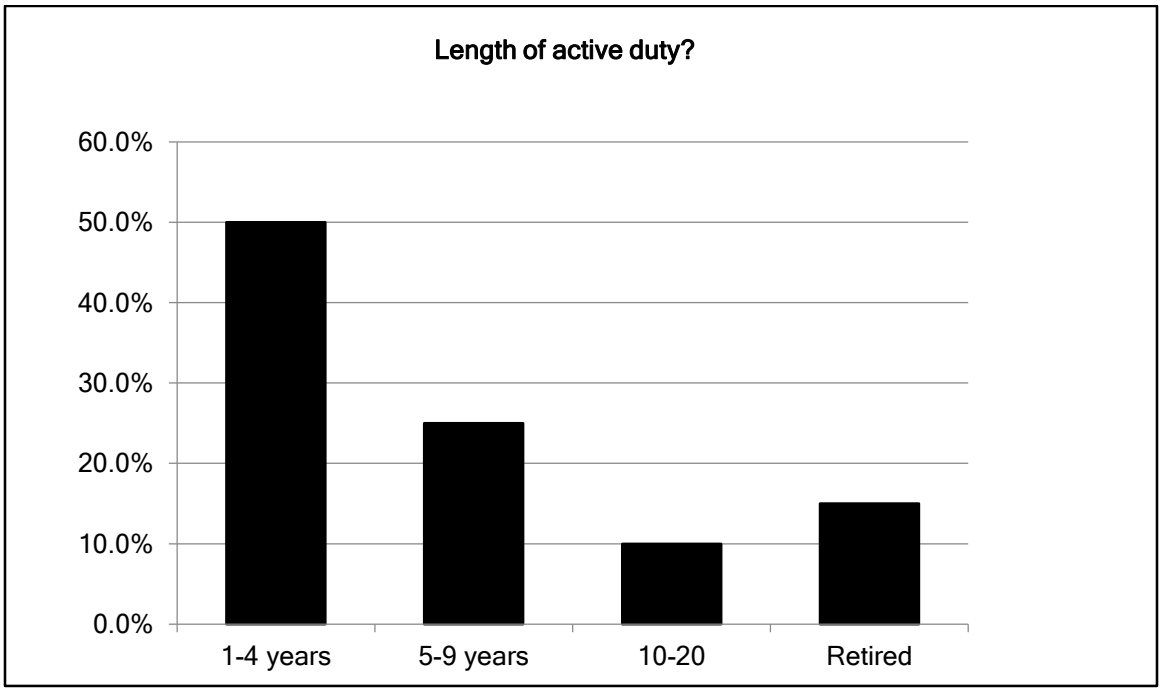


Figure 35. Discharge Status.

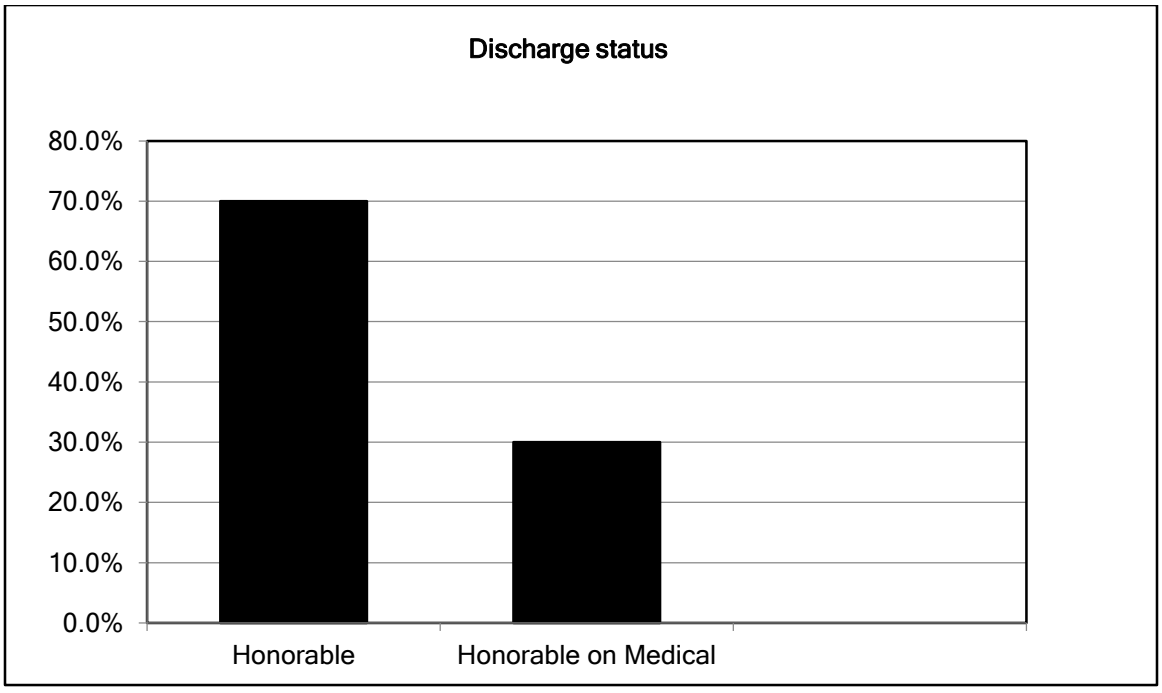


Figure 36. Combat Service.

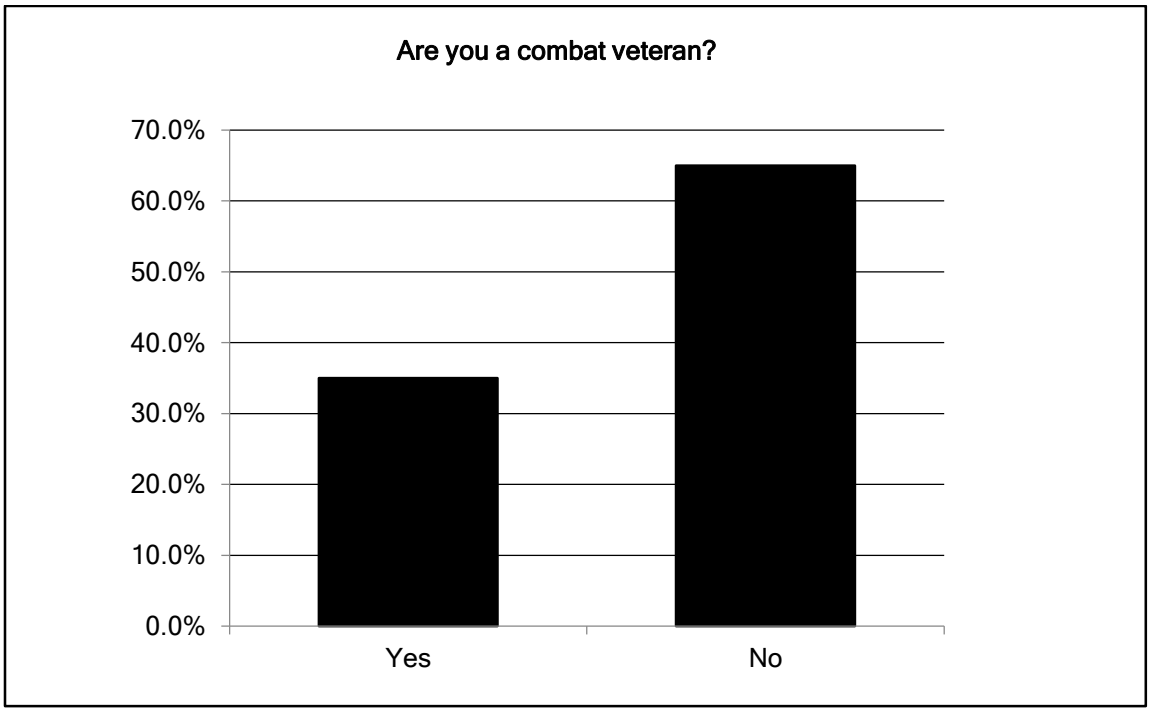


Figure 37. Self-help Attendance-Present or Past.

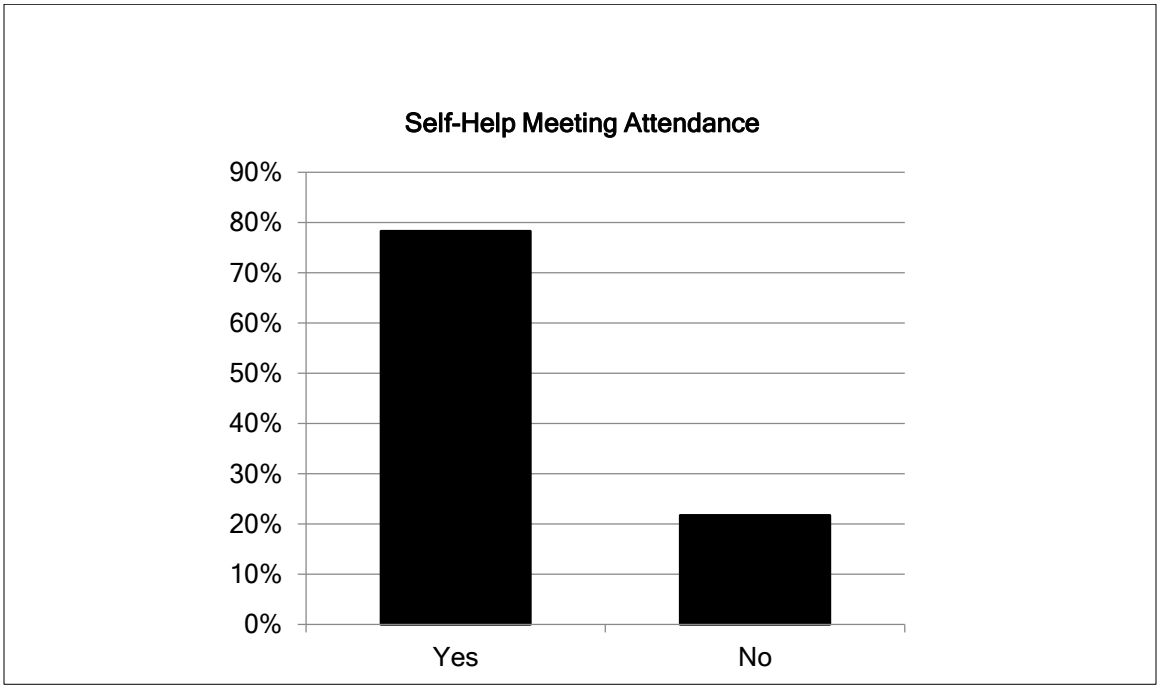


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Figure 38. Major Support Systems.

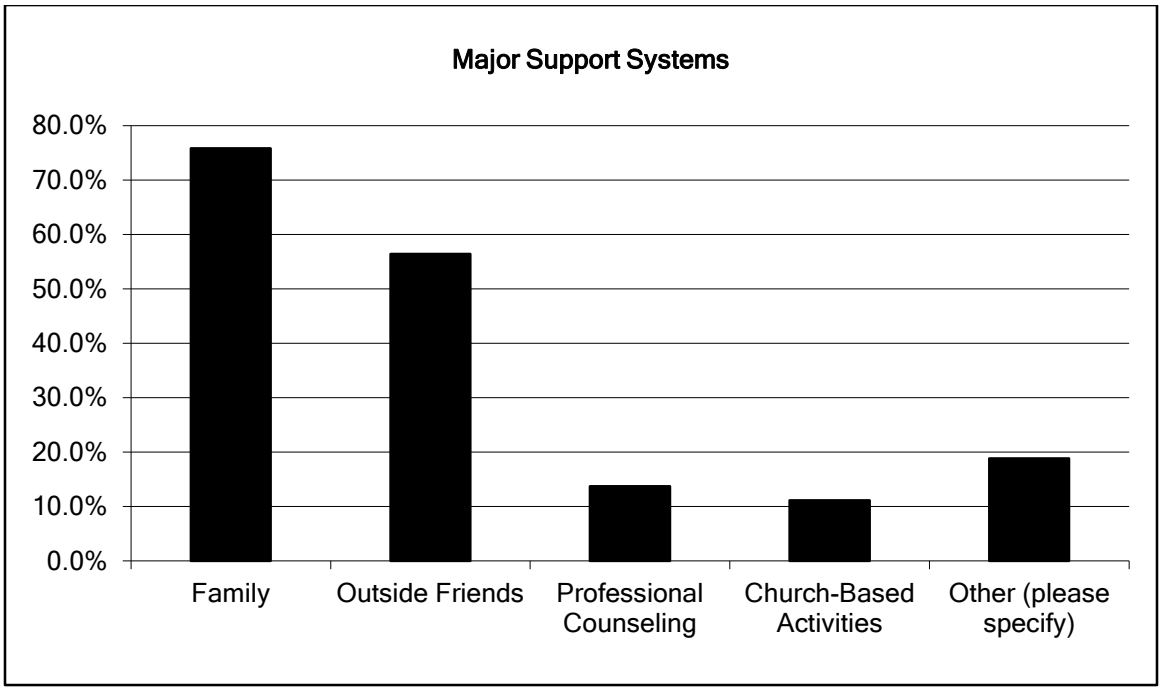


Figure 39. Facebook Group Support Perception.

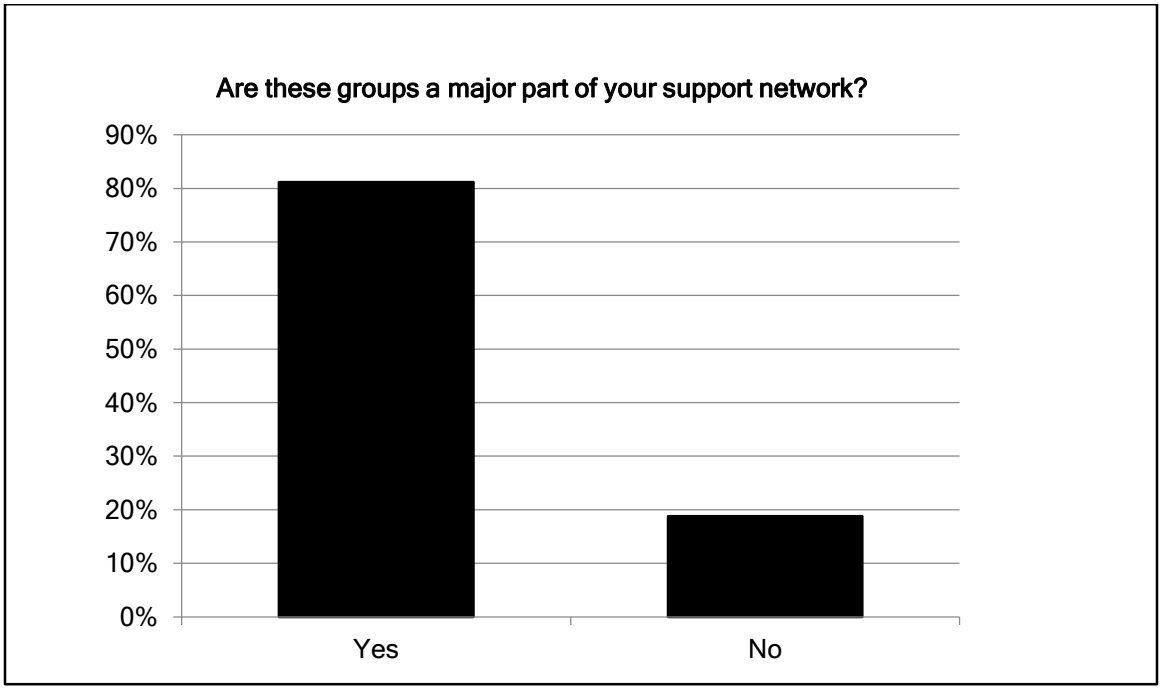


Figure 40. Facebook Group Cohesion.

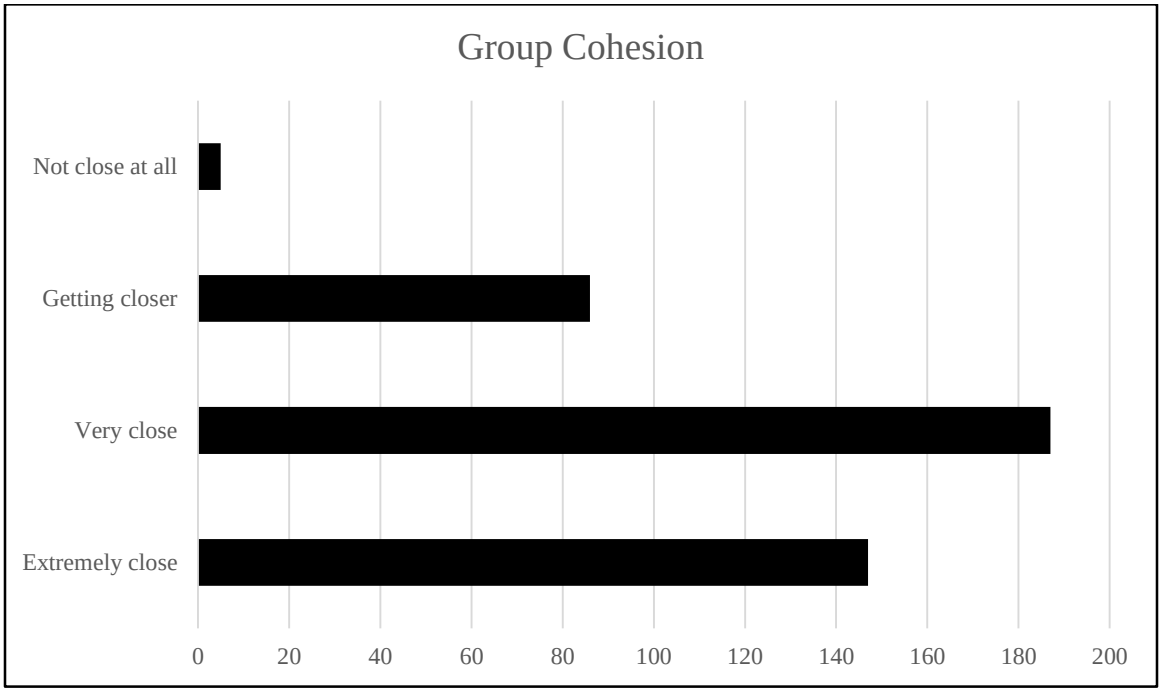
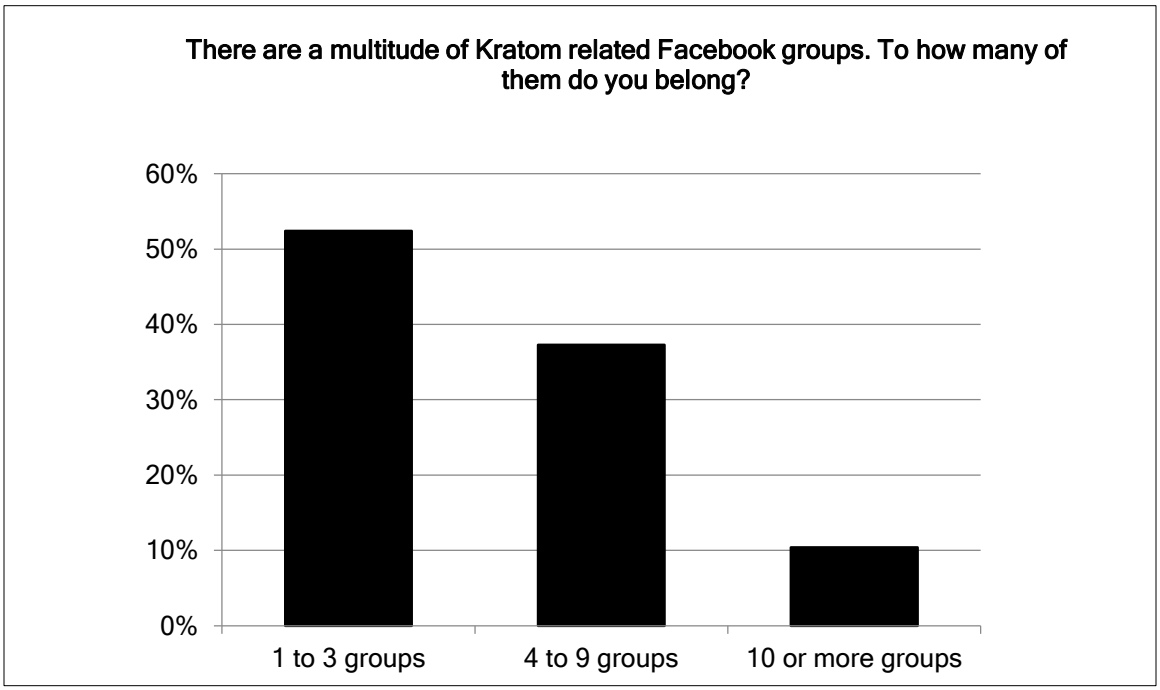


Figure 41. Facebook Group Memberships.



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Appendix A.

Consumer Profile

I am 48 years old and I found Kratom in 2010 while driving aimlessly. This time it happened to be a thousand miles from my home. I was THAT confused, depressed and just about at the end of my rope. I had met a wounded soldier that lost his leg in Afghanistan fighting for our country, the home of the free and the brave. But first let me tell you my story.

I have had restless leg syndrome since I was 6 years old. My mother took me to several doctors and all they could tell her was to limit my play, and so she did. I couldn't play with the other kids because if I played too hard I would not rest for many nights. I was tired all the time so therefore I could not concentrate in school. It was hard for me to learn. I was held back in 2nd grade, 7th grade, 9th grade, twice. By that time, I had giving up and just quit school altogether.

When I was 18 years old I was in a bad car accident and I was put on strong pain medications. I was able to sleep with no restless legs. But eventually my injuries healed and I was taken off the pain medications and my life began to unravel, restless leg syndrome was back, and it was 10 times the monster it was as a child. So I self-medicated with whatever I could find. I was drinking every day and was functioning but not without trouble, I must be allergic to alcohol, because it caused me nothing but trouble. I then found ways to get pain medications and I maintained, I was able to sleep at night. But I could not get a permanent prescription because “I looked fine."

I was 24years old and I was now a mother of two beautiful boys. I could not be the mother that they needed and deserved because I was always sick. I always put holidays off, birthday parties never happened for them, and sports, well they wanted to join but I never could find the time to set aside for any of these things. I was too busy looking for a doctor, or something to help me feel better. I ended up finding relief on the street corner of all places, buying heroin from strangers.

I lived that life for three long miserable years. I eventually checked into 8 rehabs to try to stop the madness, trying to convince myself, with the help of a team of doctors, many different medications, meetings, counseling, and following their instructions to the letter. The last rehab I was in, I stayed for 8 long months. I left there with knowledge about many things I had lost along the way, and a handful of medications, none of which helped my restless leg syndrome at all. I found another doctor that diagnosed me with arthritis in my upper body, fibromyalgia, depression, and restless leg syndrome. He agreed to medicate me with opiate therapy, Lyricia, and Cymbalta. Everything I had just worked so hard to get off of! Not to mention while I was institutionalized I was made to feel I was nothing more than a drug addict. It was 2008 when I checked out of the program and tried everything I was taught. I still was not right, I was still in pain, I was depressed and I STILL had restless leg syndrome.

It was 2010 when I met the soldier I first mentioned, and he explained to me what Kratom was, how to purchase it and what it did for him. I bought it and it worked, it changed my life! It has even changed the way I dress now! I had been lost my entire life! My mother, GOD rest her soul, could do nothing but watch her daughter self-destruct, and my sons missed out on so many things because I was absent, physically and mentally.

I now have a new lease on life! I look forward to waking up, and I look forward to peaceful, restful nights. I now tell everyone I know about this plant and how it has changed my life, because it is THAT good! I am not proud of the years I wasted trying to "Feel Better". But I am proud of me today. I have two grandchildren with one on the way. I have a second chance at showing my boys who I wanted to be to begin with, and who I am now, (I could not seem to get there before, because I was always sick). I use Kratom 2 to 3 times a day and live happy, healthy and productive and I have been for 5 years now! Before Kratom I could not do anything right two days in a row. But things are different today. I am so much better. Please don't take the only thing away from me that has ever helped me feel like I am not different. Thank you for letting me share with you, a PART of my life. And please don't take my choice away.

Sincerely,

Kim J.