

Social and Medical Factors Influence Willingness to use mHealth Technology among Migraine Sufferers

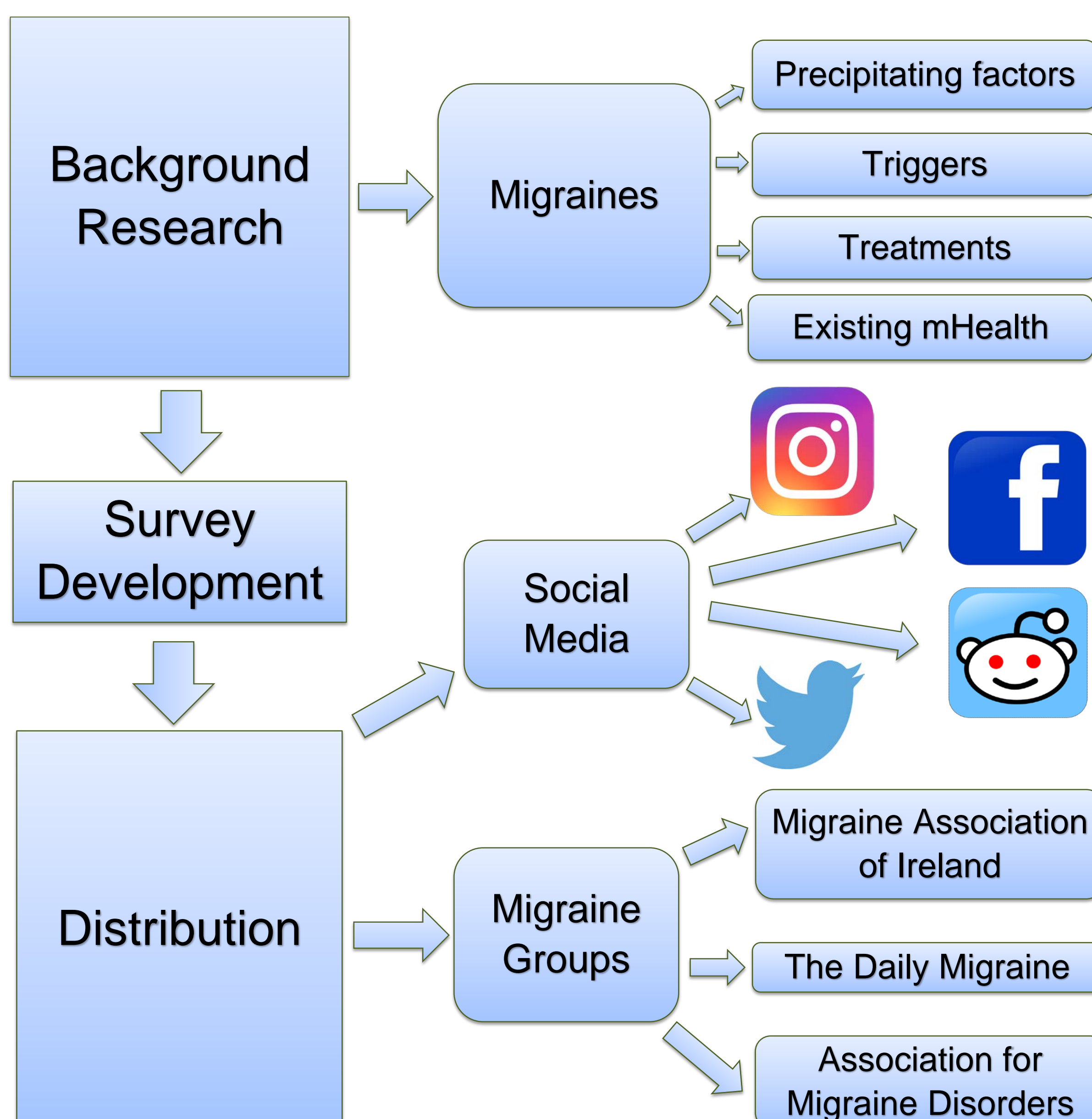
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Introduction:

Migraines are a disruptive, frustrating, and often-times debilitating condition that affect about 10% of the world's population.¹ Despite their prominence, the pathophysiology, cause, and treatment of migraines is poorly understood, exacerbated by the fact that they predominately occur outside of the clinical setting.^{2,3} Moreover, the effectiveness of treatments vary from person to person, and are highly inconsistent.^{3,4} One reason for treatment ineffectiveness is that they often only work when taken in advance, but not all sufferers can tell when "advance" is.¹ With the growth of mobile health technology, a unique opportunity has risen to understand migraines and help sufferers where migraines actually occur— outside of a clinical setting.² The purpose of this study was to identify the needs, routines, and frustrations of migraine sufferers and to see how mHealth technology can be used to help with management and understanding of this condition.

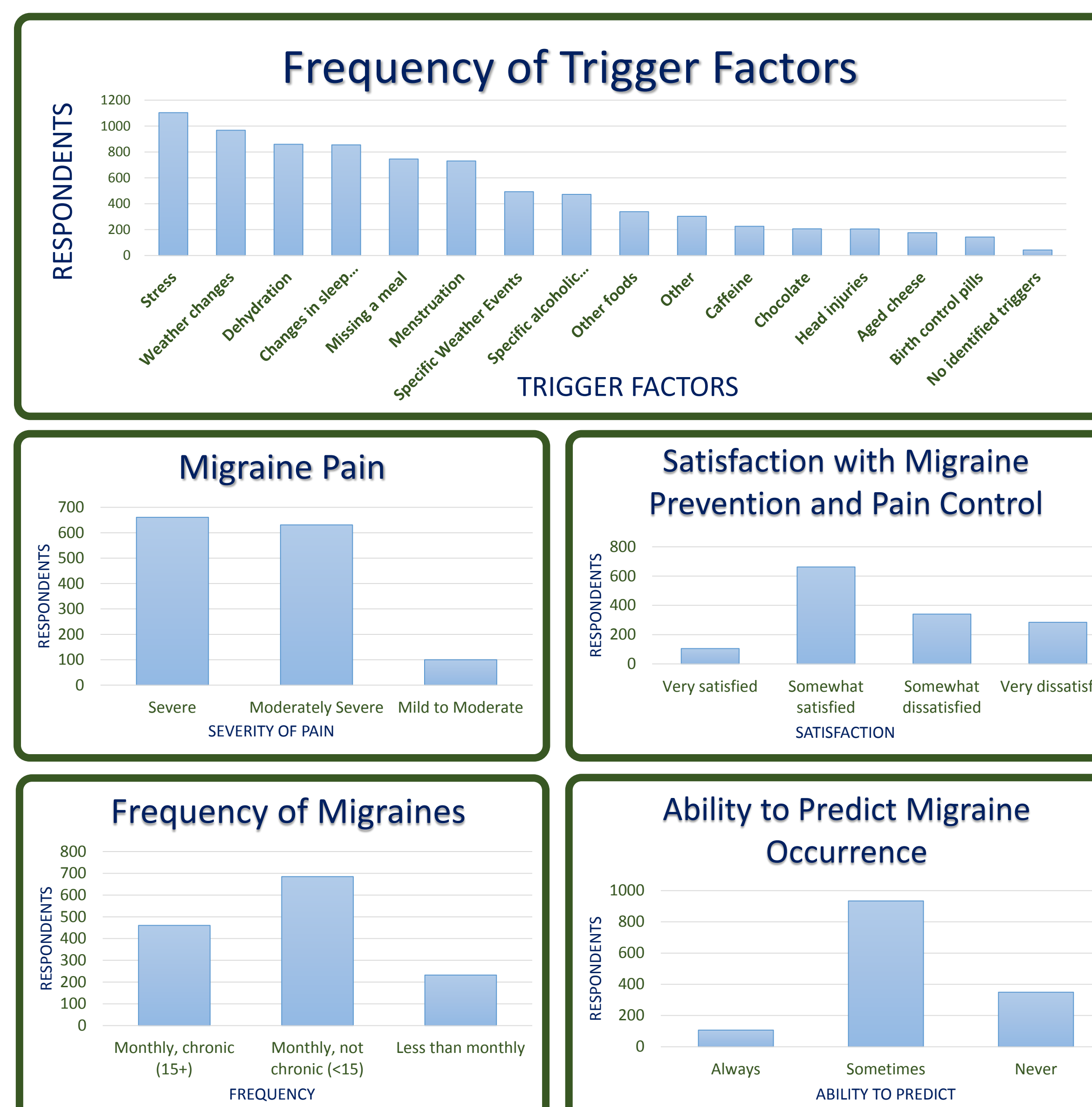
Methods:



Data and Analysis:

| Demographics of Sample | n (Total n=1394) | % |
|-----------------------------|---------------------|------|
| Gender | 1384 | |
| Male | 34 | 2.5 |
| Female | 1350 | 97.5 |
| Age | 1378 | |
| Under 34 | 502 | 36.5 |
| 35-54 | 740 | 53.7 |
| 55+ | 136 | 9.9 |
| Race | 1387 | |
| White | 1302 | 93.9 |
| Non-White | 85 | 6.1 |
| Ethnicity | 1345 | |
| Hispanic/Latino | 62 | 4.6 |
| Not Hispanic/Latino | 1283 | 95.4 |
| Level of Education | 1385 | |
| High School diploma or less | 192 | 13.8 |
| Some college | 418 | 30.2 |
| College grad or higher | 775 | 56.0 |
| Employment Status | 1388 | |
| Full/part/student/homemaker | 1107 | 79.8 |
| Retired/unemployed/other | 281 | 20.2 |
| Household Income | 1304 | |
| <\$25,000 | 282 | 21.6 |
| \$25,000-\$49,999 | 313 | 24.0 |
| \$50,000-\$99,999 | 422 | 32.3 |
| >\$100,000 | 287 | 22.0 |

Consistent with the literature, the overwhelming majority of respondents were female and non-Hispanic White. Females are about 3 times more likely to suffer from migraines, and most migraine sufferers self-identify as White.³



Results:

Chi-square tests for independence were used to answer the following questions:

1. Do demographics, condition severity, and overall satisfaction affect migraine sufferers' willingness to use mHealth technologies to help their condition?

2. What association exists between identifying migraine triggers and ability to predict migraines, satisfaction with migraine prevention and control, and willingness to use mHealth technologies?

| Willingness to use mobile health technologies | |
|---|----------------------------------|
| Perceived Pain | X ² = 10.937, p<0.004 |
| Migraine frequency (monthly vs fewer) | X ² = 14.101, p<0.001 |
| Race | Not significant |
| Income | Not significant |
| Education | X ² = 6.408, p<0.041 |
| Age | X ² = 25.104, p<0.000 |
| Satisfaction with Prevention and Pain Control | X ² = 5.299, 0.014 |
| Association between triggers and outcomes | |
| Ability to predict when migraine will occur | X ² = 68.961, p<0.000 |
| Satisfaction with Prevention and Pain Control | Not significant |
| Willingness to use mobile health technology | X ² = 8.690, p<0.013 |

Conclusion:

While a majority of respondents were willing to utilize at least one mHealth platform to help with their migraines, certain factors influenced the likelihood of this; higher levels of education and perceived pain, more frequent migraines, younger age, and lower levels of satisfaction with migraine prevention and control all correlated to a greater willingness to use mobile health technologies. Additionally, knowing migraine triggers appears to be associated with a greater ability to predict migraines and willingness to use mHealth technology, though it has no significant correlation with higher levels of satisfaction. Overall, migraine sufferers are not entirely satisfied with their current methods of prevention and control regardless of ability to predict or knowledge of trigger factors, and would benefit from a greater understanding of their condition and how to avoid it.

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