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**AN INVESTIGATION OF SUBJECTIVE MOOD
IMPROVEMENTS WHEN USING AUDIOVISUAL MEDIA AS
SUPPLEMENTARY THERAPY FOR GENERALISED ANXIETY
DISORDER AND DEPRESSION.**

Ryan John Harrison

A thesis submitted to the University of Huddersfield in partial fulfillment of the requirements for the degree of Masters of Art by Research.

The University of Huddersfield

September 2017

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Abstract

This research study examines the potential use of ASMR type audiovisual content as an easy to access, cheap and effective supplementary therapy, in order to manage depression and GAD. Two test films were developed to analyse the psychological impact of audiovisual practice on a subject, one an ASMR featured short film and the second a clip from the existing practice of audiovisual entrainment. Participants subjective scores of mood and relaxation were measured, by scoring them pre and post video. This study demonstrates that generally speaking, audio-visual media does has a positive impact on individuals, with 50% of participants with a mental health diagnosis reporting their mood improved.

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DEDICATION

This dissertation is dedicated to my grandfather – John Alec Crow, who passed away during this research. His love, support and kindness guided me through my education and allowed me to complete this study.

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List of Abbreviations

Abbreviations used in the documentation of the research and long forms of these are listed below.

ASMR	Autonomous Sensory Meridian Response
AVE	Audio Visual Entrainment
CBT	Cognitive Behavioral Therapy
GAD	Generalised Anxiety Disorder
GP	General Practitioner (DOCTOR)
EEG	Electroencephalogram
MOS	Motor Only Sync (no sound)
MT	Music Therapy
ND	No Date
NHS	National Health Service
PTSD	Post Traumatic Stress Disorder
SMPTE	Society of Motion Picture and Television Engineers
WHO	World Health Organisation

Chapter One

Introduction

1.1 Rationale

With an increasing population, increase of those diagnosed with a mental health condition and an ever-increasing demand for GP appointments in the U.K, the mental health services are at breaking point (Cooper, 2017). Some studies claiming that the death rate of those suffering from mental illness has risen every year since 2009 (NHS Digital, 2012).

The researcher believes there is a need for a new type of recognised and supported mental health therapy. Mindfulness, a well-established meditative practice can provide relief of depressive symptoms (Bowen, et al., 2014) from the patients own home, with no access to medical services.

ASMR is an online community of people who share and watch relaxation videos to gain a sense of well being. This research hopes to explore ASMR type directed media and its relation and possible uses in the world of mental health self-treatment. The research will explore if an ASMR type video can provide subjective evidence of a link between viewing the media and a positive correlation with their state of relaxation and mood. It would mean the viewer would have access to self-help treatment, anywhere at anytime.

Depression and GAD are both well-documented mental health conditions, with their impact on a patient ranging from mild to severe. If individuals with a mild diagnosis are able to get similar results from a video on their phone to taking month courses of antidepressants or hours of talking therapy, the specialist mental health professionals can spend more time with severe cases of mental health impairment.

1.2 Outline of Study

Chapter two highlights the main literature regarding the research of this study. The literature review will discuss the impact of depression and GAD on patients and the socio-economic impact on the mental health services and on society. The chapter will

analyse current treatment options for mental health and consider their rate of success, patient compliance and relapse. It will also present an analysis of the current literature on self-help media such as ASMR, AVE and mindfulness. Finally this chapter will recognise the importance of psychoacoustics and auditory mechanisms, reviewing their links with audio-visual self-help media.

Chapter three will focus on the methodological approaches undertaken, the sample collection process and the research design, to obtain reliable data. Finally relevant ethical considerations will be discussed, highlighting the collection of sensitive data.

Chapter four will present the findings obtained during the collection of data. The trends, outcomes and results will be displayed in graphical format.

Chapter five will forward an analysis of the data, and interpret reasoning to the outcomes displayed. The findings will be investigated against the current literature for analysis of relevance, reliance and practicality to the research questions.

Chapter six will summarise and conclude the course of the research study and outcomes. Finally a series of recommendations will be presented for further research.

Chapter Two

Literature Review

2.1 Introduction

This chapter will review the available literature relevant to this study into mental health, available treatments and their socio-economic success. It will examine the processing of audio visual material to understand and establish grounds for the design of test films. Finally, this chapter will explore ASMR and its current role within the online community and how it could be used in the mental health sector.

2.2 Understanding Depression

According to the Mental Health Foundation (2016), 25% of the U.K experience some kind of mental health problem every year, showing an increase of 11-20% for demand of crisis services since 2012 (Health Line, 2012). Of this group 9.8% are formally diagnosed with mild mixed depression and Generalised Anxiety Disorder (GAD).

Clinical depression is defined as negative feelings that don't disappear quickly, or become so overwhelming that they interfere with everyday life (Bolton, Bisson, Guthrie & Wood, 2011). Depressive symptoms are vast and diverse with most individuals presenting with features of psychological symptoms such as persistent low mood; difficulty making decisions; lack of empathy; thoughts of self-harm or suicide; anhedonia (Bolton, et al., 2011). Physiological symptoms are also present in many cases such as loss of appetite and weight; feeling restless and agitated; loss of energy, motivation and sex drive (Bolton, et al., 2011). Depressive disorders can affect anyone of any age and the risk factors are varied (Hankin, 2006). Sometimes there may be an obvious reason – a relationship breakdown, bereavement, or even the birth of a child – sometimes it is not clear (Bolton, et al., 2011). Medical professionals grade depression as mild, moderate or severe depending on the severity of symptoms, allowing them to decide on appropriate courses of treatment (Kenny & Knolt, 2015).

Castillo-Pérez, Gómez-Pérez, Velasco, Pérez-Campos and Mayoral (2010), make a noteworthy point that our modern society adopts a fast paced environment conveying transformations on many aspects of our lives. These changes bring a larger frequency

and type of stressor, which, combined with certain personal vulnerabilities, determined in early life, such as abuse or the loss of a parent or genetics (Hazelden Foundation, 2016) are causing a general rise in depressive systems. From a scientific perspective, there are numerous biochemical factors described as contributing to the etiology of depression (Burgdorf & Panksepp, 2006), such as low numbers of dopamine receptors (Gothic, Doorman, Minor & Hall Mayer, 2008) and low levels of dopamine in the brain (Nestle, et al., 2002).

2.3 Understanding Generalised Anxiety Disorder (GAD)

Generalised Anxiety Disorder (GAD) is often found in association with varying severities of depression (Huge, Oppenheimer & Simon, 2004; Maser & Cloning, 1990). According to Anxiety and Depression Association of America (2016), nearly one-half of those diagnosed with depression are also diagnosed with an anxiety disorder.

GAD is a common and disabling condition with significant personal and societal costs (Amir & Taylor 2012). NHS (2016) summarises that ‘anxiety is a feeling of unease, such as worry or fear, that can be mild or severe’. Anxiety is a generalised symptom of numerous conditions such as: phobias, post-traumatic stress disorder (PTSD), social anxiety disorder and panic disorders (Gale & Davidson, 2007). Unlike these conditions, sufferers of GAD experience feelings of anxiety over a wide range of situations and issues; rather than one specific type of situation or event. Furthermore, Nina and Berger (2001) state that GAD can be considered a chronic mental health condition, running a mean duration of twenty years.

Symptoms of GAD are similar to depression in that they can affect individuals both physiologically and psychologically. Psychological symptoms of GAD include: restlessness, a sense of dread, constant ‘on edge’ feeling, difficulty concentrating and irritability. Physiological symptoms of GAD can include: dizziness, tiredness, palpitations of the heart, dry mouth, insomnia, shaking and sweating (Rapgay, Bystritsky, Dafer & Spearman, 2011).

2.4 Treatments for Mental Health Diagnoses

Those who choose no treatment

When comparing knowledge and stigmatisation about mental health, from the mid-18th century to the start of the 20th there was a huge shift in the way people thought. The mid-18th century saw the housing of patients in asylums (Rollin, 1981). By separating those with psychiatric disorders from the mainstream, the public became desensitised towards their needs and the complicated treatment plans (Rollin, 2003). This outlook was sustained up to as recently as the 1950s, when a wave of deinstitutionalisation began, moving patients from psychiatric hospitals to outpatient or less restrictive residential settings. Rollin (2003) also states that at the same time, development of psychiatric drugs meant that people with mental health conditions were able to cope better as an outpatient, reducing the need for inpatient admission. Between 1950 and 1980 the number of institutionalised patients dropped from 560,000 to 130,000 (Koyanagi, 2007). As a result, awareness and understanding of mental health continues to increase within our society, resulting in an associated decrease of stigmatisation (Link, Cullen, Struening, Shrout & Dohrenwend, 1989).

Health Line (2012) suggests 80% of the people that have symptoms of clinical depression are not receiving treatment. It's difficult to pin point the exact reasons as to why this figure is so high, as individuals from a large range of socioeconomic and geographical backgrounds deal with and succumb to depression for a magnitude of reasons. Bernstein (2010) speculates that embarrassment; shame on family and lack of confidence in specialist help may be reasons why individuals have not sought medical help. Furthermore a low-level of education may result in people not realising they need help or know that help is available.

Depression and GAD can present typically and atypically from person to person, therefore there can be no standardised treatment route (Al-Harbi, 2012). For example, Tricyclic Antidepressants, which are considered effective in typical depressive episodes, are traditionally considered ineffective in atypical episodes (*Oxford Handbook of Psychiatry* (3rd ed.), 2013). The literature does however show that if the individual has the right treatment and support, most can make a full recovery (National Institute for Health and Care Excellence, 2016). Depending on the

individual, their needs and status need to be assessed when choosing a course of support and treatment. The individual needs to stay in close observation to assess changes in their mood and any improvement. They also require a degree of compliance as, sometimes even when treatment is accessible, many sufferers are unable to fully engage with professional services (Surgeon General, 1999; Demyttenaere, et al., 2004).

Medical professionals strive to fit the correct course of treatment with the patient, to ensure the quickest and most effective recovery. Unlike other medical conditions such as physiological complaints, psychological conditions such as depression and GAD can be considered much more complex and at times more difficult to manage (National Institutes of Health (US), 2007). Patients who have previously suffered mental health conditions are always at risk of relapse. When treating an individual with depression, the management of relapse prevention is imperative, especially if a patient includes a genetic history of depression (Lohoff, 2010).

Depression timeframes are varied and affect people for different lengths of time (Leung, et al., 2012). It is common for patients to recover and experience remission of their depression, however it is also usual for the depressive symptoms to relapse. When looking at long-term treatment success, pharmacology used alone incurs the highest rate of relapse, further emphasizing the need for other therapies to be used as an adjunct in management (Marchesi, 2008). Furthermore, those patients who show signs in childhood and adolescence have been identified as at risk for recurrent depressive disorders in adulthood (Hankin, 2006), indicating these individuals may require additional support and monitoring.

Treatment of GAD

GAD can have significant effects on an individual's daily life, therefore support and treatment from services is highly recommended to help alleviate the symptoms, allowing functioning in the activities of daily life (NHS, 2016). The main treatments available through services are psychological therapy – such as cognitive behavioural therapy (CBT) and pharmacology such as antidepressants, which contain anxiolytic

properties (*Oxford Handbook of Psychiatry* (3rd ed.), 2013). Outside of formal services, there are many recommended self-help managements to reduce symptoms of GAD such as exercising regularly, reducing alcohol/caffeine intake and stopping smoking. Support in the U.K for GAD is far reaching with many efficacious treatments, however a large majority of individuals fail to access the most effective treatments from the time of onset (Kessler, Olfson, & Berglund, 1998).

Treatment of Depression

According to Fountoulakis & Möller (2011), the treatments for depression are: pharmacological, psychotherapy and electroconvulsive therapy. Music therapy is also offered by mental health services through group and individual programs (Odell-Miller, 2013) and studies have shown that music therapy can have a positive impact on patients (Baker Kennelly & Tamplin, 2005). There is a comprehensive amount of literature available that shows the undesirable symptoms of depressed patients disappear after treatment, irrespective of whether the treatment was psychological or biological (Simons, Garfield & Murphy, 1984).

Overview of Treatment

Depending on the geographical location, services and treatments vary. According to Barkil-Oteo (2013), 79% of mental health patients are treated with antidepressants, either as standalone management or combined with other support. 10% receive Cognitive Behaviour Therapy (CBT), 7% attend art, music and drama therapy. Leaving 4% categorised as 'other', including mindfulness techniques, Audio-Visual Entrainment (A-VE) and technology based therapies.

The literature indicates a divide in stating what treatments are effective and what the best course of support is for long-term positive results. Eslinger (1998); Maddux (2014); Hansson Stjernswärd and Svensson (2014) all agree that facilitating positive thoughts and mood in treatment is key to treating underlying causes of depression and GAD. These arguments support the use of CBT, mindfulness and music therapy, which help the individual identify and recognise the causes of their deterioration in mental health, resulting in lasting positive treatment. In contrast Kasper and Olie (2002); Smoller, et al. (2009); Yohn, et al. (2015) agree that pharmacology is key to

treatment of mental health issues.

In 2012, a Scandinavian research team explored the effectiveness of self-help for anxiety disorders compared to waiting list and face-to-face treatment (CBT). The research detailed a sample size of 4713 individuals with ranging mental disorders including PTSD and social phobia, but mainly GAD. Haug, Nordgreen, Öst and Havik (2012), found in the study that the self-help treatment group did considerably better than those on a waiting list that did nothing (the control). Additionally when the self-help group was compared to face-to-face treatment, the latter returned better results. From this study we can appreciate that while face-to-face (CBT) treatment proved to be most beneficial, it's better to access self-help treatment than do nothing.

Pharmacology

Antidepressants are the pharmacological management option when treating depression and in some instances GAD (National Institute for Health and Care Excellence, 2011). These are regularly the leading treatment option prescribed by health professionals due to numerous advantageous reasons (Clinical Depression, ND). Firstly antidepressants (where effective) offer a quick, simple and easily accessible solution to allow the individual to continue functioning as normally as possible (Bhattacharjee, 2014). Secondly - cost effectiveness. According to the *British National Formulary 60* (2010), a course of 28 tablets Citalopram (10mg 1AD) costs £1.15 and Citalopram (40mg 1AD) costs £1.54. A 10-minute appointment at a general practitioner doctor and a course of antidepressants has the potential to create fast and cost effective positive results, compared to a costly and time-consuming CBT course. However Kessler, Olfson and Berglund (1998) speculate from a socioeconomic point of view, that by using pharmacology to treat depression and GAD, overutilization of medical services results in prolonged personal and economic costs. Despite this, it is well documented that many people find great relief by using antidepressants (Clinical Depression, ND).

There are many types of antidepressants that are currently prescribed by doctors globally; the most common are Selective Serotonin Reuptake Inhibitors (SSRIs, SNRIs) Tricyclic drugs (TCAs) and Monoamine Oxidase Inhibitors (MAOIs) (Barbui, Ciprian, Patel, Ayuso-Mateos & Van-Ommeren, 2011) Each drug has different

compound structures and individuals prescribed the same drug can experience a range of outcomes relating to symptom management and side effects. The range of pharmacology available ensures that if an individual has an unfavourable reaction to a type of drug, then a different one can be prescribed, potentially resulting in control of their symptoms but with less adverse effects (Berlin, Glasser, & Ellenberg, 2008).

Antidepressants work by altering a chemical imbalance, including a lack of serotonin, in the brain. They can be effective in giving a quick response to relieve suffering in cases of depression, but do not provide a lasting result (Lally, et al., 2014). But as Clinical Depression (ND) highlights, the long-term use of antidepressants is not an answer to a cure. There is a vast array of research that contradicts the use of antidepressants in relation to long-term use and effectiveness. (Lally, et al., 2014; Clinical Depression, ND).

Kirsch (2014) draws upon the argument that antidepressants can increase, decrease or have no effect on serotonin levels in the body, but show the same outcomes. In their previous research (Kirsch, et al., 2008) claimed that antidepressants work because of the placebo effect. For such a strong claim, we must carefully analyse this study. Limitations of this study (Kirsch, et al., 2008) are unclear, firstly the sample size is not clearly specified, it is stated that forty-seven clinical trials were observed. Secondly the researchers claim that the range of trials drawn upon may contain selective and multiple publication, fundamentally to bias results in favour of antidepressants. To make a claim this substantial, more in depth and calculated research would be required to obtain an awareness of possible data duplication.

In contrast to Kirsch's research (Kirsch, et al., 2008), other institutions analysing the results of antidepressant medication with a placebo, presented positive findings with pharmacology and mood. The Royal College of Psychiatry claim that between 50% and 65% see an improvement in mood when taking antidepressants, compared to 25% - 30% if given an inactive placebo 'dummy' pill (Timms, 2015).

Long (1998) documents that antidepressants are effective in lifting an individual's mood in around one third of cases (Clinical Depression, ND). In cases where antidepressants do have a positive impact on the individual's life, the drug reduces the

symptoms of depression, creating an environment for that individual to recover and resume normal motion (Long, 1998). Ferguson, et al., (2005) agrees with this research but found that despite antidepressants being effective in improving mood, it made no difference in the odds ratio of suicide attempts

There is much debate amongst the medical profession about the lasting results and use of antidepressants. Therefore when drawing upon the initial positive impact of pharmacology treating depression and GAD, we must also analyse the undesirable impact of the drugs. Antidepressants are known to have an extensive list of side effects, such as: feeling nauseous; diarrhoea, dizziness, anxiety, feeling agitated, insomnia, hypomania, sexual incompetence, tooth decay, diabetes, decreased alertness (Mind, 2016; Bupa, 2016.).

As Clinical Depression (ND) highlights, the side effects can be more unpleasant than the depression itself. Jin, Sklar, Oh and Li (2008), found that adherence and compliance of pharmacological treatments are poor - approximately 50% continue pharmacological treatment (Sansone & Sansone, 2012) and this non-compliance may be due to a range of factors both relating to the patient (e.g. concerns about side effects, fears of addiction) and also the clinician (such as poor follow up procedures) (Sansone & Sansone, 2012). Balon (2002) explains that non-compliance can have serious consequences, such as relapse or recurrence of the illness. Furthermore, although the use of pharmacology is recommended for treating depression and GAD, there is a vast amount of research claiming that antidepressants simply only mask the symptoms of mental illness. Penn and Tracy (2012) state that 'drugs do not treat depression, merely the symptoms' and looking at long-term treatment success supports this - pharmacology has the highest rate of relapse (Marchesi, 2008). These factors contribute to a patient demand for new alternative therapies with more long-term success in symptom management.

CBT/ Talking Therapy

Otte (2011) and Bystritsky; Khalsa, Cameron and Schiffman (2013) agree that pharmacology is most effective when used alongside other treatment methods- the most common being Cognitive Behavior Therapy. CBT is an umbrella term for talking therapies and counseling, where an individual is able to reason and talk

through their problems (British Association for Behavioural & Cognitive Psychotherapies, ND). This allows them to recognise their thoughts relating to their behaviour and allows them to overcome negative thoughts. The NHS Choices (2016) suggest 6-8 sessions over 10 weeks as an adequate CBT course.

CBT therapy study results vary greatly across the board, but generally hold better success rates than pharmacology alone. The varying results may be due to the human element of CBT, as the treatment will fluctuate from specialist to specialist, based on experience, technique and also the patient's own willingness to engage with the process (Matusiewicz, Hopwood, Banducci, & Lejuez, 2010). As an example Clinical Depression (ND) found CBT to have a 70% success rate. Otte (2011) claims that CBT is the "gold standard in the psychotherapeutic treatment of patients with anxiety disorders" (p. 420).

Butler, Chapman, Forman & Beck (2006) compiled a paper on the analysis of data detailing the use of CBT for depression and GAD. Their data were collected from 16 meta-analyses papers, using 332 studies in total. They found that all sixteen meta-analyses proved CBT treatment to be highly effective and claimed that CBT was "somewhat superior to antidepressants" (Butler, et al. 2006, p. 28), when comparing treatments on adult depression. While the data in this research is composited from trustworthy sources, this meta-analysis method of research could provide bias results. Although a large sample size was used, there is no specification of gender or demographic details, raising concerns over the use of the data. When analysing the reliability of an analysis paper such as this, it is crucial to examine how the research used was collected. Butler, Chapman, Forman & Beck (2006) explained they looked for research papers with large sample sizes and papers with randomised clinical trials. In the research published by Butler, et al. (2006) 18 studies were excluded from the results due to numerous factors, which included texts "written in a language other than English" (p. 19) and because they "did not focus on any specific disorder" (p. 19).

While many studies show positive trends in the results of CBT there are little studies that look at the lasting effects and more importantly the proportion of patients relapsing. The majority of studies only document the short-term impact of CBT,

leaving a gap in the literature about long-term success of the treatment. DeRebeis, Siegle & Hollon (2008), analyse data that does highlight some long-term favorable outcomes. They outline that “cognitive therapy is as efficacious as antidepressant medications at treating depression, and it seems to reduce the risk of relapse even after is discontinuation” DeRebeis, Siegle & Hollon (2008, p. 788). However they also document that “sustained recovery is sustained in approximately one-third of treated patients” (DeRebeis, Siegle & Hollon, 2008, p. 788).

CBT has traditionally been led in individual or group settings but usually led by a professional (Naeem, Farooq & Kingdon, 2014). Naeem, Trimmer & Tyo (2016) suggest that CBT could also be self-guided, using a variety of media, including paper and electronic. Hakvoort (2014), suggests that music is already being used to help self-guiding CBT as a “motivator, inspirer or reinforcement” (p. 155), in psychotherapy settings.

Music Therapy

The histories presented from some depressed individuals experiences may demonstrate triggers that are distressing and difficult to talk about. Therapies that allow non-verbal processing such as Music Therapy – may offer a workable alternative (Erkkilä, et al., 2011). Music Therapy is not associated with negative side effects and can be easily implemented, contributing to high adherence and frequent successful outcomes (Brandes, Terris, Fischer, et al., 2010).

While the exact reasons why MT is not fully understood (Behrens, 1988), researchers have theorised as to why music has a positive impact on altering emotion and behavior (Nayak, Wheeler, Shiflett & Agostinelli, 2000). MacRae (1992) suggests that MT provides an effective medium for provoking an emotional response as music holds emotional associations. From this we can draw a reasonably viable connection as to why MT may help depression and GAD patients. By a therapist drawing upon favorable moments in a patient’s life, music may stimulate their memories on an emotional level and therefore improving their happiness and mood. Additionally, music carries rhythm, which can both influence emotion (Fernández-Sotos, Fernández-Caballero & Latorre (2016) and physiologically alter body functioning such as “heart rate, muscle tone, blood pressure, and respiration” (Steckler, 1998),

creating a comforting and calming response.

It is common knowledge that music and its powerful effects have gained a reputation to relax, sooth and entertain us. In modern society Music Therapy (MT) is recommended as supplementary treatment for some depression and GAD patients. As defined by Castillo-Pérez, et al. (2010), Music Therapy is the “planned use of music to achieve therapeutic outcomes” (p. 387), and by Bruscia, (1998) as a systematic process of intervention where the therapist helps the client to promote health, using musical experiences.

The uses and types of MT are comprehensive, covering many disciplines of medicine. MT is mainly used as supplementary treatment (Rafieyan & Ries, 2007) for an array of psychiatric disorders, due to its relaxation and mindfulness effects (Gold, Solli, Krüger & Lie, 2009). Research has shown that MT can have a positive impact on many individuals with varying conditions, such as the study conducted by Baker, Kennelly and Tamplin (2005) who found that MT had a positive impact on the rehabilitation of patients with traumatic brain injuries.

Gutiérrez and Camarena (2015) explored the use of MT for the treatment of GAD and found the following advantages:

1. The capacity to induce deeper states of abstraction and concentration, 2. An improved ability to evoke positive or convenient memories that make possible cognitive recuperation in a new way, 3. The creation of controlled situations that simulate problematic experiences from daily life and the ability to initiate a new perspective on how to approach them. (p. 20)

These points are all valid in regards to the management of depression and GAD, as they relate to the argument that the root to treating depression and/or GAD is to allow the individual to learn about dealing with their problems and underlying causes of their symptoms and mood disturbances. Ragilo, et al. (2015) analysed 25 studies which all found to support the “efficacy of MT by improving mood and quality of life” (p. 68).

In the mental health services, MT is regularly offered through group and individual programs (Odell-Miller, 1995) and can be accessed as receptive or active therapy (Bruscia, 1998). Receptive Therapy is based on listening to music, working

therapeutically by encouraging relaxation, ultimately making them feel comfortable and alleviating low mood symptoms (McKinney, et al., 1997). The Music Therapy association explains receptive therapy can support the person to focus and be successful in simple, structured activities (Mackay, 2016), ultimately, supporting the development of social skills and the expression of feelings (Nayak, Wheeler, Shiflett & Agostinelli, 2000). There has been a documented account where receptive therapy showed findings of encouraging the verbal expression of the patients' suffering (Guétin, Soua, Voiriot, Picot & Hérisson, 2009). Here, a clear link can be seen where CBT and MT may benefit individuals when used in conjunction. If MT allows an individual to talk about their problem, they are more likely to accept therapy, leading to better adherence and success of treatment (Safren, et al., 2009). Active Therapy encourages the participants to interact with an instrument or sing, pushing negative thoughts aside and thus bringing out hidden personal attributes and allowing the individual to concentrate on the skill of the musical experience (Rafieyan & Ries, 2007). Both types of MT are widely accepted as working therapies and research has shown that they both offer similar results (Siedliecki & Good, 2006).

Gutiérrez, Camarena, Pérez-Campos and Mayoral (2015) explored MT in GAD treatment. In the study they found that MT sessions reduced somatic symptoms of GAD such as tachycardia, hypersensitivity to pain, sleep disturbances. In addition to these physiological symptoms, they found cognitive functions, such as memory and attention, to be stimulated, leaving the participants relaxed and focused. Furthermore, music activates the brain regions involved in reward and emotion, resulting in intensely pleasurable responses in these areas (Blood & Zatorre, 2001).

The success of MT in GAD and depression can be measured as standalone therapy, or as a supplementary therapy in a broader course of treatment. Literature differs in findings of MT as supplementary therapy. Some boast that MT groups reveal a better improvement in symptoms when compared to CBT groups (Castillo-Pérez, et al., 2010). A comprehensive study into the effects of MT by Erkkilä, et al. (2011) showed that MT and pharmacology is the most effective in treating depression, and helps people with mild, moderate or severe depressive episode, as well as those with GAD. When compared to a group only receiving standard care of pharmacology, the response rate and general mood of the pharmacology and MT group was significantly

greater. However, long-term studies are limited either by sample size or time, therefore knowledge about depressive patients relapse episodes cannot be measured, making this aspect unreliable as it is under-reported in current literature (Jungup & Thyer, 2013).

Looking from a socioeconomically perspective, private MT can be costly to patients. Richmond Music Trust (2016) charge £45-£47 per session, and is therefore more expensive for the individual than pharmacological treatment, which in the UK includes subsidized prescription charges at much cheaper rates.

Other Existing Therapies

When a person becomes depressed, most find it difficult to approach other people, and therefore withdraw from society and as a result may become isolated (Smith, Segal & Segal, 2016). This may represent a progression into an even lower mood, and can lead to a more severe depression with the potential to result in a lower rate of accessing the help available. Mental health bodies and support groups offer advice on self-help, especially for those who do not wish to seek the help of medical services.

In the last 10 years, there has been a huge surge in the types of self-help for depression, especially due to a growing online network of worldwide communities sharing their experiences and advice (Wylie, 2015). An example of this includes the now mainstream movement of mindfulness, originated over 2000 years ago from the teachings of meditation from Buddha. Now millions of people worldwide participate in mindfulness sessions in groups or on their own (Barnett, 2015). As the popularity of these new ways of self-healing emerge, research on their effectiveness is increasingly being carried out, usually in comparison to traditional pharmacology and CBT type therapies. Various studies, such as one carried out by Lanouette & Stein (2010) have found that relaxation therapies such as mindfulness are efficacious both on their own and when combined with medication. Furthermore this study revealed that these relaxation therapies have success, even in treatment-resistant cases.

With the advancement of the digital age, technology based therapies have developed on a global scale (Hahna, Hadley, Miller & Bonaventura 2012). Developments in computer technology, such as portable computers, tablet and phone technologies have

made music technology more accessible in the homes and also within clinical settings (Cevasco & Hong, 2011). As Fox and Duggan (2013) outline, when accessing health information, most people refer to the Internet before a friend or doctor. With this in mind, it is therefore important to implement steps to ensure that the correct person sees the relevant information. Goss, Anthony, Strech and Nagel (2016) correctly state:

Not all websites are created equal. Since anyone can publish anything online, it can be challenging to determine whether the information found online is relevant, accurate and reliable. (p. 77)

But used in correct ways would result in tailored treatment being implemented, and as Baker, Reddish, Robertson, Hernshaw and Jones (2001) found, a higher success rate in treatment cases.

Using technology as a means of treatment allows cheaper alternatives to human based therapies such as CBT and music therapy (Hahna, et al., 2012). On this notion, new generations are being born into a world dominated by computing and audiovisual technology, therefore we could speculate that the type of therapy offered needs to be tailored to them. Furthermore, when we explore the socio-geographical populations that are affected by depression and GAD, research suggests that the mean age of those diagnosed is 15 (W.H.O International Consortium in Psychiatric Epidemiology, 2000), further highlighting the need for new therapies tailored to this group of individuals. By relocating existing therapies into a virtual and digital world, it becomes more accessible, more approachable and more appropriate for the current and future generations (Hunt, Kirk, Abbotson & Abbotson 2000; Taylor, et al., 2014). The literature suggests that computer-based therapies have had a similar rate of patient satisfaction, acceptability, and attrition when compared to standard clinical treatment (Amir & Taylor 2012).

With these reports of success in mind, it is also important to analyse any shortfalls in the research. Callan, Wright, Siegle, Howland and Kepler (2016) state:

Although web-based self-help has the potential to reach very large numbers of people with depression, research has found that most people who access self-help CBT sites stay with the program for only brief amounts of time (p. 312).

From this we can learn that users of web-based interventions must have encouragement and reason to return to online treatments. The quote about refers to

self-help CBT sites and it is unclear what the exact sites that patients were accessing, therefore making it difficult to make a sound judgment on the reliability of this statement. In consideration, it must be noted that online self-help treatments must be user friendly, easy to access and engaging.

Until 2016, according to Arean, et al. (2016) there was no reliable research on the demographic who accessed web or app based self-help mental health treatments. This is vital information while analysing the impact of digital technology based therapies on a wider population. The study aimed to collect and analyse demographical data on participants who were looking for mental health self-help on their phones or tablets. Their app was released in August 2014 and was live for 5 months, attracting 2923 downloads. The found that the majority of the sample were female, moderately depressed, with a mean age of 33.95 years (Arean, et al., 2016). There is no explanation of geographical data in the study, which makes these findings hard to implement. The results could show an indication of the demographic accessing these apps in US, where the study was held, or it could be a more global representation.

Digital technology has been used in treatments within music therapy clinical practices since the early 1980s. Initially, music therapists used computing technology to collect and analyse behavioural interactions that were observed in clinical treatment (Hasselbring & Duffus, 1981). As technology advanced, the application of it within treatments has increased; offering new types of therapy and creating innovative new treatment plans (Arean, et al., 2016).

Audio Visual Entrainment (AVE)

One such technology focused product is Audio-Visual Entrainment (AVE), which according to the manufactures website can ‘boost your mood, improve sleep patterns, sharpen your mind and increase your level of relaxation, all with the push of a button’ (Mind Alive. ND. *Technology*). AVE uses particular frequencies and binaural beats, accompanied by patterns of pulsing lights and shapes in an attempt to arouse the subject’s brain – resulting in longer bursts of attention (Siever, 2009). In 1943, Adrian & Matthews published an article on photic driving (Mind Alive. ND. *Dave talks AVE*), describing how brain activity (measured by an EEG) is time locked to flash frequencies of light - discovering that the state of the brain could be changed to

achieve varied outcomes. In 1981, Mind Alive Inc. was formed, designing and manufacturing mental-health electronics devices (Mind Alive. ND. *Dave talks AVE*). Then in 1985 they released the first model (David 1) capable of manipulating brain waves to achieve varied outcomes.

Currently there is a vast amount of research on the use of AVE and its results, drawing many conflicting arguments. Schwarz and Taylor (2005); Karino, et al. (2006); Brady and Stevens (2000), all report that users of binaural beat entrainment such as AVE see an increase in spectral density leading to a relaxed state and attention. Conflictingly others (Stevens et al., 2003) fail to find any evidence or results to support binaural entrainment.

The David Delight Pro is the most recent model developed by Mind Alive Inc. and retails at £490 (Amazon, 2014). Research on this particular model is limited, but basic research into the product has analysed the David model for different uses. Siever (2012) commented that it helped participants improve their concentration. Further research found that it helped people who had relapsed from depression (Huang & Charyton, 2008) and that it also lowered stress levels (Siever, 2010). Interestingly, within these studies, the participants were all aged over 30. Although there is no current literature of the David Delight Pro being used for depression in children or young adults, there has been a study of the device used for treatment of ADHD. Powers, Marks, Miller, Newcorn and Halperin (2008), found that academic scores of children with ADHD who used stimulant technology improved.

When assessing treatment for depression it is imperative to analyse patient adherence, as this can commonly be a problem in management techniques. Although it has been demonstrated that AVE can have a positive impact on attention, a subject must watch or listen for an extended period of time (Siever, 2009). Brainwave College (2014) states that it 'takes 15 minutes to start seeing results, and 30 minutes is an ideal length', but Mind Alive. (ND, *FAQ*) claims that relaxation will be produced within 5 minutes.

Feedback from various medical professionals, state their patients found the treatment 'boring' (Staso, 2006 June 24; Transparent Corporation, ND). Siever (2009) recommends purchasing an AVE machine in order to feel the full effects of Audio-

Visual Entrainment, in specific viewing conditions (Siever, 2006). But in the current age of technology, most children and adults have access to a computer, tablet or phone (Dinleyici, Carman, Ozturk & Sahin-Dagli, 2008). Therefore it seems there is a gap in the literature for this type of practical based, easily accessible therapy and also supporting evidence to demonstrate sustained interaction and willingness of the subject for use at home.

2.5 Relaxation, Mood and Mental Health

When looking non-pharmacological treatments for depression and GAD (such as music therapy, ASMR, AVE etc.), it must be noted that these therapies have reoccurring traits, the most common being the application of creating a relaxed and mindful state – through some degree of audio or visual techniques, or a combination of both. Therefore to analyse the effectiveness of these treatments, it must be articulated why audio-visual helps an individual relax, and therefore why audio-visual treatments help depressed and GAD patients.

Castillo-Pérez, et al., 2010; Freeman and Freeman (2015) and Kirsch (2008) all agree that audio-visual practice can be an alternative to pharmacology in treatment of depression and GAD. From a scientific point of view, low levels of dopamine in the brain (Nestler, et al., 2002) and a low number of dopamine receptors (Gotlib, et al., 2008) constitute two of the main causes of depression. By introducing a depressed patient to audio-visual material, dopamine levels are increased from pleasurable sensations enhancing positive emotions and diminishing depressive states (Burgdorf & Panksepp, 2006). Moreover, audio-visual activates brain regions involved in reward and emotion, provoking intensely pleasurable responses in these areas (Blood, & Zatorre, 2001).

If audio-visual means can be used in treatment cases of depression and GAD, we must analyse appropriate genre and type of audio-visual content. We are all subject to differential taste (Anne, 2014) and preference when selecting what we choose to watch; therefore different types of audio-visual experience may be suitable and effective for different individuals.

Psychoacoustics

“Films are 50 percent visual and 50 percent sound. Sometimes sound even overplays the visual.” (Lynch, 1998)

In order to suggest audio-visual practice as a means of relaxation therapy, we must understand how the brain accepts and uses sound. Psychoacoustics is the study of sound and how the brain perceives the sound wave vibrations. The application of sound needs a source (a speaker, a bird, a car etc.), a medium (air, water etc.) and an ear. Much of how our brain and ears handle sound is inherited, passed down through evolutions of previous human experience, which is embedded in our genetic code (Yost, 2015). Our principal ambition is built on the need to survive, and our ears and how our brains process sound is vital for our historical survival (Howard & Angus, 2009).

Each sound carries a different message and is therefore processed by the brain in different ways. The sound of a human voice is processed consciously and actively, seeking truth or deceit, organising vast amounts of information (Howard & Angus, 2009). We compare this to the sound of a piano where we categorise this instrument and then consciously choose what to do with this information. If we so wish, we can actively listen and find out more- how far away is the piano? Who is playing? What are they playing? Why? Etc. Or instead, we can place the sound back into remission and carry on with a foremost task.

Sound is very powerful and can bring back memories, alert us and comfort us. When choosing sounds or music for treatment for depression and GAD, we must choose the best selection for that individual. The patient could focus on selected sounds and spaces to trigger happy memories or to invoke imagination, depending on their depressive triggers and history (Nature Space, 2016).

Evolutionary Sound Perception

In the auditory regions of the brain, groups of neurons translate the impulses into information we utilise. This process occurs on three levels: as a reflex, in the auditory cortex and in other brain areas (Hear It, 2013). For example we hear a gunshot. The startling sound of this triggers a reflex, which causes us to jump or turn our head, and then the processing unfolds into the auditory cortex where the sound is consciously

perceived. Thereafter, other regions in the brain become conscious to the sound relating it to past events and assessing the information this sound carries.

The processing of sound material begins in the primary auditory pathway (Gray, 2000), where messages are carried from the cochlea to the auditory cortex. First, we decode basic signalling such as the duration, intensity and frequency of the sound. Subsequently, the information is passed down two relays of nerves to localise the sound. The information is then sent to the primary auditory pathway or the non-primary auditory pathway (Heeger, 2006), which allows us to prioritise sounds. Take the sound of a fly buzzing while cooking; you decode this sonic information as non-threatening, which doesn't require an immediate response. The sound is however routed down the primary auditory pathway, you consciously choose to look at the fly to see if it is on the food, where you see it is on the food and move to swat it away. While you're moving towards the fly you hear a plate smash on the floor behind you. This sound now becomes the priority. The sound of the fly is sent to a non-primary auditory pathway, and the process begins again in the primary. The ability to organise and prioritise sound like this has ensured our species survival throughout evolution (Hear It, 2013).

The fight or flight response is an animals ability to react to a stimulus, priming for fighting or fleeing and as we hear things much quicker than we see them, this response is heavily reliant on the perception and process of sound. The adrenal gland releases catecholamine hormones (adrenaline and noradrenaline) (Kaumann, Hall, Murray, Wells & Brown, 1989) and enables instantaneous physical reactions, preparing for muscular action. Some physiological symptoms that occur include: acceleration of heart and lung action, constriction of blood vessels, dilation of blood vessels for muscles, pupil dilation, loss of peripheral vision, shaking. These symptoms allow the body to automatically temporarily slow down unnecessary bodily functions, to speed up other processes to provide a burst of energy and to prime the body for action (Boundless, 2016).

This response is vital for survival, however in a person that is suffering from GAD, the symptoms of the fight or flight response can cause anxiety attacks (Bourne, 2010). It is vital for a depression or GAD patient to be able to relax (Jorm, Morgan &

Hetrick, 2008), in order to place their mental health condition into remission to allow normal functioning.

Emotions such as fear and stress may precipitate the fight or flight response (Westman & Walters, 1981) resulting in psychological changes such as increased heart rate (Abikoff, Courtney, Szeibel & Koplewicz, 1996), blood pressure and respiratory rate (resulting in increased oxygen within the blood) (Tierney, 1998). This is due to sympathetic nervous system activation in response to the stressor with subsequent release of epinephrine (adrenaline) (Westman & Walters, 1981) and cortisol (steroids) (Acton, 2011).

Categorising sounds has helped the survival of our species. Thousands of years of our ancestor's experiences have added certain sonic information into our library of genetic code (Groeger, 2012). We are born already aware of our immediate surroundings, to know that the sound of running water is good and the fast on set snapping of twigs behind could be bad. But as time advances, our environment changes and in order to survive, we as a species must develop. Before we are born and before we can see, in the uterus, our ears are open to sound and this prepares us for our environment before our arrival (Hall, 2000). A man from 3000 years ago would be terrified at the sound of a TV; because it's something unfamiliar that could pose a threat. This is compared with a child born now, in a hospital with beeping machines, radio, TV, cars etc. We are already prepared for the norm (Little, 2014).

Millions of people around the world interact with apps and programs that generate the sounds of nature to help them relax and sleep (Winn, 2012). As previously stated, these sounds are built into our code, the sound of running water conveys messages of clean, fresh water – health, the sound of birds singing lets us know that food is around and we can eat, the voice of a human soothes us - knowing we're not isolated. Contrastingly, loud, abrupt sounds could be cause for alarm (Calm Clinic, 2016), inducing anxiety and in some cases leading to panic attacks (Me, 2010).

Mindfulness

In her article on alternative treatments for depression, Dillner (2013) explains that more people than ever are searching for self-help medication. Depression affects people in different ways (National Institute of Mental Health, 2013), but we can speculate as to why people might prefer to seek self-help. Spence (2013), a GP from Glasgow, states that antidepressants are less effective than people think, and Dillner (2013) believes waiting lists for CBT are notoriously long.

Mindfulness is a form of meditation and helps users relax and focus to achieve a therapeutic outcome (Davis & Hayes, 2012). Although some sources claim that mindfulness can prevent depression (Tartakovsky, 2016; Kart, 2016), there is only reliable evidence to show that it can help relieve symptoms of anxiety, stress and depression. (Williams & Penman, 2011; Grossman, Niemann, Schmidt & Walach, 2004).

“Mindfulness-based therapies have been shown to be effective in treating depression” (Edenfield, 2015, p254). However Edenfield (2015) also explains that although success has been documented, “little is known about the mechanisms underpinning the association between mindfulness, depression and anxiety sensitivity” (p.254).

Some evidence suggests treatments such as mindfulness may be preferred by consumers relative to mainstream approaches (Edenfield & Saeed, 2012). Lally, et al. (2014), highlights that pharmacology treatments do not provide a lasting result. Contrastingly, discussing the impact on the mindfulness Edenfield and Saeed (2012) quote:

“The research suggests that mechanisms that are responsible for these effects involve not only relaxation, but also shifts in cognitive patterns, emotional processing, biology, and behaviour that interact to create improvements in health, quality of life, and ability to engage in meaningful relationships with others.” (p. 138)

This suggests that therapies such as mindfulness could provide longer lasting results, and therefore decreasing the likelihood of relapse (Balon, 2002)

2.6 Autonomous Sensory Meridian Response (ASMR)

Autonomous Sensory Meridian Response, or ASMR, is a term coined by Jenn Allen in 2010, who also founded the website <http://www.asmr-research.org> (Richard, 2016). ASMR refers to the sensation of tingles, which can be triggered by varying stimuli (Cheadle, 2012). ASMR has gathered a strong online presence on video streaming sites with videos such as ‘Oh such a good 3D-sound ASMR video’ (GentleWhispering, 2012, Sep 7) reaching up to 16,334,351 views (correct 06/09/2016). The community involved in ASMR is described by Andersen (2014) as ‘an online group of people who create and share videos through YouTube videos that are intended to produce a relaxing shivering sensation for the viewer’.

ASMR is reminiscent of mindfulness practices (Barratt & Davis, 2015; Langer, 1989), with several studies showing positive outcomes in patients with depression and GAD (Kabat-Zinn, Lipworth, Burney, 1985; Segal, Williams, Teasdale, 2012). Surveys completed by users of ASMR show that they are engaging within the online ASMR community for a vast array of reasons, with one survey showing that 98% used ASMR as an opportunity for relaxation, 82% for sleep, 70% to deal with stress, and 5% for sexual stimulation (Barratt & Davis 2015). Although thorough research on ASMR is limited, it is becoming accepted as a therapy in practice (Barratt, E.L. & Davis, 2015).

Users of ASMR typically describe the sensation of a tingling (Novella, 2012) that originates from the back of the scalp, which often radiates down the back, shoulders and spine, and in some cases continues to the arms and legs (Barratt & Davis, 2015). This sensation is widely reported as accompanied by feelings of relaxation and well being (Atherton, 2005), and as Barratt and Davis (2015) document, can also provide relief to individuals with depression, stress and chronic pain. The magnitude of responses that users document is vast including other findings such as a low-grade euphoria (Abuja, 2013) and a deepened relaxed state (Schaefer, 2015). Users also document other physiological responses such as piloerection (Huron, 2006).

Kobayashi (2015) explains that auditory cues are often present in visual triggers such as someone flicking through a magazine, and these combined are the strongest type of trigger. (Keysers, et al., 2003). ASMR videos are rich in visual and auditory triggers by displaying scenarios such as hair cutting, make-up application, soft whispering etc.

(Kobayashi, 2015). Discover ASMR (2015) lists common triggers to get the most from ASMR, the list includes: whispering, scratching and tapping, pages turning, mouth sounds, ambient sounds, motor humming, turbine blades, soda fizzing, typing and writing sounds. We can see from this list that ASMR triggers share similar stimuli traits and can be described as repetitive, slow paced sounds and gestures, at a steady pace and consistent volume.

Fragmentation, in an audio-visual context, is the break down of a scene to allow the viewer to isolate a particular view or shot (Kau, 1998). Chion (1999) explains that fragmentation is often found in cinematic film to build anxiety and suspense. Interestingly, ASMR videos are created in a similar way, focusing on a particular activity closely for extended time. But rather than building anxiety and suspense ASMR videos induce a heightened empathetic response (Schaefer, 2015). This maybe due to the human connection and body language portrayed by the artist performing the activity on screen (Gallagher, 2016).

Kobayashi (2015) discusses how ASMR motivates a sense of self-awareness within users. Additionally Kobayashi (2015) categorises self-awareness into assimilation, heightened awareness, empathy and engagement. These features are often lacking in those suffering from depression, potentially supporting the positive effects of ASMR in those with depression. There is a vast array of information regarding the use of ASMR as a treatment for depression and GAD, documenting success of symptom alleviation and boosting mood in patients (Barratt & Davis, 2015; Schaefer, 2015).

Drawing on similarities between ASMR and MT, Craig (2005) explains that sensations of ASMR the ‘chills’ are what make it so relaxing; Kobayashi (2015) states, “It is concluded that musical chills can be ASMR” (p. 39). This link could provide evidence that ASMR could benefit viewers in a similar way to MT, further future research would need to be conducted to strengthen this claim.

In one study (Craig, 2005), the results showed that after using ASMR 71% increased mental alertness and 75% alleviation of tension and anxiety. Another (Barratt & Davis, 2015) found that people with higher depression scores had the greatest benefit from engaging with ASMR. Barratt & Davis (2015) also documented in their findings

that many of their participants with a history of depression had turned to ASMR where other interventions, medical or otherwise, had been unable to assist. Atherton (2005) is a user of ASMR and has a history of depression; he explained that he had tried a range of things in an attempt to treat his depression, including antidepressants and CBT, although none of which worked. He justifies the use of ASMR for depression by saying

“I am left feeling calm and to find all my anxiety and sadness has floated away. It leaves me with an enormous sense of wellbeing that I carry through with me for hours after.”

Of course a singular account such as Atherton's cannot be fully trusted as there were no specific research strategies in place to ensure accuracy of their explanation, or knowledge of previous intervention, if any, and to what extent it was implemented. Additionally, accounts such as the one provided by Atherton do not give us any indication of treatment success, in relation to a population or lasting effects. However, referring back to Haug, Nordgreen, Öst & Havik (2012) – any self-help treatment is better than doing nothing.

There is limited reliable research on the success of ASMR use on depressed patients, however ASMR shares correlations with aspects of similar therapies that are reliant on pleasure and emotion (Blood & Zatorre, 2001; Menon & Levitin 2005). Research into these similar therapies provides an extensive amount of information on sympathetic nervous system activity whilst engaging in the treatment (Salimpoor, Benevoy, Larcher, et al., 2011), and therefore one could expect similar positive results.

In order to appreciate ASMR as a possible treatment for depression and GAD, we must analyse its medium and function. ASMR works by firstly triggering a subjective response (Panksepp, 1995) from the viewer through a computer screen (Tufnell, 2012), that is conveniently accessible at home. However, a video medium will obviously produce limitations. As the visual content is pre recorded, the host cannot physically engage with the viewer, meaning the visual and auditory content must evoke a sensory or illusory experience of contact (Andersen, 2014) in order to potentially act as a suitable method of therapy. Analysing demographical success, Grewe, Kopiez & Altenmüller (2009) explain that they found age; gender, education and other background factors have no influence over success rates of ASMR,

denoting that a wide population could potentially benefit from using it as therapy.

ASMR is still a new concept (Kobayashi, 2015) and there are many issues that must be considered when analyzing its effectiveness. Andersen (2014) speculates that as visual documents, ASMR videos are fairly weak; this is due to them 'often being set in the private spaces of bedrooms or in front of blank walls'. Andersen, J. (2014) and Barratt, E.L. & Davis, N.J. (2015) explain that sound is the key factor in the ASMR experience, however you cannot guarantee that every ASMR user will have access to a high quality sound system. GentleWhispering. (2012, Sep 7) encourages the use of headphones, which may help create a sense of intimacy during the viewing experience, (Masterton, L. 2015, Dec 12) hopefully eliminating any issues relating to sound quality. As ASMR often includes sections of whispering, this may produce issues regarding the clarity of the speech. Li, X. (2011) states that 'many vocal sounds are indistinct when whispered, thus making clear communication difficult and requiring closeness between speaker and listener'. Despite this, it may be important to consider the level of concentration required to listen to quiet, less clear speech, as the viewer may concentrate more intently and, as a result, become more involved in the viewing experience.

2.7 Conclusion

This chapter has reviewed the literature that relates to this study and discussed previous research and understanding of the subject area. It has discussed mental health conditions and current treatments. Furthermore it has considered the role of an individual's mood and state of relaxation in respect to mental health. While the subject of mental health is well documented in literature, there is an imbalance on the amount research dedicated to different types of therapy. There are fewer studies detailing successes in modern types of therapy such as technology-based treatments, therefore any strong comparison between these and well-researched treatments such as pharmacology is not a balanced argument. By analysing the scientific factors, which drive the healing properties of the treatments, we can apply factors from researched treatments to newer therapies. Such as the link created between MT and ASMR, where Craig (2005) and Kobayashi (2015) concluded that 'chills' are therapeutic, which the literature explains can improve a subject's mood.

To further knowledge in this field, this study will attempt to assess the use of audiovisual media, encompassing ASMR as a type of therapy.

Chapter Three

Methodology

3.1 Introduction

This chapter focuses on the methods used in collecting appropriate research, and the design of the research questions to make the data reliable. The methodology also highlights the population used, sampling techniques and the data collection format. Furthermore, it will discuss any ethical considerations and limitations coupled with this study.

3.2 Search Strategy

The literature in this study was accessed between September 2015 and September 2017. To acquire the literature outlined, search rules were created while accessing online databases for journals and publications including Open Athens, Summon, PubMed and Journal Guide. The search terms were set to find publications containing the following keywords: GAD, ASMR, Depression, Mental Health, AVE, mindfulness, sound, visual, audio-visual, treatment, sound and evolution, Music Therapy, technology therapy, self-help treatment. Initially the publication date range was set from 2005 to 2016, however it was later discovered that there were studies published in the 1980s and 1990s, which are, still regarded as reliable and current research, therefore the search dates were lowered to 1980 for some results. Relevant literature was found in information books, newspaper articles, dissertations and theses, journal publications, interviews, web pages and more informal attributes were located in online forums and blogs.

3.3 Aim of Research

As outlined in the literature review, there is valid evidence that electronic visual and auditory content helps relieve symptoms of depression and GAD (Schwarz, D.W. & Taylor, P. (2005). However based on literature about evolution and the processing of sonic information, it would suggest that both natural and organic content could be more relaxing and therefore more beneficial to suffers of depression and GAD. Moreover, socio-economical factors, such as strain on public services, technology availability and demand for instant access to media are contributing factors for the

requirement of developing new self-help therapies for depression and GAD. Currently, there is little supportive evidence other than from self confessed viewers about the use of ASMR triggers for use in depression and this is therefore the basis of this research.

In order to test for the success of ASMR and nature/organic type content for alleviation of mood and therefore depressive and GAD symptoms, research was designed to answer the following question:

- Is there a difference in perceived mood after watching audio/visual content, which could benefit depression and GAD patients?

The following supplementary questions also guided the study:

- Is there a difference in relaxation after watching organic audio/visual content to electronic entrainment, which could benefit depression and GAD patients?
- Does organic (nature) audio-visual content, such as ASMR, help relax viewers' more than electronic (AVE) content?
- Do different mental health diagnosis and different treatment plans influence the success of watching audio-visual self-help media?

3.4 Designing the Research

To assess the research questions described above, two five-minute test films were designed (see Appendix One for video address links). The first electronic (based on audio-visual entrainment), and the second a natural/ organic style short film. Five minutes was deemed an appropriate length as suggested by Mind Alive. (ND. *FAQ*), as this is the recommended time of how long it takes to notice effects of AVE. The two films would follow the same parameters of design and viewing conditions to preserve a fair test. Both films would require the viewer to wear headphones and turn the brightness of their screen up.

The medium by which participants would view the films was taken into consideration. Initially, it was planned to show the films to small groups while measuring their physiological responses, thus providing an accurate objective reading of how the content was altering their mood. However, it was felt that the success of this test was better measured by the subjective mood of the participants viewing in their own homes, as this was the intended use of the video. Therefore, a scale of subjective mood and its changes before and after viewing the audio-visual content was seen to be more appropriate. It was therefore decided, for the said reasoning and for maximum exposure and participation, random individuals would view the films online and complete questionnaires alongside the viewing.

The website (Appendix One) invited people to take part in an audio visual study and contained no bias wording such as ‘moot improvement survey’, to avoid favouritism towards an outcome and consequently creating unreliable results. The website was designed to collect data about the viewers state of being before the video and then after. The closed multiple-choice questions on the form prompted the individual to select an answer that best described how they were feeling. This provided a simple before and after comparison. The participants were also invited to share details of any history of mental health diagnosis and relevant medication or treatment. Other socio-demographical data were also collected for analysis (see Appendix Two for complete list of questions).

3.5 Designing the films

There was careful consideration while designing the films. Due to the nature of the research, they could not contain any material that may frighten or make viewers at unease. Therefore by assessing the literature previously discussed, sound judgements were made to create relaxing films, the context of which is explained below.

A major concern regarding the design of the two films was that the results would be swayed by personal taste. Of course one film could not be designed to match all personal taste, unless comprehensive audio-visual psychology research was conducted. As Anne, D (2014) points out we are all subject to differential taste and preference; therefore different types of audio-visual experience may be suitable and effective for different individuals. However for the purpose of this initial field

research and the lack of funding for advertising of the study to gain a large sample size, it was deemed appropriate to only include two films.

The Electronic Film (AVE)

The first film designed was an electronic film and based on Audio Visual Entrainment. The creation of this film was purely digital, using Logic Pro X to design 10Hz binaural sine waves and Adobe After Effects to add rhythmically matched soft blue pulsing circles. Finally a warning message for epileptic individuals was created to show before the film, as it contained flashing images.

The Organic Film

The second film, a natural/ organic video was designed to be the main research in question. A large amount of literature research was conducted to discover the most mood beneficial visual and sonic layers in order to achieve a mood improving and relaxing experience. As discussed in the literature review, evolutionary pleasing content such as running water, bird song and select ASMR themes would be included and would form the basis of the film's narrative. Taking advice from general consensus on ASMR forums and ASMR videos on YouTube with high readings of views and likes, several themes were selected and researched for suitability. Poetry is a reoccurring theme throughout the film conveying a narrative story of the visuals. The poetry is read by a woman in a whisper – something that ASMR users find soothing (O'Connell, M. 2013), moreover poetry is said to help relax as we gain a sense of wellbeing (Stuckey, H.L. & Nobel, J. 2010). Another ASMR theme that occurs in the film is a scene of a woman reading a book. According to ASMR users, listening to pages of old books being turned gives a tingling sensation (Andrew. 2010) and relaxes the viewer. A storyboard and detailed shot list was constructed highlighting and detailing each angle, location and scene that would form the shots.

The researcher shot the organic film independently with a Nikon D3000 camera, employing slow moving, soft focusing and evolving static or panning montage cinematography styles. These styles of film allow the viewer to ease into wide shots and easily grasp the on screen environment without any anxieties of for example jump cuts or vertigo shots (dolly-zoom). The film was shot on location at: Miffield Library,

Mirfield, WF14 8XS; Buxton, SK17 9UQ; Middelsetown, WF4 4QE; 74 Kingslea Road, Manchester, M20 4UA.

The footage was edited on Final Cut Pro 9 and employs soft editing techniques such as transitional fade in/ out, focus shifting and blur effect. This style of editing gradually fades an image onto the screen, or brings part of the screen into focus without having to jump cut to close ups or different shots, again to allow the viewer to relax. Finally the film was graded to expose some lighter colours, giving a warm glow to the shots.

Once the film was edited, the researcher compiled a SMPTE time code cue sheet for the sound design. It was decided that there would be no music accompanying the sound track and visuals, as more research would need to be employed to find out the best type of music for relaxation and mood change. As the visuals were shot MOS (without sound), the sound was designed to picture, creating an atmospheric sound scape to accompany the on screen visuals. The atmospheric tracks such as wind, tree rustling, forest ambience, water running etc. were recorded in stereo with x2 Sennheiser MKH 416 microphones; this created a foundation layer of the sound track. Further detailed sound effects such as the book pages were recorded using a Sennheiser MKH 416 – 5U shotgun microphone, employing the proximity effect. As outlined by Eargle, J. (2005), the proximity effect is a phenomenon that leads to an increase in low frequency response as you move the microphone closer to a source. This was used in the organic video to give the viewer an intimate soft in-your-ear sound, triggering ASMR sensations. Finally the poem read in a whisper was recorded using an AKG C414 microphone.

3.6 Participant Sampling and Selection

The data in this study were collected anonymously, via a purpose designed website and being available worldwide, it potentially allowed for a fairer representation of the actual population. The study was promoted through various social media channels and targeted audiences on forums relating to depression self help and ASMR.

Initially the size was to be a minimum of 40. Following release of the website on social media and forums, and 2 months of availability, the final population of the

study comprised of 50 participants. This included a selection of participants both with and without a mental health history.

In order to make the assessment non-bias, each participant was randomly directed to just one of the films. This was achieved by selection of their birth month on the first page of the website. If an odd numbered birth month was selected (Jan, Mar, May etc.), this directed the viewer to the electronic video; contrastingly the even months directed the viewer to the organic video.

3.7 Data collection

The data collection took place from March – June 2016, when the website became live. Each participant in the study was given the same online form (Appendix One) and questions (Appendix Two), regardless of which film they watched. The website was split into the following four sections, and in total took about eight minutes to complete including watching the five minute video.

Part 1- Pre-Video Subjective Mood (Multiple Choice Questionnaire)

Part 2- Short Video (Either Organic or Electronic)

Part 3- Post-Video Subjective Mood (Multiple Choice Questionnaire)

Part 4- Demographics

To answer the research questions and for clear data analysis, the participants subjective mood and relaxed state were measured and analysed using a 5-point Likert scale system. Hartley & MacLean (2006) explain “Likert-type scales offer an efficient method for capturing a wide range of response variance in the self-reported attitudes and behaviours of people” (p. 816). It was decided that a Likert scale would be most appropriate for the collection of data, firstly to allow simple and quick participation, but also for ease of results comparability during analysis.

While choosing questions and corresponding multiple-choice answers, it was imperative to give a non-bias impression and to keep the questions themselves as simple as possible. Answers such as ‘happy’ or ‘relaxed’ were easy to understand and would therefore hopefully prompt a natural answer from the participant.

For the collection of data regarding the mood of the participant the following question were asked before and after watching one of the videos.

Please select what best describes your mood.

- *Extremely Unhappy*
- *Unhappy*
- *Neither Happy or Unhappy*
- *Happy*
- *Extremely Happy*

Upon analysis of the data, the scale was converted into a score as follows:

- 1) *Extremely Unhappy*
- 2) *Unhappy*
- 3) *Neither Happy or Unhappy*
- 4) *Happy*
- 5) *Extremely Happy*

For the collection of data about the relaxation of the participant the following question were asked before and after watching one of the videos.

Please select what best describes your state of relaxation?

- *Extremely Tense*
- *Unrelaxed*
- *Neither Relaxed or Unrelaxed*
- *Relaxed*
- *Extremely Relaxed*

Upon analysis of the data, the scale was converted into points as follows:

- 1) *Extremely Tense*
- 2) *Unrelaxed*
- 3) *Neither Relaxed or Unrelaxed*
- 4) *Relaxed*
- 5) *Extremely Relaxed*

This allowed for clear categories of subjective data that could be easily compared before and after viewing. Four-tiered Likert scales such as “Poor”, “Average”, “Good”, and “Very Good” arguably bias results as it is in favor of a positive outcome, as there is one response below average. By providing a five-tiered Likert scale, more reliable and non-bias subjective data were collected.

The literature outlined the importance of compliance in any treatment for mental health and therefore it was important to know if each participant watched the whole film and also if they enjoyed it. This would help make an assessment of the likelihood of compliance of this type of proposed therapy.

Other data were collected for trend analysis, such as demographical data, to see if socio-economic factors had an impact on an outcome such as questions on the participants TV watching habits, favourite newspaper, what they do to relax etc. (Appendix Two). However during the analysis of the data, it was decided that sample size of participants with mental health diagnoses was too small to collect any viable results of this nature.

The questionnaire will also provide an anonymous, nonessential opportunity for participants to give any comments or feedback about the study. This qualitative data will specify any comments participants would like to make, potentially providing extra information that the survey does not cover.

Finally, questions about the mental health diagnoses of participants were asked, and if so, what treatments they are taking. This made it possible to see the results of the mood and relaxation scores on a population the films are made for. By the participants detailing their diagnoses and their current treatments, the research was able to analyse the films outcomes based on different mental health conditions and their outcomes alongside current treatments.

3.8 Analysis Techniques

This research is designed to answer the question – Is there a difference in perceived mood after watching audio/visual content, which could benefit depression and GAD patients? Although more complex in analysis this question fundamentally raises a single point answer – yes or no.

The previously described 5-point Likert scale, will allow clear data sets and therefore simple analysis techniques will be applied. The data will be collected as interval data, where the participant selects a single response based on how they feel. The Likert responses will be collated into bar charts and pie charts to show comparisons of mood and relaxation scores before and after watching the films. The data can be simplified further during analysis to the nominal level by combining all increase and decrease scores, allowing for clear analysis of the research questions. This will allow for a simple answer of whether or not this proposed treatment works as a potential therapy for GAD and depression. It seems reasonable to use descriptive statistics to analyse the data presented, which will allow a clear presentation of the results.

3.9 Ethical Considerations

At the preliminary stages of the research, a proposal was submitted and approval was given. The nature of this study, being based around anxiety and depression, may include sensitive information about participants, and therefore imperative to make all involved feel at ease and informed, and to also maintain anonymous data throughout. As Kumar (2005) points out, in regards to ethics, participants must express their willingness to provide personal information. Therefore before any questions were asked, the participant was invited to agree to a disclaimer (seen in Appendix One) to ‘understand and consent to providing personal information, which will be kept confidential’. The participants were also guided with an explanation of the study, that they would be requested to answer a few questions and watch a short film. It was stated that the survey would take around 8 minutes to complete and that the films contained no material that could potential scare or make the viewer feel uncomfortable at any point. This allowed the participants to give informed consent in relation to volunteering for the study.

The required sections of the questionnaire were answered anonymously. At the end of the survey the participants were given an optional contact form, to provide their name and email address. This was explicitly outlined as optional and was for further contact for future research potential.

Chapter Four

Results

4.1 Introduction

This chapter will present the findings collected over the course of the research. For the raw collected data please see Appendix Three. Firstly, the demographics of the total population will be outlined, then the findings of the study. The findings are ordered by subjective mood comparison of both the organic and electronic videos, then by perceived relaxation change and finally data about enjoyment and compliance. In each section the results of the whole population will be outlined, followed by the specific results of those who stated they had a mental health diagnosis, then by diagnosis type and finally by treatment. As the study was conducted through the Internet, there was no guarantee that participant would finish and therefore 7 participants were emitted from the results, which can be seen in Appendix Three.

4.2 Demographics of Research Population

The population of the study consisted of 50 individuals, 36 (72%) female and 14 (28%) male. The age ranged from 21-70 with a mean of 28.98, median of 23.5 and a modal value of 23. The location of participants varied with 84% residing in England, 4% in Scotland, 4% in the U.S and 2% each in Italy, Wales, Netherlands and Germany. Out of the total population of the study, 72% had no formal mental health diagnosis, 10% have a formal diagnosis of depression, 14% with mixed GAD and depression and 4% with GAD. Looking at education, 46% held an undergraduate degree, 22% A Levels or equivalent, 18% PHD, masters or other higher degree, 8% GCSE's or equivalent and 6% having no formal qualifications.

4.3 Results

4.3.1 Comparison of Subjective Mood Change

Whole Research Population

Organic Video

Figure 1.1 shows the total population comparison of mood change before and after watching the organic video. The Likert scale shows- 1) Extremely Unhappy, 2) Unhappy, 3) Neither Happy or Unhappy, 4) Happy, 5) Extremely Happy. There was improvement in mood for 7 participants with 3 showing an improvement of 2 tiers of the scale and 4 showing an improvement of 1 tier. 2 participants showed a decrease of 1 in mood, while participants showed no change in mood. Figure 1.2 shows these data as percentages. 63% of the total population who watched the organic video showed no change in mood, 29% showed an improvement and 8% showed a decline.

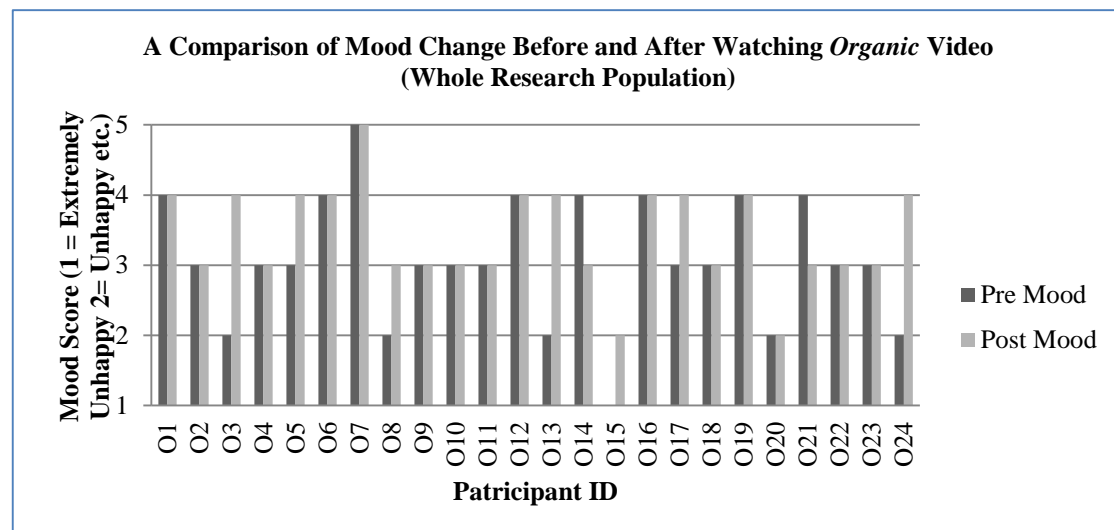


FIGURE 1.1

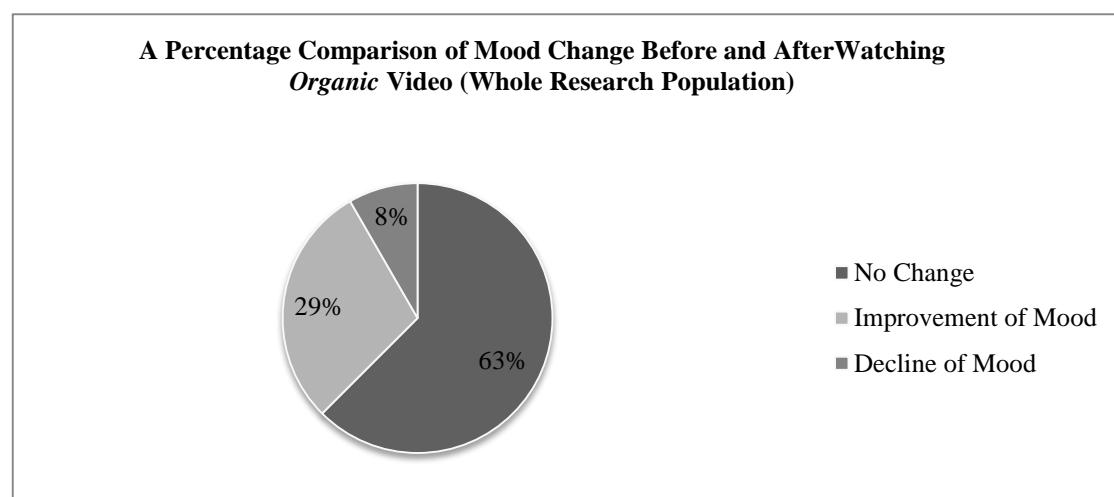


FIGURE 1.2

Electronic Video

Figure 1.3 shows the total population comparison of mood change before and after watching the electronic video. The Likert scale shows; 1) Extremely Unhappy, 2) Unhappy, 3) Neither Happy or Unhappy, 4) Happy, 5) Extremely Happy. There was improvement in mood for 1 participant, showing an increase of 1 tier. 15 participants showed no change. 10 participants showed a decrease of mood, 9 with a fall of 1 tier and 1 with a fall of 2 tiers. Figure 1.4 shows these data as percentages. 58% of the total population who watched the video showed no change in mood, 4% showed an improvement and 38% showed a decline.

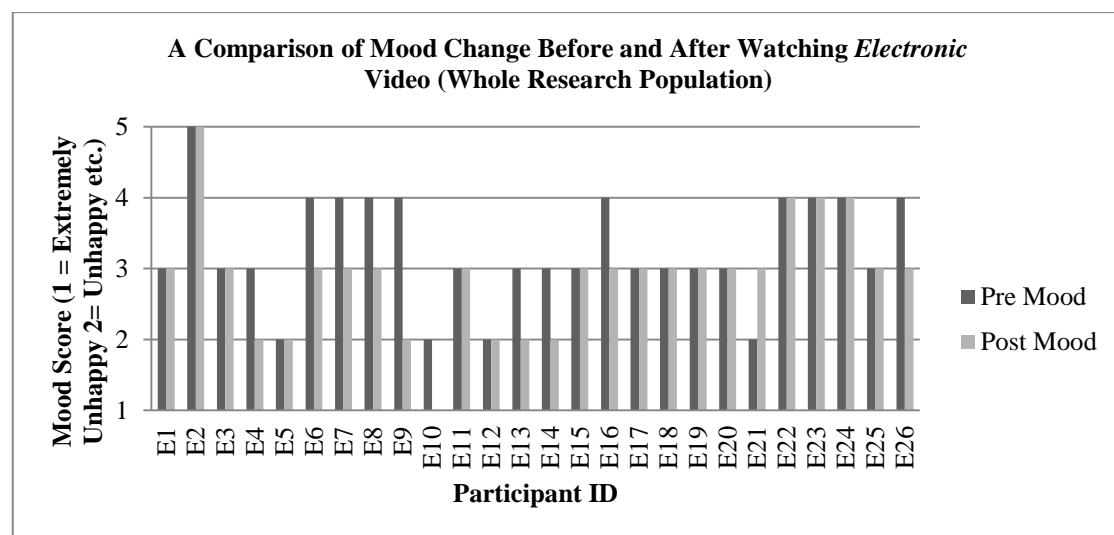


FIGURE 1.3

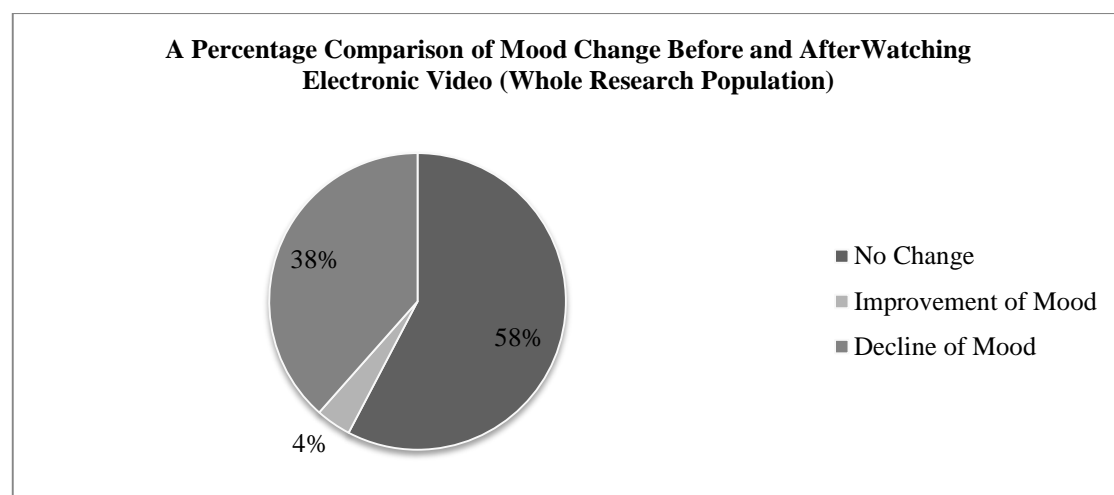


FIGURE 1.4

Research Population with a Mental Health Diagnosis

Organic Video

Figure 2.1 shows the mood change of the population with a mental health diagnosis who watched the organic video. Out of the 6 participants, 3 showed a mood improvement (2 participants by 2 tiers and 1 participant by 1 tier), 3 participants showed no change and there were no participants who showed a decline in mood. Figure 2.2 shows these data as percentages. 50% showed no change in mood, 50% showed an improvement and 0% showed a decline.

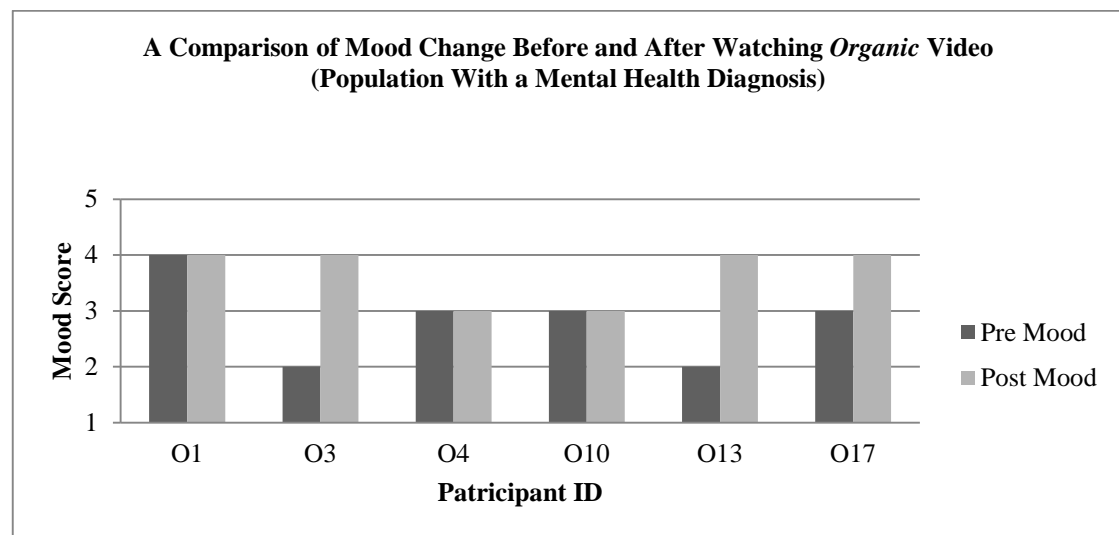


FIGURE 2.1

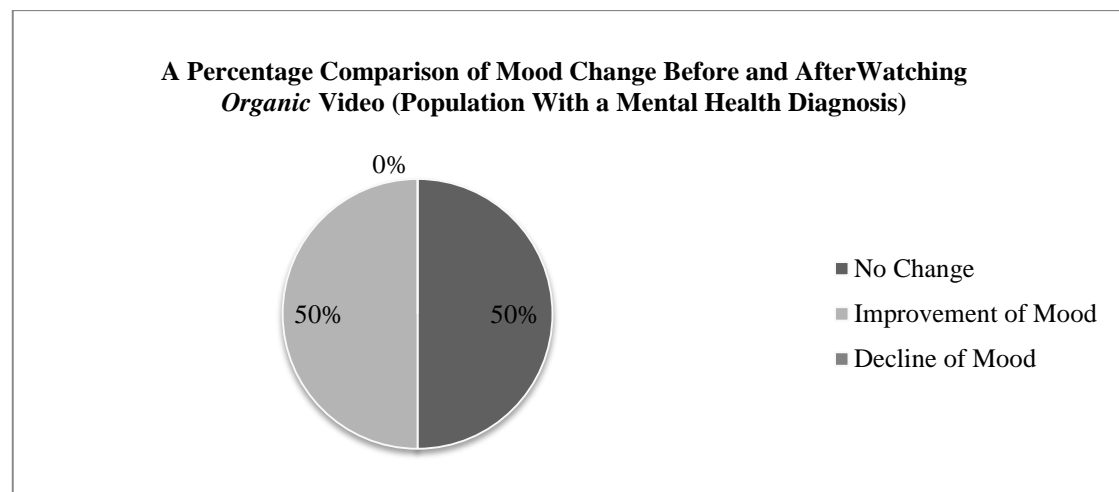


FIGURE 2.2

Electronic Video

Figure 2.3 shows the mood change of the population with a mental health diagnosis who watched the electronic video. Out of the 8 participants, none showed a mood improvement. 4 participants showed no change and 4 participants showed deterioration in mood of 1 tier. Figure 2.4 shows these data as percentages. 50% showed no change in mood, 50% showed a decline and 0% showed an improvement.

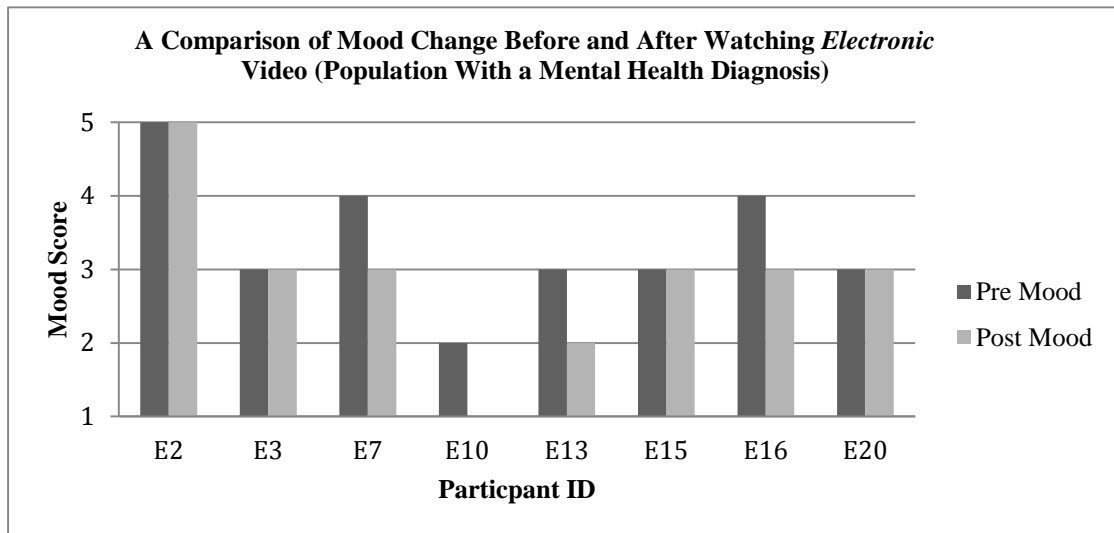


FIGURE 2.3

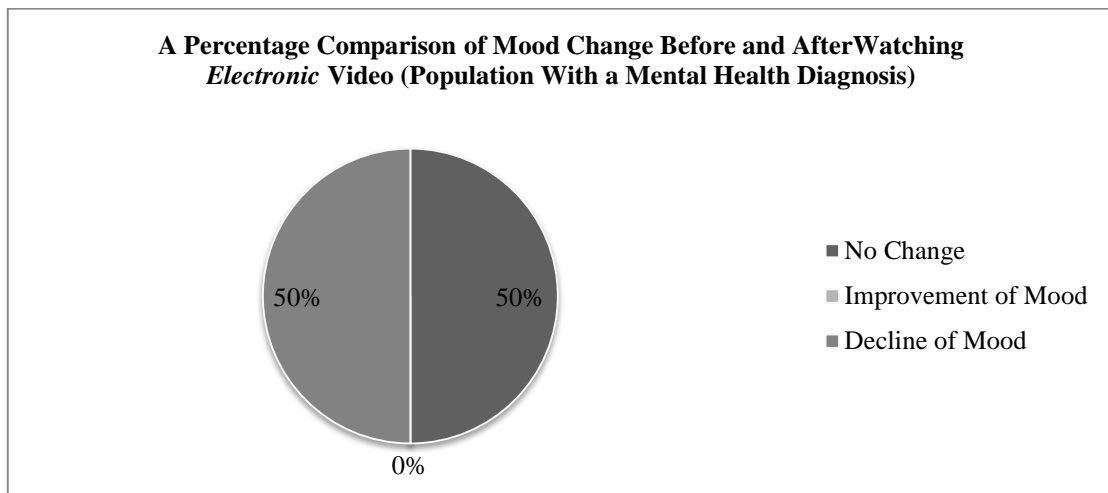


FIGURE 2.4

Comparison of Organic vs. Electronic

Figure 2.5 shows a direct comparison between those with a diagnosis who watched the electronic video compared to those who watched the organic video. 4 participants who watched the electronic video documented no change as did 3 who watched the organic film. Looking at those who saw an improvement, 3 organic viewers said their mood improve, with no electronic viewers. Finally 3 electronic viewers said their mood declined, compared to no organic viewers.

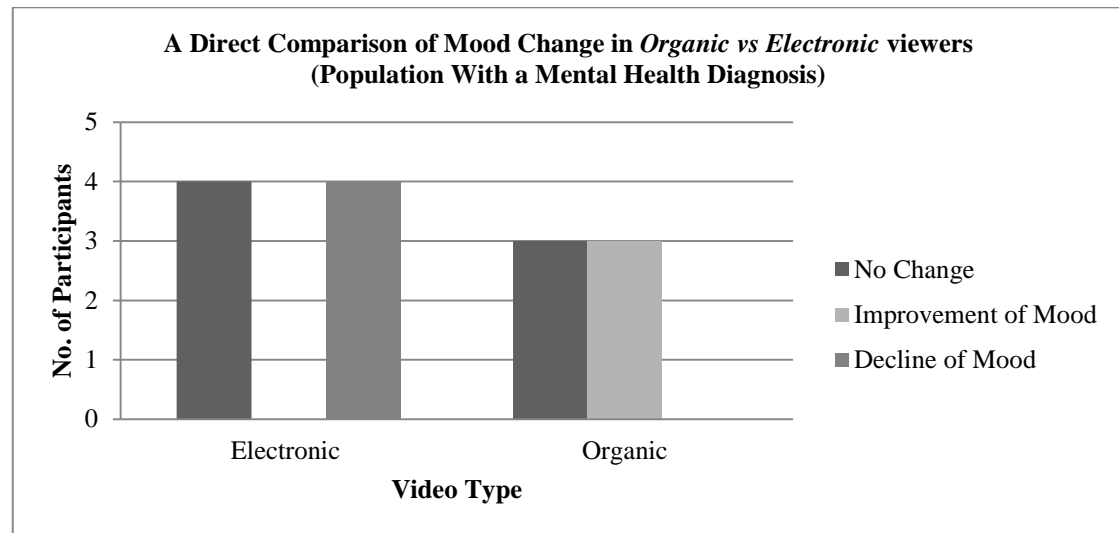


FIGURE 2.5

By Diagnosis

Organic Video

Figure 3.1 shows the post video impact on the population with a mental health condition by diagnosis type. Documenting those with depression, 2 participants saw no change and 1 participant saw an improvement in mood, with no one stating their mood declined. The only participant with GAD showed an improvement of mood. Comparing those with mixed GAD and depression, 1 person showed an improvement and another showing no change.

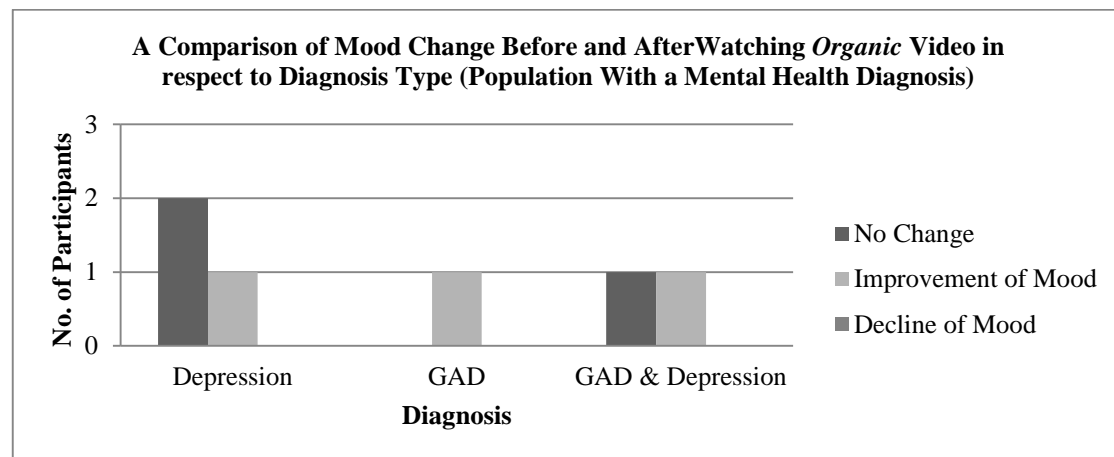


FIGURE 3.1

Electronic Video

Figure 3.2 shows the electronic video impact on the population with a mental health condition by diagnosis type. Documenting those with depression, 2 participants saw no change and 2 participants saw a decline in mood, with no one stating their mood improved. The only participant with GAD showed no change. Comparing those with mixed GAD and depression, 1 person showed no change and 2 other participants showed a decline.

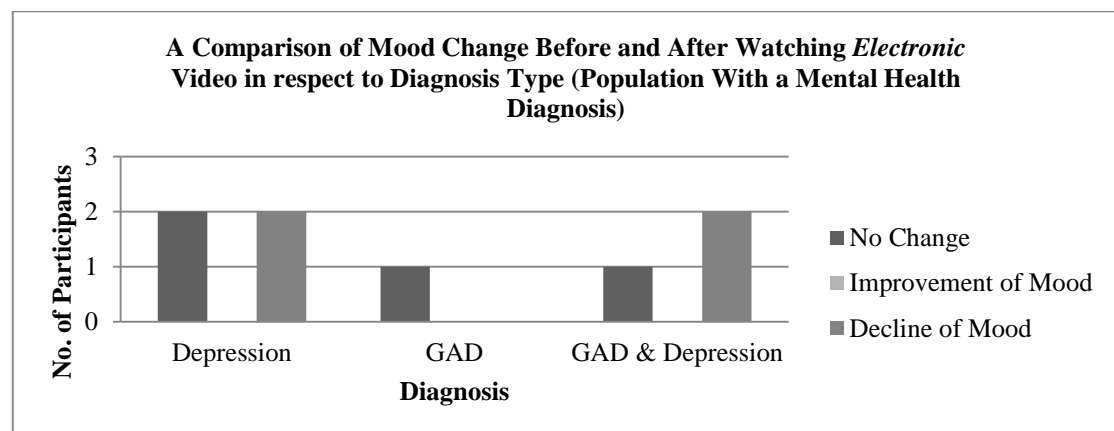


FIGURE 3.2

By Treatment

Organic Video

Figure 4.1 shows the change of mood after watching the organic video, ordered by current treatment. This graph shows that the only participant currently receiving only pharmacology had an improvement in mood and the only participant receiving CBT reported no change. Out of the 3 participants currently receiving both pharmacology and CBT, 2 participants reported an improvement in mood and 1 person had no change. 1 person who is not receiving treatment reported they felt no change in mood.

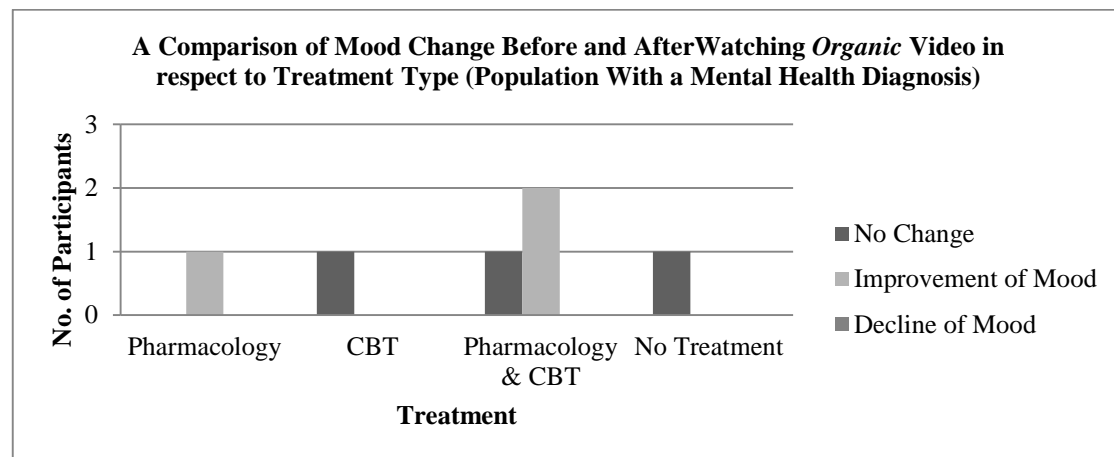


FIGURE 4.1

Electronic Video

Figure 4.2 shows the change of mood after watching the electronic video, ordered by current treatment. The 2 participants currently receiving pharmacological treatment documented no change in mood, while the participant receiving CBT noted their mood declined. Analysing the 2 participants currently receiving both pharmacology and CBT, 1 reported a decline in mood and another had no change. 2 participants who are not receiving treatment reported they felt a decline, while another felt no change.

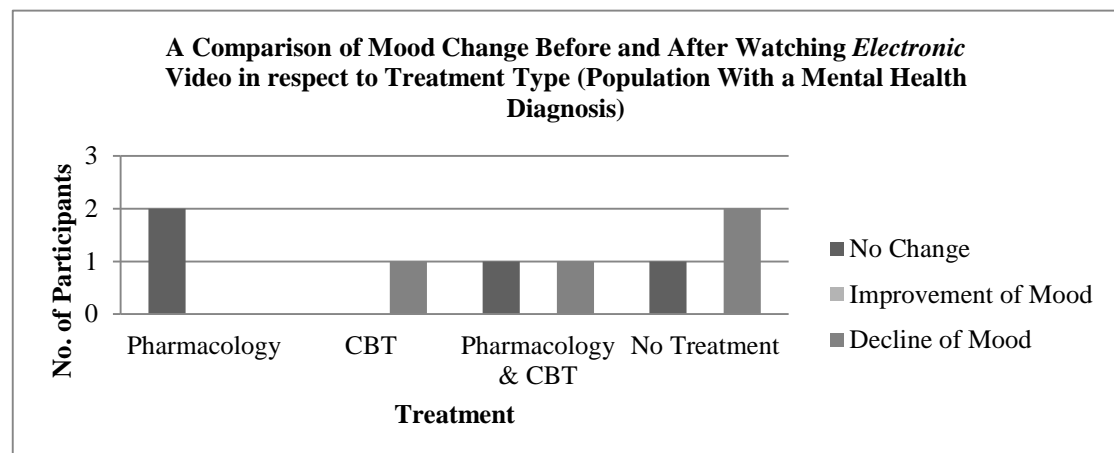


FIGURE 4.2

4.3.2 Comparison of Perceived Relaxation Change

Whole Research Population

Organic Video

Figure 5.1 shows the total population comparison of perceived relaxation change before and after watching the organic video. The Likert points scale shows; 1) Extremely Unrelaxed, 2) Unrelaxed, 3) Neither Relaxed or Unrelaxed, 4) Relaxed, 5) Extremely Relaxed. There was improvement in relaxation for 11 participants with 4 showing an improvement of 2 tiers and 7 showing an improvement of 1 tier. 3 participants showed a decrease of relaxation, 1 with a decline of 3 tiers and 2 with a decline of 1 tier. 10 participants showed no change in relaxation.

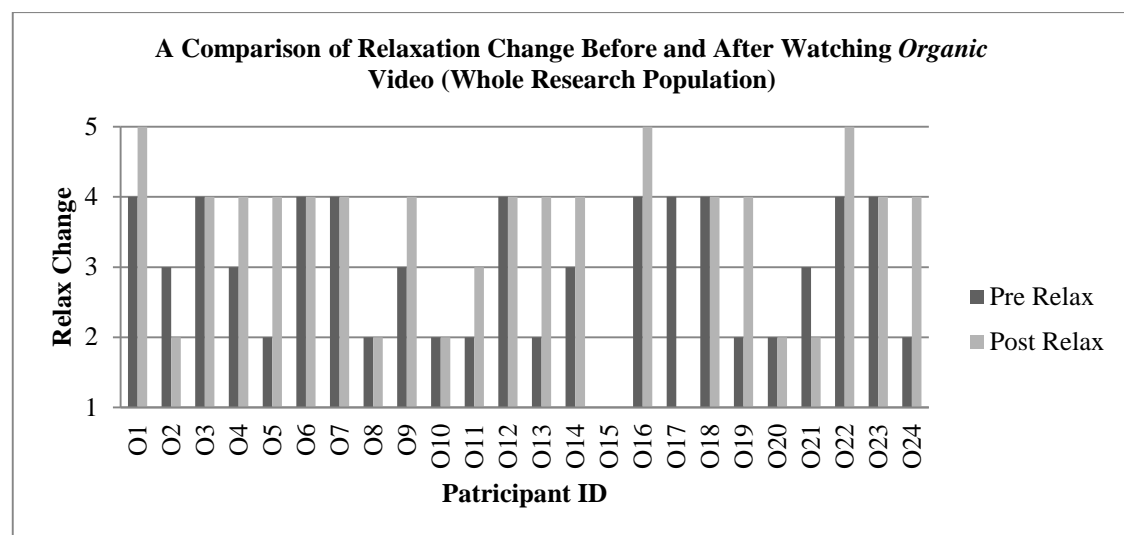


FIGURE 5.1

Figure 5.2 shows the percentage of change amongst this population. 46% of the total population who watched the organic video showed an increase of relaxation, 42% documented no change and 12% showed a decline.

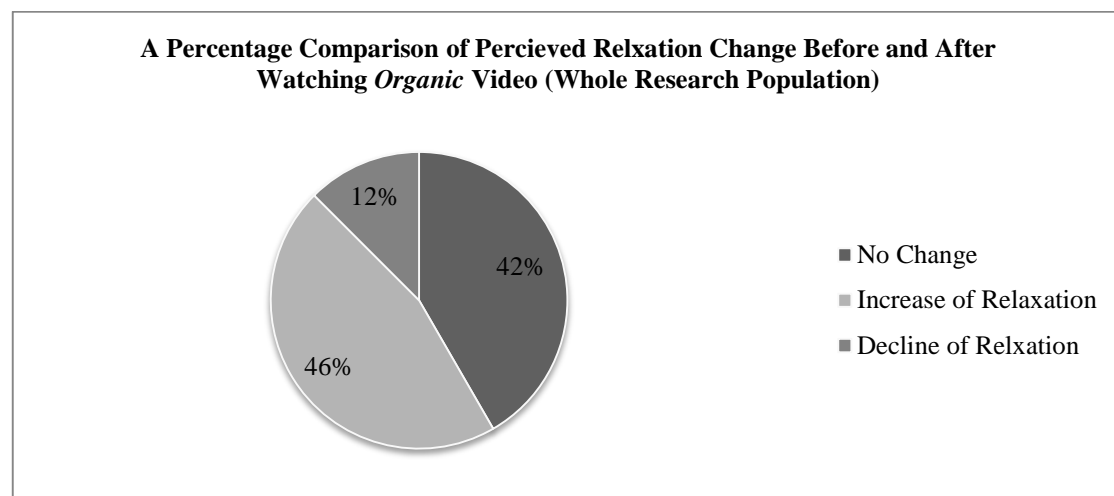


FIGURE 5.2

Electronic Video

Figure 5.3 shows the total population comparison of perceived relaxation change before and after watching the electronic video. The Likert scale shows; 1) Extremely Unrelaxed, 2) Unrelaxed, 3) Neither Relaxed or Unrelaxed, 4) Relaxed, 5) Extremely Relaxed. There was improvement in relaxation for 6 participants with 1 showing an improvement of 3 tiers, 1 of 2 tiers and 4 of 1 tier. 8 participants showed a decline in relaxation, with 2 declining by 2 tiers and 6 declining by 1 tier. 12 participants showed no change in relaxation.

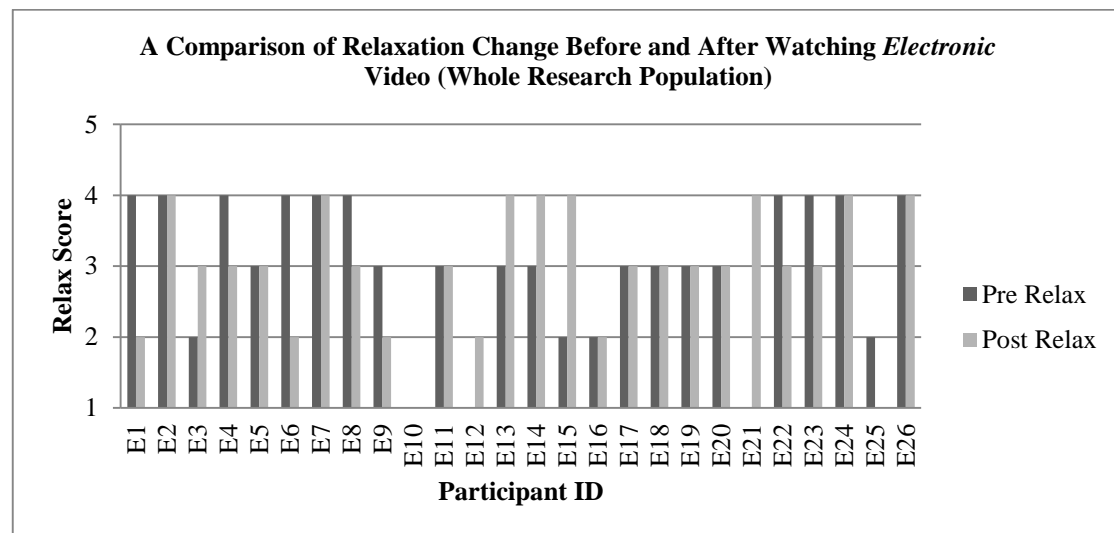


FIGURE 5.3

Figure 5.4 shows these data as percentages. 46% of the total population who watched the electronic video showed no change. 31% showed a decline of relaxation and 23% documenting an increase.

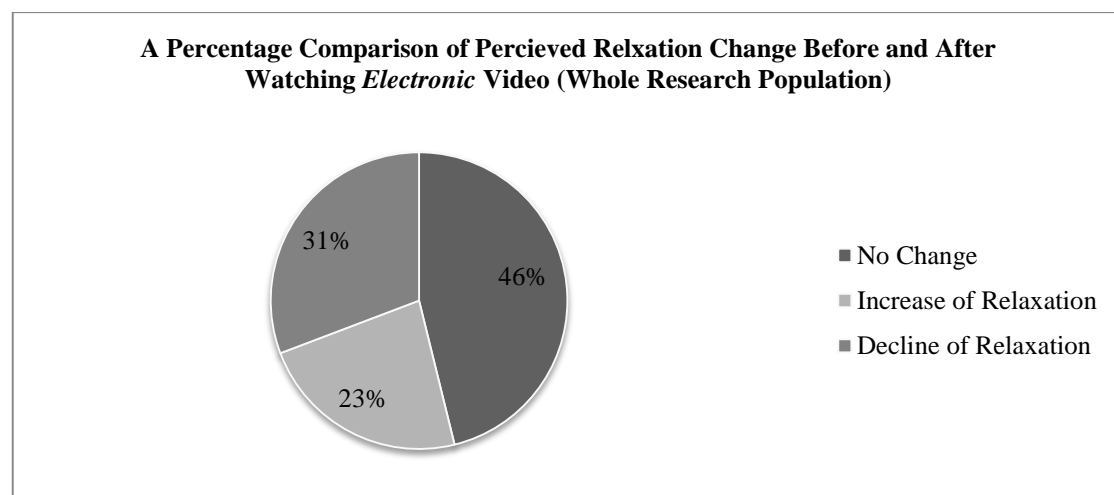


FIGURE 5.4

Research Population with a Mental Health Diagnosis

Organic Video

Figure 6.1 shows the perceived relaxation change of the population with a mental health diagnosis who watched the organic video. Out of the 6 participants, 3 showed an improvement of relaxation (1 improving by 2 tiers and 2 by 1 tier). 2 participants showed no change and 1 participant showed a decline in relaxation of 3 tiers. Figure 6.2 shows these data as percentages. 33% documented no change, 50% saw an improvement of relaxation and 17% reported a decline.

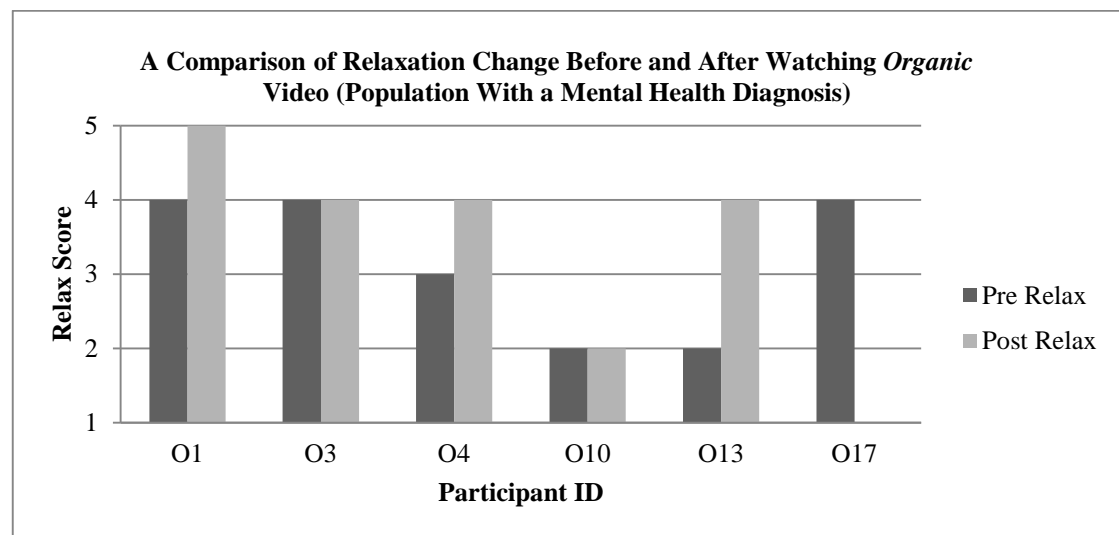


FIGURE 6.1

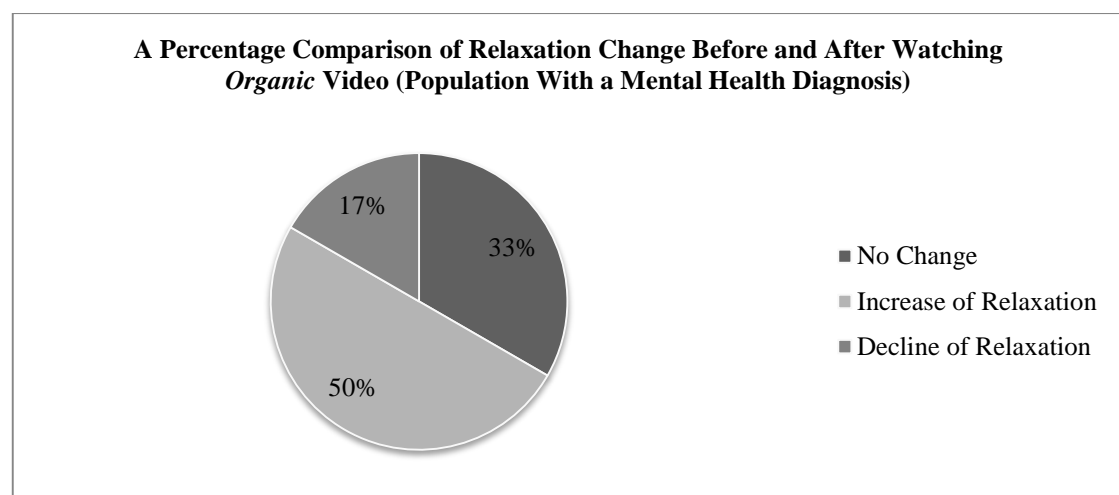


FIGURE 6.2

Electronic Video

Figure 6.3 shows the perceived relaxation change of the population with a mental health diagnosis who watched the electronic video. Out of the 8 participants, 3 showed an improvement of relaxation. 5 participants showed no change and no participants showed a decline of relaxation. Figure 6.4 shows these data as percentages. 62% documented no change, 38% saw an improvement of relaxation and 0% reported a decline.

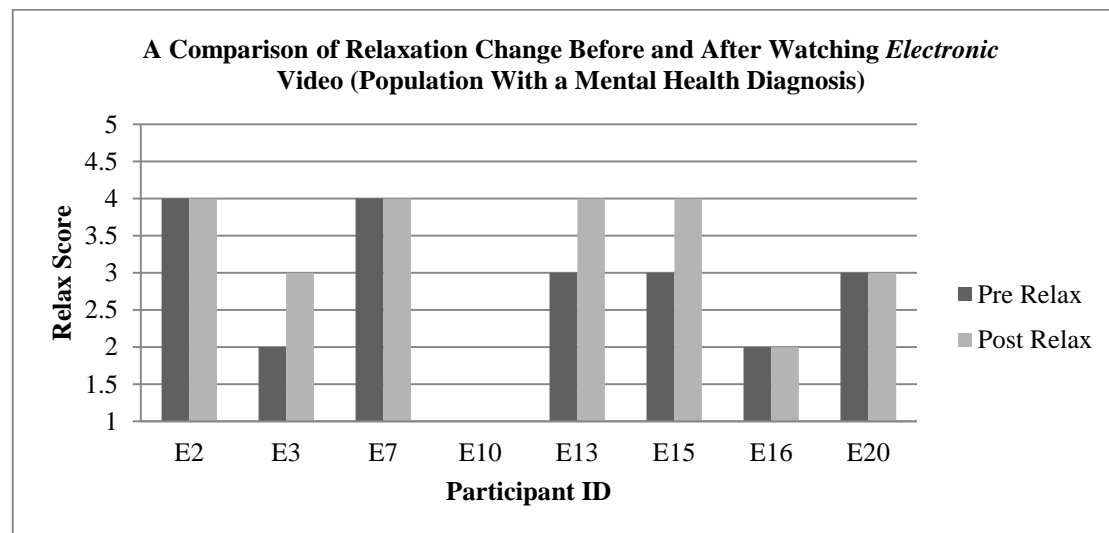


FIGURE 6.3

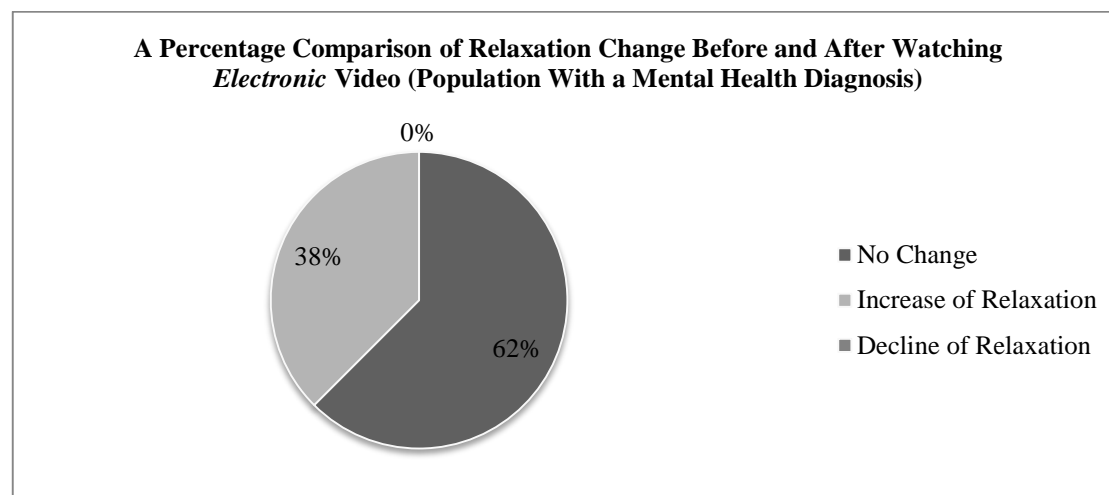


FIGURE 6.4

Comparison of Organic vs. Electronic

Figure 6.5 shows a direct comparison between those with a diagnosis who watched the electronic video to those who watched the organic video.

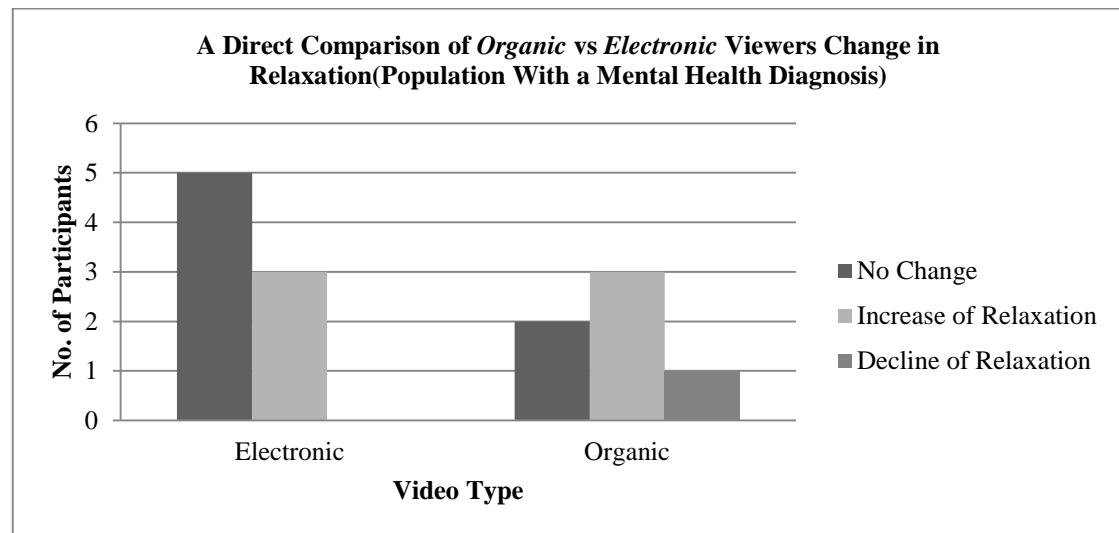


FIGURE 6.5

By Diagnosis

Organic Video

Figure 7.1 shows the post video impact on the population's relaxation state, with a mental health condition, ordered by diagnosis type. Documenting those with depression, 2 participants saw no change and 1 participant saw an improvement in relaxation. The only participant with GAD showed a decline in relaxed state. Detailing those with mixed GAD and depression, the 2 participants both showed improvement.

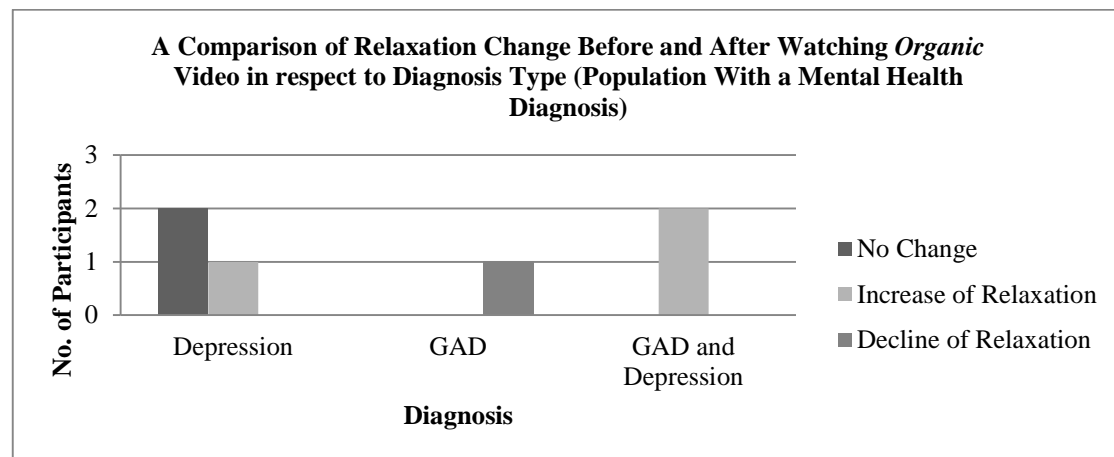


FIGURE 7.1

Figure 7.2 shows the electronic video impact on the population with a mental health condition by diagnosis type. Documenting those with depression, 1 participant saw no change and 3 participants saw an improvement in their state of relaxation. The only participant with GAD showed no change. Detailing those with mixed GAD and depression, both participants showed no change.

Electronic Video

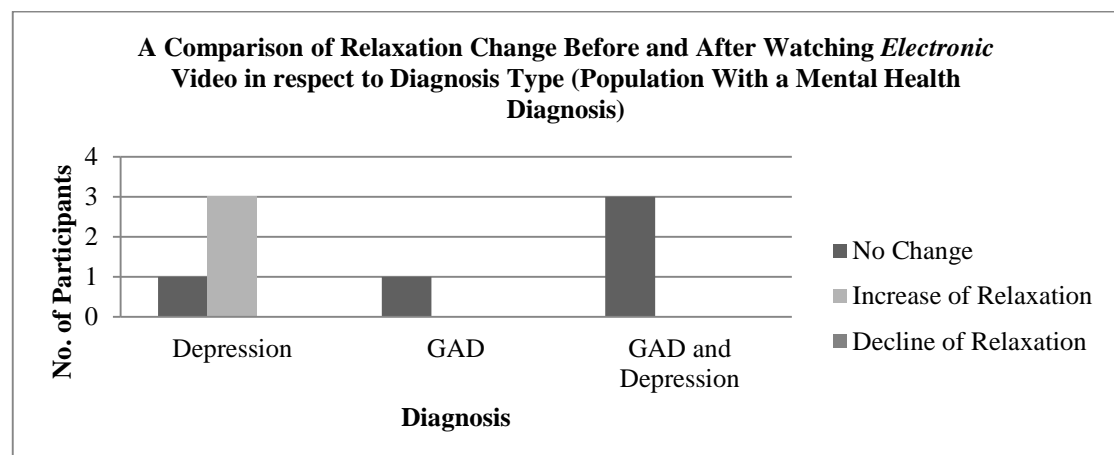


FIGURE 7.2

By Treatment

Organic Video

Figure 8.1 shows the change of relaxed state after watching the organic video, ordered by current treatment course. The only participant currently receiving pharmacology and the only participant receiving CBT documented no change in their relaxation. Out of the 3 participants currently receiving both pharmacology and CBT, 2 participants reported an improvement in relaxation and 1 person a decline. 1 person who is not receiving treatment reported they felt an increase in their state of relaxation.

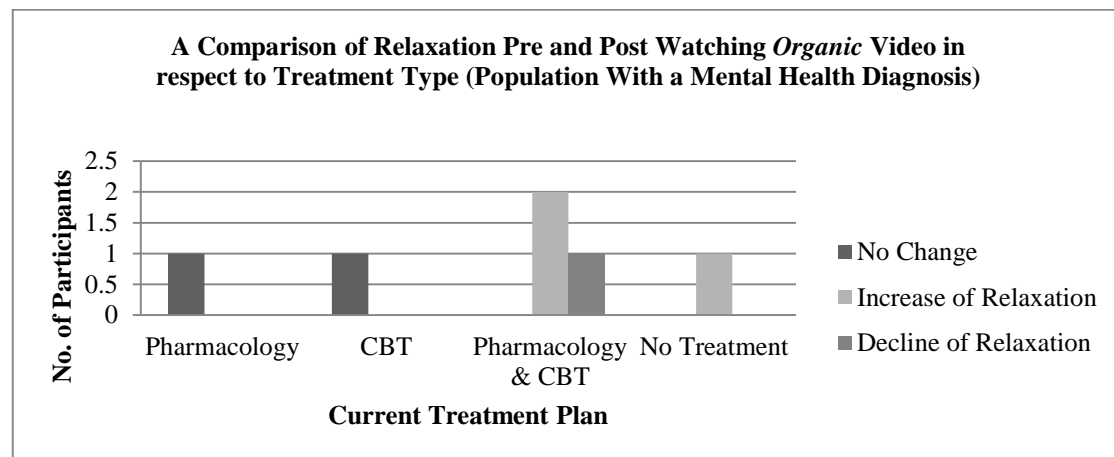


FIGURE 8.1

Electronic Video

Figure 8.2 shows the change of relaxed state after watching the electronic video, ordered by current treatment. Out of the 2 participants currently receiving only pharmacology, 1 documented no change in relaxation and 1 showed an increase. The participant receiving CBT felt no change and both participants receiving both pharmacology and CBT also reported no change. Two participants who are not receiving treatment reported an increase in relaxation, while another felt no change.

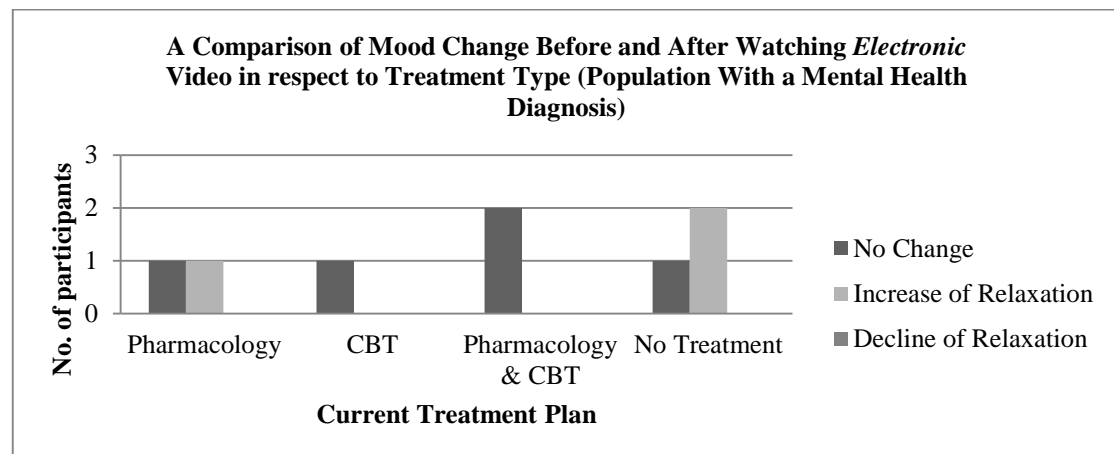


FIGURE 8.2

Comparison of Organic vs. Electronic

Organic Video

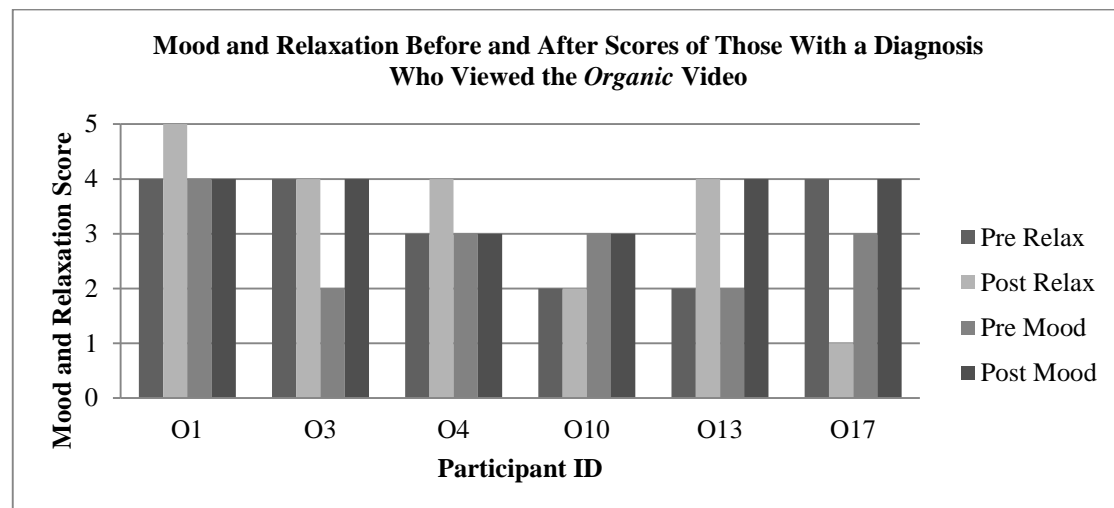


FIGURE 9.1

Figure 9.1 shows the relationship between an organic viewers mood and relaxation scores. Analysing all participants, there is a clear pattern between the before and after scores. All participants watching the organic video had an incline in mood and relaxation, the only exception to this trend is O17, where a score declines.

Electronic Video

Figure 9.2 shows the relationship between an electronic viewers mood and relaxation score. There is much more variation across an individuals scores than the organic viewers. We can see that the relax scores generally stay equal or increase, but the mood scores stay equal or decline.

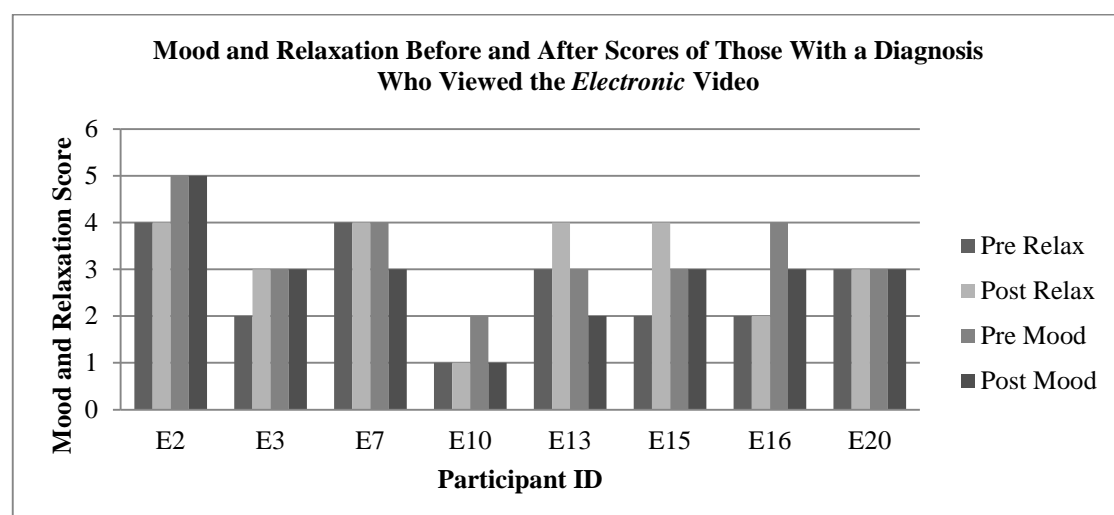


FIGURE 9.2

4.3.3 Enjoyment and Compliance of the Population

4.3.3a Compliance

Total Research Population Compliance

Figure's 10.1 and 10.2 shows the whole population and how much of the video they watched. 83% of organic viewers watched the whole clip, compared to 69% of electronic viewers.

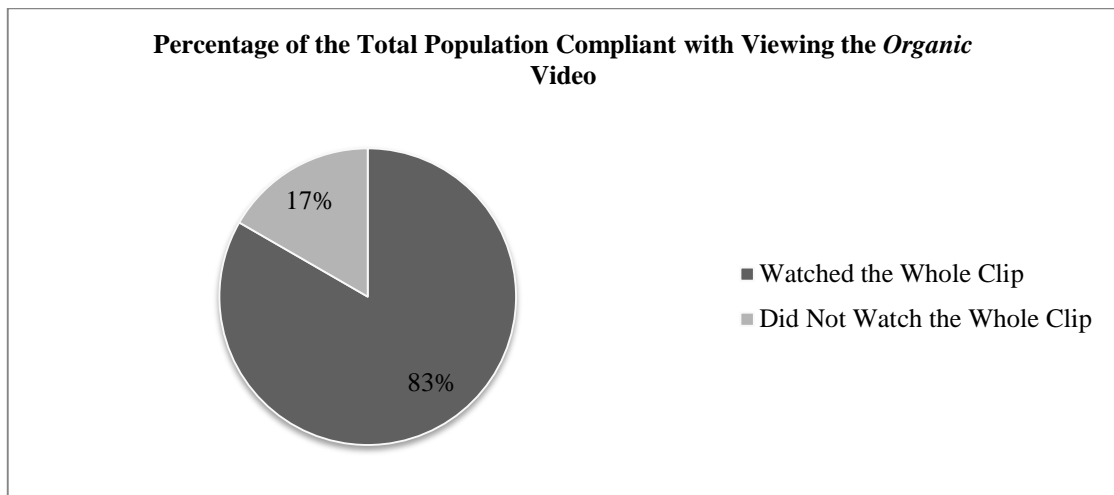


FIGURE 10.1

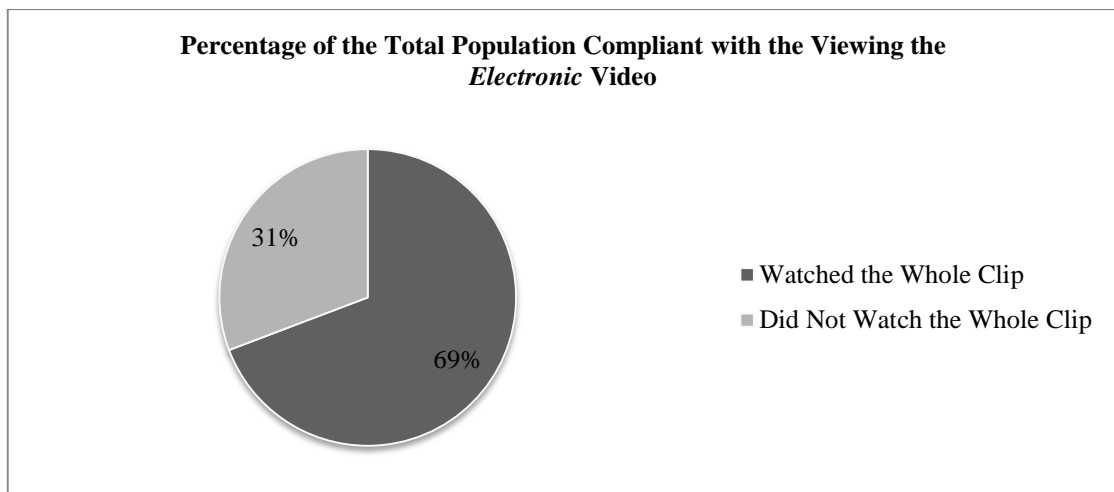


FIGURE 10.2

Population with Mental Health Diagnosis Compliance

Figure's 11.1 and 11.2 show the population of those with a diagnosis and how much of the video they watched. 83% of organic viewers watched the whole clip, compared to 75% of electronic viewers.

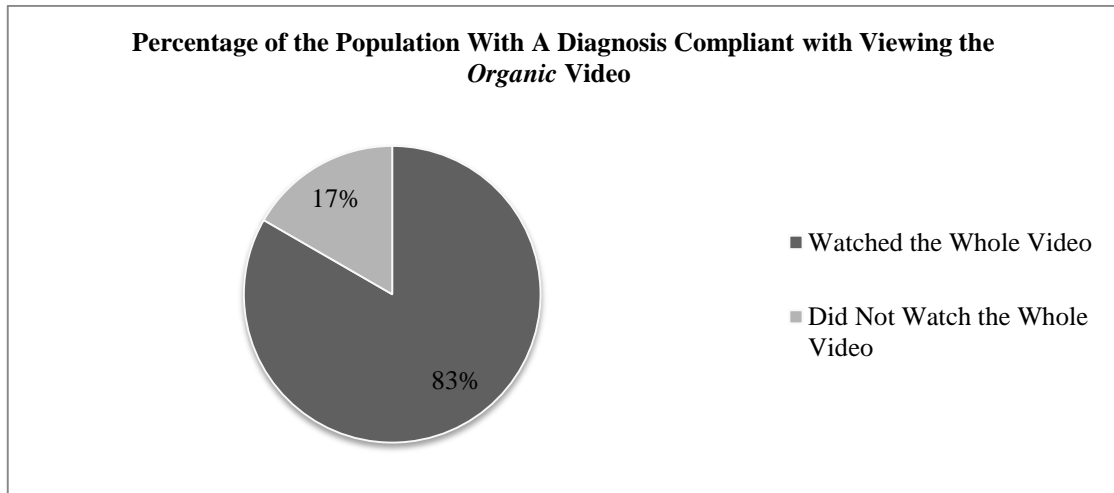


FIGURE 11.1

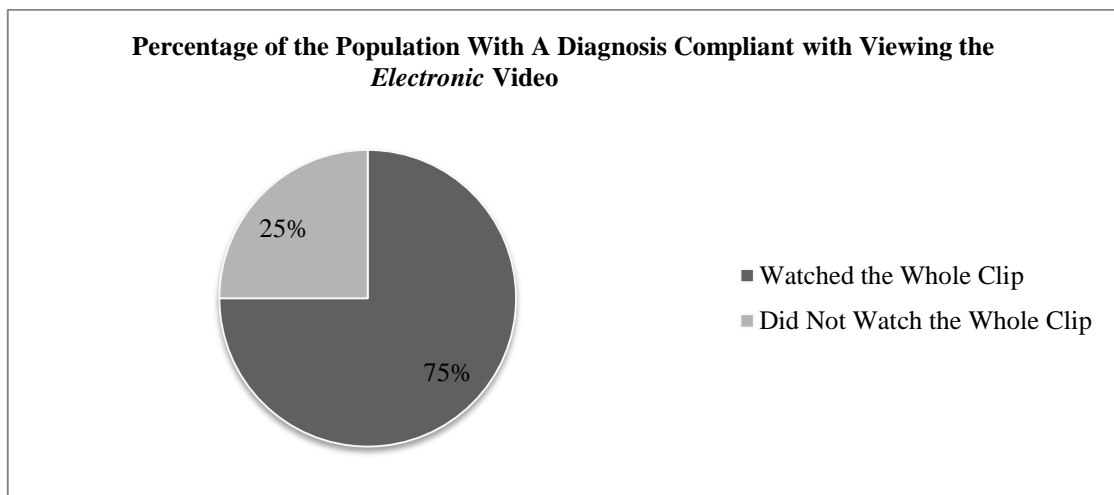


FIGURE 11.2

4.3.3b Enjoyment

Total Research Population Enjoyment

All participants were asked a multiple-choice question of ‘Did you enjoy the film?’ Figure 12.1 and 12.2 show that 67% of those who watched the Organic film said they enjoyed it, compared to electronic viewers, where no one said they enjoyed it. 4% of organic viewers were indifferent compared to 27% of electronic viewers. Finally 29% of organic viewers said they did not enjoy the film, compared to 73% of electronic viewers.

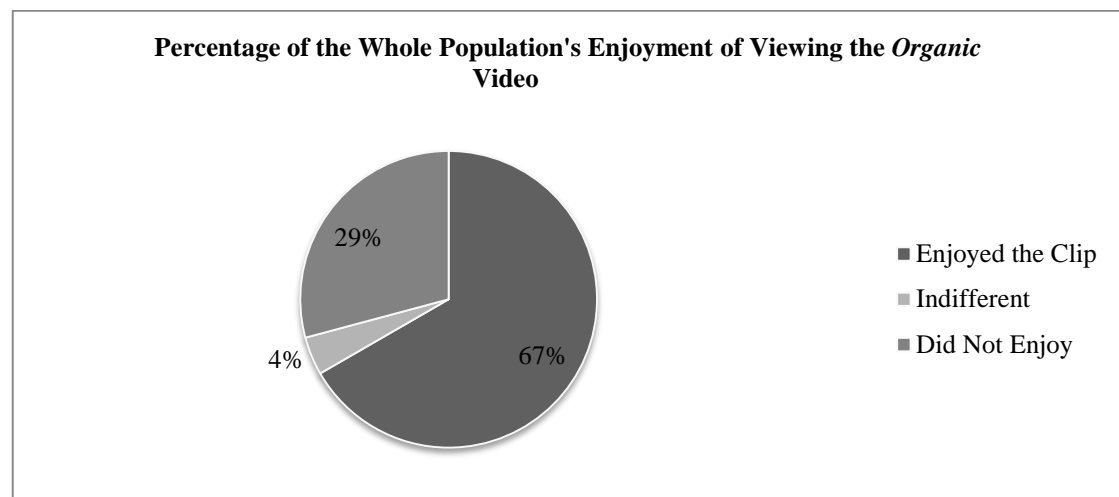


FIGURE 12.1

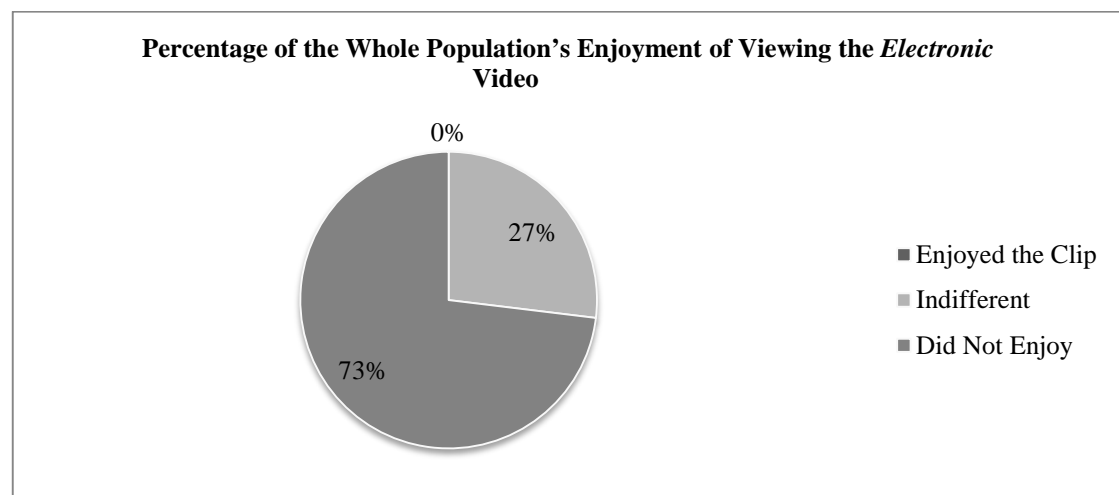


FIGURE 12.2

Population with Mental Health Diagnosis Enjoyment

Transcribing the data from participants with a diagnosis were asked a multiple choice question of ‘Did you enjoy the film?’ Figures 13.1 and 13.2 show that 83% of those who watched the Organic film said they enjoyed it, compared to 0% of electronic viewers. 0% of organic viewers were indifferent compared to 25% of electronic viewers. Finally 17% of organic viewers said they did not enjoy the film compared to 75% of electronic viewers.

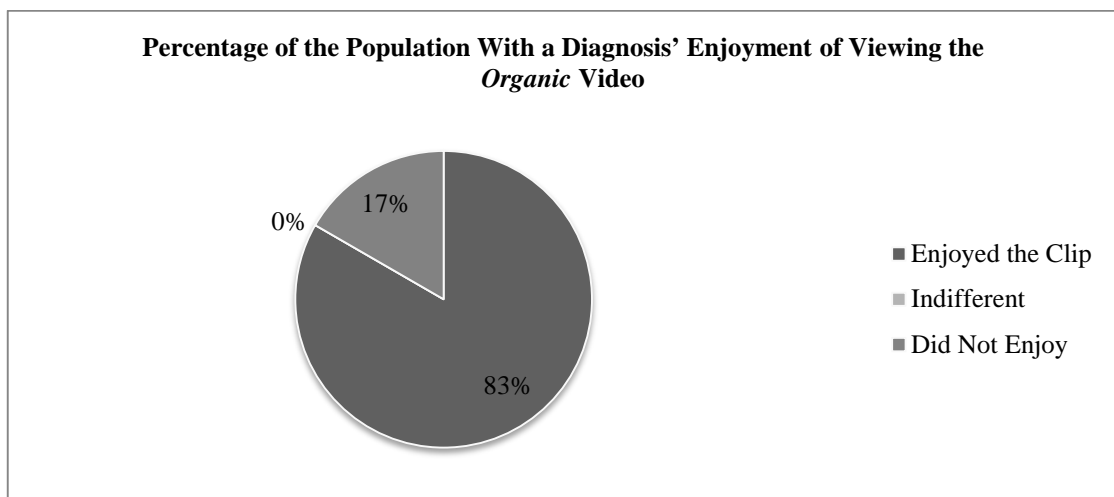


FIGURE 13.1

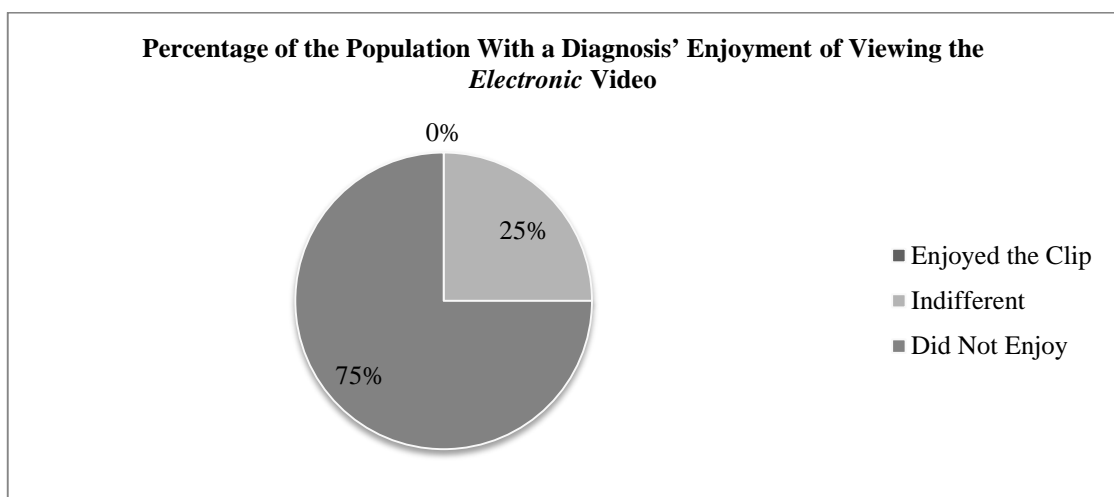


FIGURE 13.2

4.4 Conclusion

This chapter has exhibited the data collected in the study in graphical and text format. It is clear from the results of this research, that patterns have emerged highlighting success for audio-visual media broadly. Data on mood improvements and relaxation has been outlined, as well as further data collected on compliance and enjoyment. With the results in mind an analysis will now be provided, drawing upon any trends or patterns emerging within the results.

Chapter Five

Discussion

5.1 Introduction

The main objectives of this research study were to examine the impact of audiovisual content on a viewer with a mental health diagnosis, specifically the analysis of organic and ASMR type content against electronic entrainment.

The chapter will outline the research collected and suggest reasoning for the outcomes. Furthermore, the chapter will highlight the importance of the findings in respect of the research questions and summarise any comparisons with previous research.

5.2 Analysis of the Research Population

According to mental health statistics drawn upon in the literature review, the population who participated in the study was a fair resemblance of the overall population. 28% of the total research population said they had a mental health diagnosis. The Mental Health Foundation (2016) documents that 25% of the U.K experience a mental health episode. Moreover the World Health Organisation (2017), states that depression may be more persistent in women than men, but more research would be needed. Additionally the Counselling Directory (2016), state 60% of those who have anxiety are women. The population of this study showed that out of the 14 participants who had a mental health diagnosis, 13 (93%) were female and 1 (7%) was male. These statistics follow the documented trend in literature but are more towards an extreme end. This could be due to more women accessing the websites in which the study was made available, or just that this type of media may appeal more to women, hence their greater participation as a gender. The sample size would need to be increased to show a more accurate population trend and therefore make the results more proportionate of the actual population, and may result in a lower percentage of women. Inferential statistics were not used in this study, as used the sample size was too small. It would be unwise to use this small sample to make a general assessment of a wider population, more data would be required especially detailing those with a mental health condition.

5.3 Analysis of the Research in Relation to the Research Questions

5.3.1 Analysis of Subjective Mood

Total Population Mood Analysis

Drawing attention to figures 1.2 and 1.4 we can see that for the entire research population, the organic video performed better than the electronic video. 29% of participants who watched the organic video said their mood improved compared to 4% of those who watched the electronic video. Contrastingly, 8% of organic video viewers documented their mood deteriorated to 38% of electronic viewers. These data show a general trend of a total population agreeing that the organic video helped their mood improve, which agrees with the literature on ASMR uses and mindfulness based therapies. The product website for the David Delight model that manufactures AVE machines, suggest that entrainment can boost your mood (Mind Alive. (ND). *Technology*). The results of this study show that 4% of the population who watched the AVE electronic video documented an improvement, leaving 96% with no change or a decrease in mood, suggesting that the version of AVE tested in this study, did not function to the extent that is claimed by the manufacturers.

Craig (2005) found that after chills included by ASMR (Kobayashi, 2015), 71% of participants increased in mental alertness and 75% reported an alleviation of tension and anxiety. This study looked at a random population, including those with and without mental health conditions. In this study, the comparable population - the whole population, saw a 29% increase of mood improvement. If this studies research is compared to the 75% in the data collected by Craig, the scores are too far apart to claim association. To be compared to this study, other factors must be at play to determine truth. Craig highlights that there is an alleviation of tension and anxiety. The questionnaire in this study outlined scores as mood and relaxation. Additional literature and research must be analysed to compare differences between perceived wording of relaxation and mood to tension and anxiety.

Population with Mental Health Diagnosis Mood Analysis

Overview

As well as looking at the individual success of the videos on each type of diagnosis separately, it is important to analyse the success on all mental health diagnoses. Figure 2.2 shows that 50% of the participants that viewed the organic video

documented their mood improved and 50% with no change. This is compared to the electronic video where figure 2.4 shows that 50% of the participant's mood decreased and 50% stayed the same. Similar to the total results of the total population, the organic video proved to be much more beneficial to the mood of those suffering from a mental health complaint, than the electronic video. Mind Alive (ND. *FAQ*), the creators of AVE, suggested in their literature that viewers could feel effects after five minutes. Brainwave College (2014) suggests in their research, that it takes fifteen minutes to see results of AVE. As Mind Alive create the products, it was believed that five minutes would be sufficient time as to give the video a fair assessment. In future research, it would be beneficial to re-test the subjects with a fifteen-minute video, to highlight any differences in outcomes.

By Diagnosis

Further analysis can be drawn from the data set of those with a mental health diagnosis. Figures 3.1 and 3.2 investigate the change of improvement in an individual, drawing analysis to particular mental health complaints. Figure 3.1 shows an even spread of success, one person with each diagnosis had an improvement in mood, with no one reporting a decline, thus highlighting a positive and successful impact after viewing the organic video. Drawing attention to figure 3.2, the electronic viewers reported a mixed no change and decline in mood outcome. None of the participants said their mood improved following watching the electronic video. There is no clear reasoning for this, other than the possibility of differential personal taste or inadequate viewing conditions.

Craig, D.G. (2005) and Kobayashi, J. (2015) both claim that ASMR alleviates anxiety in 75% of people. There was only one participant who watched the organic video with a diagnosis of GAD, and this individual documented an improvement of mood. Out of the two people who had mixed GAD and depression, one participant saw no change and the other an improvement (Figure 3.1). Therefore in total 67% of the participants recording a history of anxiety documented an improved mood, falling just short of the predictions outlined in the literature. Eslinger, P.J. (1998); Maddux, J. E. (2014); Hansson, L., Stjernswärd, S., & Svensson, B. (2014) all agree that facilitating positive thoughts and mood in treatment is key to treating underlying causes of depression and

GAD. Therefore it would be recommended to direct those with a mental health diagnosis to the organic video over the electronic one.

By Treatment

An interesting consideration can be conveyed from figures 4.1 and 4.2, showing the success of the media in respect to current participants treatment courses. Figure 4.1, displays viewers of the organic video. Treatments involving pharmacology showed the best results. Those taking pharmacology with CBT showed a high improvement of mood documenting 2 people having an improvement and 1 having no change. Pharmacology alone reported 100% success in mood improvement, although the sample size of 1, is too small to come to a reasonable conclusion. Those currently undergoing CBT, or those that are on no current treatment showed no change in their mood. This can be compare to figure 4.2, showing the results of the electronic video. There is a decline in mood across all the current treatments, apart from pharmacology only, where no change is seen. Those not currently on any treatment document the biggest decline in mood, and therefore it could be suggested that AVE is more effective than taking no course of treatment, but not as effective as pharmacology and the organic media film.

The literature is varied on the success of AVE for those with mental health and therefore any speculation would be unwise; more research with much larger sample sizes would be required. However, these results favour the use of organic audiovisual content in all cases of diagnoses and treatments against the electronic AVE video. Huang, T.L. & Charyton, C. (2008), does however state that AVE has a positive impact on those who have relapsed from depression. To analyse this further, additional research would be required detailing a population who have relapsed from depression and their subjective mood scores before and after viewing the audiovisual content.

5.3.2 Analysis of Subjective Relaxation

Total Population Relaxation Analysis

Figures 5.2 and 5.4 show the percentage change of all viewers after watching the videos. Similar to the results on mood, the organic video participants document a higher rate of success, 46% with an increase of relaxation, 42% with no change and 12% showing a decline of relaxation. Whereas the electronic viewers show that 23% felt more relaxed, 46% had no change and 31% felt less relaxed. Mind Alive (*ND. Technology*), states that AVE can increase your level of relaxation. The results on the general population show that in this research, 23% of participants agree with that statement, however twice as many agreed that the organic video relaxed them. Again, this may be due to viewing conditions or preferential taste.

Population with Mental Health Diagnosis Relaxation Analysis

Overview

According to Jorm, A.F., Morgan, A.J., & Hetrick, S.E. 2008, it is vital for a depression or GAD patient to be able to relax, in order to allow normal functioning. Exploring figures 6.2 and 6.4, we can see that 50% of participants with a diagnosis felt the organic video relaxed them, leaving 33% having no effect and 17% declining in relaxation.

Analysing those with a mental health diagnoses, no electronic viewers felt a decline in relaxation, 62% showed no change and 38% increase in their relaxed state (figure 6.4). Contrastingly figure 6.2 shows that 17% of those who watched the organic video felt a decline in relaxation, to 50% improving and 33% with no change. This is an interesting and unexpected observation as they differ significantly from the mood results. By comparing figures 2.2 and 2.4 with 6.2 and 6.4, we can see that no organic viewer documented a decline in mood, but did document a decline in relaxation. Furthermore no viewers of the electronic video documented a mood improvement, but 38% documented an increase in relaxation. In the literature, relaxation and mood seem to be coupled together, however this research is presenting otherwise, as there are varied changes between relaxation and mood within the same individual. More analysis of an individual's subjective mood and their subjective relaxation should be realised, as there is clearly a difference presented in this research.

By Diagnosis

Figures 7.1 and 7.2 both highlight the change of relaxation, in respect of diagnosis. Analysing Appendix Three and figure 7.1 we can see that the only individual with GAD, O17, documented a decline in relaxation. By looking at figure 9.1, we can see participant O17's results of both the mood and relaxation scores together. The participant's relaxation was abnormal to their results on mood scores. The trend seen in figure 9.1 is that all participants other than O17 had a range of results showing a change in score of no more than 2 tiers. It could be suggested O17's relaxation score, which decreased by 3 tiers, could be an anomalous result and therefore hinder the relaxation research. Furthermore by analysing O17's data in Appendix Three we can see that they did not watch the whole video but said they enjoyed what they did watch, again questioning the accuracy of this result. Additionally it could be considered, that O17's abnormal result was due to personal taste. Due to the small sample size in the study, it was decided that there was not enough results to truly show this is unquestionably an anomaly and therefore, these data were kept.

Figures 7.1 and 7.2 show that for those diagnosed with depression, the electronic video benefited more participants in relaxation than the organic viewers. However those with a diagnosis of mixed GAD and depression agree that the organic video relaxes them more. In light of this analysis, it could be said that the organic video presents better results for those with a diagnosis of mixed GAD and depression than the electronic video. But the electronic video provides better relaxation than the organic video for those diagnosed with just GAD. Those with depression demonstrated similar results after watching either the organic or electronic video. The data regarding diagnosis is inconclusive as there can be no reasonable suggestions as to why mixed GAD and Depression would perform better than only GAD for electronic viewers. A larger sample size would be needed for more conclusive evidence as to which types of video may be most helpful for which diagnosis.

By Treatment

Figure 8.1 highlights that the only decline in relaxation was for a participant who watched the organic film and was receiving a treatment of pharmacology and CBT. Cross checking Appendix Three for O17, (the debated anomaly) we can see that their current treatment is registered as mixed pharmacology and CBT. Figure 8.1 shows

that the other scores for mixed pharmacology and CBT increased. This again could be an anomalous result, or alternatively it could be a genuine score. There is an insufficient sample size to warrant its absence, and therefore the result is kept. The results regarding those currently taking combined pharmacology and CBT vary greatly. Two organic viewers document an increase of relaxation with 1 declining, but the electronic viewers (2) document no change.

Analysing figure 8.2, we can see that out of the 3 participants current undergoing no treatment, 2 documented an increase in relaxation and 1 no change. Drawing together information from both figures 8.1 and 8.2, detailing those who receive no treatment, it is without question that viewing an audiovisual film, regardless of which one they watched, enriched all apart from one. Even with a small sample size, this provides unquestionable data that watching audiovisual material does have an impact on those with a mental health diagnosis. CBT alone performed equally across both videos.

5.3.3 Enjoyment and Compliance Analysis

Generally speaking, the compliance of the whole population finishing the organic film was higher than the electronic film, showing 83% compared to 69%. The literature is lacking information about the compliance of AVE and ASMR type treatments and therefore there are no previous data to share correlations with. Balon (2002) points out that non-compliance can have serious consequences, such as relapse or recurrence of the illness and therefore needs to be addressed if the results of this study are to be meaningful. From the results, we can assume that participants provided access to the organic video would be more compliant, as a higher proportion of participants in this group watched the whole video. However, in this case the participants had to watch a single five-minute film attached to a research project, which acquires the interest of some and might not be representative of the actual use of the video over a period of time. It may be rash to assume that a similar proportion of participants would be as compliant if asked to watch the same video every day. A longer study would be required to analyse the compliance of users more accurately.

If someone is said to have enjoyed the video, it could be assumed that they would watch another. Conducting further compliance analysis, figures 12.1 and 12.2 show the population who said they enjoyed the video. 67% of those who watched the

organic film said they enjoyed the clip compared to 0% of electronic viewers. Other organic viewers documented that, 29% did not enjoy it, leaving 4% indifferent. 73% of electronic viewers said they did not enjoy it and 27% were indifferent.

The fact that more people enjoyed watching the organic film most likely explains why more participants completed watching this video, and may again allude to a better compliance with watching a video of this nature more regularly than the electronic style video. Personal taste must be taken into consideration while scrutinising the results of compliance and especially enjoyment. The organic/nature film selected just a few of the ASMR triggers that were outlined in the literature review. If subsequent films were to be made and the viewer was given a choice, it would seem reasonable to assume that the enjoyment figures would rise – as individuals would have selected it themselves.

Blood and Zatorre (2001), explored how self-selected music has strong stimulatory effects on parts of the brain that are associated with reward. This could also be applied to a scenario where a participant can select an audio-visual piece based on their preferences. By choosing what to watch and then watching it, dopamine levels are increased (Nestle, et al., 2002) and therefore mood is further improved (Lingham & Theorell, 2009).

5.4 Participant Feedback

The participants of the study were provided an opportunity to write optional feedback. By submitting the feedback anonymously, participants were given to opportunity to be as honest and open about making comments. This provides a more reliable account, however we must be cautious with using the data for analysis, as we do not know their viewing conditions or other factors that would affect their experience.

Participant E6, a 25-year-old female from Scotland with no diagnosis of any mental health complaint stated, “watching the video actually made me go all hot and my hands started sweating!” The individual’s scores decreased in mood and relaxation after viewing the electronic video. This is quite a substantial claim, as the literature states that this could be considered a form of panic attack. Drawing on this, more detailed analysis needs to occur to investigate the cause of this, possibly in the form of

measuring a physiological response as well as subjective. Only one person stated this and therefore may be localised to that particular individual, however more may have experienced these symptoms but not documented it.

Participant O5, a 61 year old male from England with no diagnosis of any mental health compliant stated that “I felt in touch with the topics and themes the video showed”. The individual’s scores both increased in mood and relaxation after viewing the organic video. This indicates that the contents of the organic film matched this participant’s preferential taste in audio-visual content.

Finally, participant O7, a 23 year old male from England with no diagnosis of any mental health compliant stated that the “voice ‘was’ too familiar”. The individual is referring to the whispering dialogue in the organic films narrative. The voice over artist who performed the lines of dialogue is included in the social media network that the video was promoted through. It would be reasonable to assume that this participant knew the voice actor and therefore was too personally invested to fully engage with the film. Their results showed no change in either mood or relaxation.

5.5 Limitations of Research

As measuring an emotional response is very subjective to the individual, it may be difficult to obtain this information. In an attempt to overcome this barrier, the researcher requested additional written feedback regarding their feelings on specific areas of the film, allowing me to provide both qualitative and quantitative data and in order to attempt to ascertain the participants’ emotional response to the videos.

Another limitation to this project includes the inability to directly test the film on the individuals who the film may be intended for. In this study, a list of past medical conditions was requested so that those who documented a mental health diagnosis could be easily highlighted for analysis. Moving forward in future studies, to ensure that the majority of participants entering the study have a diagnosis; the sample collection must be different. In many studies outlined in the literature review (Davis & Hayes, 2012; Castillo-Pérez, et al., 2010; Bolton, et al., 2011), participants were recruited through personal doctors, or health professionals. This would allow a larger proportion of the study sample to have a mental health diagnosis, although this

method may potentially raise geographic implications as clustered location bias (Giraudeau & Ravaud, 2009) may occur. To overcome this it would be necessary to contact global or regional doctors.

Further limitations of this study are centered on the study being completed independently at home and online. Firstly, the completion of this study requires the user to have access to a computer and the Internet. According to Oxford Internet Institute Survey (2011), in Britain between 25% and 35% of 65's and over have access to the internet. This narrows down the population of who can access the study and therefore limits a true representation. Furthermore, for those who did start the research, there was no guarantee that they would finish. In total 7 participants had to be omitted from the analysis, as they did not complete the whole survey; reducing the sample size.

A large implication of this study's design is that the environment the film is viewed in is difficult to control, ensuring the setting is optimum for full effect. Overcoming this was attempted by advising the use of headphones and turning the brightness of the computer screen up, however there may be further factors that are unavoidable under these circumstances. For example, if during watching the film their phone vibrates in front of them, or an emergency vehicle passes outside, this may interrupt the experience and hinder the results. As the video is being tested for home viewing, this limitation cannot be avoided, as this may always be a limiting factor when viewing in a relatively uncontrolled environment. To analyse the impact of distractions during viewing it could be suggested that the participant keeps a log of any interruptions or distractions during the playback of the film. With a large enough study, this would allow us to investigate the impact of distractions.

The research looks into the success of the videos alongside current treatments. The categories of treatment are too vague for serious analysis and outcome, such as all drug treatment being labeled pharmacology; further investigation into the type of drug must be held to find solid trends. In order to do this, a much larger sample size would be required, ideally over a longer period of time.

Finally, the website was only promoted through the researchers social media

channels, who consist of mostly young professionals with higher education degrees, word of mouth and targeted online forums- specifically aimed at depressed individuals, seeking online self help. This again, limits the population and exposes the videos to select groups accessing those particular websites. To overcome this, the videos must be promoted more diversely and for a longer period of time, allowing more exposure to different social groups.

5.6 Conclusion

This chapter has presented an analysis of the findings, established its place in current literature and defined why the data are relevant to the wider field of mental health and audiovisual-based therapy. The limitations were discussed, outlining factors such as a small sample size and a short time of analysis, highlighting the boundaries of this research. Having analysed the data presented, we can now make conclusions regarding the research questions and raise recommendations for future research.

Chapter Six

Conclusions and Recommendations

6.1 Conclusions

The heart of this study has emphasised the need for new mental health therapy. The literature has outlined the demand for therapies that are easy to access, cheap and effective. Audiovisual entrainment is an existing therapy practice, with limited modern research on its implementation and success in respect to mental health treatment. The literature discussed the use of ASMR, mindfulness and evolutionary sonic coding to arrive at the following hypothesis - that a video containing ASMR triggers and natural sounds would achieve mood improving and relaxing effects on its audience. The design of this study has allowed for the comparison of mood and relaxation improvements measured subjectively from individuals with a mental health diagnosis. The findings of this study are therefore relevant to wider research of ASMR and audiovisual content and its use within mental health.

This research has shown that audiovisual media does have a subjective effect on an individual's mood and state of relaxation. There was an abundance of literature stating that audiovisual content could improve the mindset and mood of individuals. This research has allowed for analysis of the potential for the use of ASMR type videos as part of the management of those with a common mental health diagnoses.

Concluding the results on mood, the organic video was most beneficial to individuals with depression or mixed GAD and depression who are currently receiving pharmacology as part of their management. 50% of those who viewed the organic film with a mental health diagnosis said their mood improved. The Royal College of Psychiatry claim that between 50% and 65% see an improvement in mood when taking antidepressants. The use of an ASMR type video may allow for further improvement in patients with depression who are currently accessing pharmacological management.

46% of participants with a mental health diagnosis felt the organic film relaxed them. This highlights some success in furthering the literature that audiovisual media,

especially ASMR can have relaxing outcomes for the viewer. The data in this study show that in respect to relaxation those with a diagnosis of mixed GAD and depression and currently on a treatment course of pharmacology and CBT benefit the most from the media.

Based on these conclusions and the data presented, we can say that in this research the organic audiovisual film succeeded in relaxing viewers' more than audiovisual entrainment. It would therefore be sensible to say that those suffering from mental health may find ASMR type audiovisual media beneficial, in an attempt to help curb their illness.

6.2 Recommendations

This research has been carried out subjectively and therefore to a large extent is accurate on a personal basis. However, to further the research questions portrayed in this study from a scientific understanding, research conducted from an objective review of the patient's sympathetic response would be appropriate, comparing physiological changes to the participant.

As the study was accessible online, various individuals from different countries participated in the research. This means that the data presented is representative of a more global population and therefore the sample size of this study is too small to assume that the sample would be representative of the general population. Despite this, the medium in how the research was accessed has potentially allowed to generate a population of people who might be interested in using this therapy. To make the results of this study more accurate, a larger sample of people with mental health diagnoses would be required, especially when looking at treatments and particular diagnoses.

A large factor driving the results of this research is due to personal taste. If further research is to be carried out, the participant should follow the same questionnaire and methods laid out in this study, but have the choice to decide what type of video to watch. A main feature of this proposed treatment is to be more accessible than current treatments. The possibility of a mobile phone/ tablet application may be appropriate. An app would allow the user to select a video of their choosing, removing the element

of personal taste differentials. If the film database was large enough, algorithms could suggest other clips that they may enjoy based on their watching history. Additionally if the user was able to rate the films they had watched, this would further strengthen the algorithm and ultimately selecting more appropriate videos for the individual.

This research has provided an introductory look at how ASMR type videos would benefit management of mental health diagnoses and the results have shown positive outcomes. However the success of a mental health treatment is usually considered alongside time. To truly evaluate this proposed treatment, further research must be applied to determine long-term effects the video has on a population who watch it. The research should be repeated with a larger sample size of individuals with a diagnosis and with varying treatment plans, over a longer time frame.

Furthermore, this study does not allow for the understanding of how the videos should be used, for example the frequency of viewing. Questions such as this could be answered by analysing a long-term assessment of participant use. Finally a longer evaluation of more individuals would be required to analyse compliance with this proposed type of management for the mental health sector.

Bibliography

- Abikoff, H., Courtney, M. E., Szeibel, P. J., & Koplewicz, H. S. (1996). The effects of auditory stimulation on the arithmetic performance of children with ADHD and nondisabled children. *Journal of Learning Disabilities Impact & Description*. 29: 238-246.
- Abuja, N.K. (2013). "It Feels Good to Be Measured": Clinical Role-Play, Walker Percy, and the Tingles. *Perspectives in Biology and medicine*. 56 (3), 442-451.
- Acton, Q.A. (2011). *Gonadal Hormones: Advances in Research and Application*. Georgia: Scholarly Editions. A descriptive System. *Musicae Scientiae*, 7 (2), 157-217.
- Al-Harbi, K.S. (2012). Treatment-resistant depression: therapeutic trends, challenges, and future directions. *Patient Prefer Adherence*. 0 (6), 369-388.
- Amazon. (2014). *Mind Alive David Delight Pro Light & Sound Machine*. Retrieved from <https://www.amazon.co.uk/Mind-Alive-David-DELIGHT-Machine/dp/B00OM2R2ZS>.
- Amir, N. & Taylor, C.T. (2012). Combining Computerized Home-Based Treatments for Generalized Anxiety Disorder: An Attention Modification Program and Cognitive Behavioral Therapy. *Behaviour Therapy*. 43, 546-559.
- Andersen, J. (2014). Now You've Got the Shiveries: Affect, Intimacy, and the ASMR Whisper Community. *Television & New Media*. 16 (8), 683-700.
- Andrew. (2010, 02 15). What is This Tingling Sensation in my Head? [Web log post]. Retrieved from <http://theunnam3df33ling.blogspot.co.uk/2010/02/what-is-this-tingling-sensation-in-my.html>.
- Anne, D. (2014). *Different people like different kinds of movies. What would be the psychological explanations behind choosing different kind of movies?*. Retrieved from <https://www.quora.com/Different-people-like-different-kinds-of-movies-What-would-be-the-psychological-explanations-behind-choosing-different-kind-of-movies>.
- Anxiety and Depression Association of America. (2016). *Facts & Statistics*. Retrieved from <https://www.adaa.org/about-adaa/press-room/facts-statistics>.

- Arean, P. A., Hallgren, K. A., Jordan, J. T., Gazzaley, A., Atkins, D. C., Heagerty, P. J., & Anguera, J. A. (2016). The Use and Effectiveness of Mobile Apps for Depression: Results From a Fully Remote Clinical Trial. *Journal of Medical Internet Research*, 18 (12), e330. <http://doi.org/10.2196/jmir.6482>
- Atherton, J. S. (2005). *Learning and teaching: cognitive theories of learning*. Retrieved from <http://www.learningandteaching.info/learning/cognitive.htm>
- Baker F., Kennelly J. & Tamplin J. (2005). Themes within songs written by people with traumatic brain injury: gender differences. *Journal of Music Therapy*. 42 (2), 111-22.
- Baker, R., Reddish, S., Robertson, N., Hernshaw, H., & Jones, B. (2001). Randomised controlled trial of tailored strategies to implement guidelines for the management of patients with depression in general practice. *British Journal of General Practice*. 51 (1), 737-741.
- Balon, R. (2002). *Managing Compliance*. Retrieved from <http://www.psychiatrictimes.com/articles/managing-compliance>.
- Barbui, C., Cipriani, A., Patel, V., Ayuso-Mateos, J. L., van Ommeren, M. (2011) Efficacy of antidepressants and benzodiazepines in minor depression: systematic review and meta-analysis. *Br J Psychiatry*, 198 (1), 11-16.
- Barkil-Oteo, A. (2013). Collaborative Care for Depression in Primary Care: How Psychiatry Could “Troubleshoot” Current Treatments and Practices. *Yale Journal of Biology and Medicine*. 86 (2), 139-146.
- Barnett, E. (2015). *Mindfulness: the saddest trend of 2015*. Retrieved from <http://www.telegraph.co.uk/women/womens-life/11331034/Mindfulness-the-saddest-trend-of-2015.html>.
- Barratt, E.L. & Davis, N.J. (2015). *Autonomous Sensory Meridian Response (ASMR): a flow-like mental state (Thesis)*. Swansea University, United Kingdom.
- Behrens, G. A. (1988). An objective approach to the expression of feelings. *Music Therapy Perspectives*, 5, 16-22.
- Berlin, J., Glasser, S., & Ellenberg, S. (2008). Adverse Event Detection in Drug Development: Recommendations and Obligations Beyond Phase 3. *American Journal of Public Health*, 8 (98), 1366-1371. doi: 10.2105/AJPH.2007.124537

- Bernstein, E. (2010). *A Way Out of Depression*. Retrieved from <http://www.wsj.com/articles/SB10001424052748703946504575470040863778372>.
- Bhattacharjee, M. (2014). *Are Antidepressants the Most Effective Solution for Treating Depression?* (Paper). Simon Fraser University, Canada. *Biological Psychiatry*, 63, 847–851.
- Blood, A. J., & Zatorre, R. J. (2001). Intensely pleasure responses to music correlate with activity in brain regions implicated in reward and emotion. *Proceedings of the National Academy of Sciences*, 98, 11818–11823.
- Bolton, J., Bisson, J., Guthrie, E., & Wood, S. (2011). *Depression: Key Facts*. Retrieved from <http://www.rcpsych.ac.uk/healthadvice/problemsdisorders/depressionkeyfacts.aspx>.
- Boundless. (2016). *The Fight-or-Flight Response*. Retrieved from <https://www.boundless.com/physiology/textbooks/boundless-anatomy-and-physiology-textbook/endocrine-system-16/stress-161/the-fight-or-flight-response-806-5244/>.
- Bourne, E.J. (2010). *The Anxiety & Phobia Workbook* (5th ed.). Canada: New Harbinger Publications, Inc.
- Bowen, S. et al. (2014). Relative Efficacy of Mindfulness-Based Relapse Prevention, Standard Relapse Prevention, and Treatment as Usual for Substance Use Disorders: A Randomized Clinical Trial. *JAMA Psychiatry*. 71(5), 547-556.
- Brady, B. & Stevens, L. (2000). Binaural-beat induced theta EEG activity and hypnotic susceptibility. *American Journal of Clinical Hypnosis*. 43 (1), 53-69.
- Brainwave College. (2014). *Practical Brainwave Entrainment*. Retrieved from <http://www.brainwavecollege.com/practical-brainwave-entrainment.html>.
- Brandes, V., Terris, D., Fischer, C., Loerbroks, A., Jarczok, M., Ottowix, G. & Thayer, J. (2010). Receptive Music Therapy for the Treatment of Depression: A Proof-of-Concept Study and Prospective Controlled Clinical Trial of Efficacy. *Psychother Psychosom*, 79 (1), 321-322. doi: 10.1159/000319529 .
- British Association for Behavioural & Cognitive Psychotherapies. (ND). *What is CBT?* . Retrieved from <http://www.babcp.com/files/Public/what-is-cbt-web.pdf>.

- British National Formulary 60. (2010). Great Britain: BMJ Publishing Group Ltd and Royal Pharmaceutical Society of Great Britain.
- Bruscia, K.E. (1998). *Defining Music Therapy* (2nd ed.). Spain: Barcelona Publishers.
- Bupa. (2016). *Antidepressants*. Retrieved from <http://www.bupa.co.uk/health-information/directory/a/antidepressants>.
- Burgdorf, J., & Panksepp, J. (2006). The neurobiology of positive emotions. *Neuroscience & Biobehavioral Reviews*, 30, 173–187.
- Butler, A.C., Chapman, J.E., Forman, E.M., & Beck, A.T. (2006). The empirical status of cognitive-behavioral therapy: A review of meta-analyses. *Clinical Psychology Review*, 26(1), 17-31.
- Bystritsky, A., Khalsa, S., Cameron, M., & Schiffman, J. (2013). Current Diagnosis and Treatment of Anxiety Disorders. *Pharmacy and Therapeutics*, 38 (1), 30-38.
- Calm Clinic. (2016). *Anxiety and Caused By Noises: Solutions*. Retrieved from <http://www.calmclinic.com/anxiety/causes/noises>.
- Callan, J., Wright, J., Siegle, G.J., Howland, R.H., & Kepler, B.B. (2016). Use of Computer and Mobile Technologies in the Treatment of Depression. *Archives of Psychiatric Nursing*. 31 (3), 311-318.
- Castillo-Pérez, S., Gómez-Pérez, V., Velasco, M.C., Pérez-Campos, E., & Mayoral, M.A. (2010). Effects of music therapy on depression compared with psychotherapy. *The Arts In Psychotherapy*. 37, 387-390.
- Cevasco, A.M. & Hong, A. (2011). Utilizing Technology in Clinical Practice: A Comparison of Board-Certified Music Therapists and Music Therapy Students. *Music Therapy Perspectives*. 29 (1), 65-73.
- Cheadle, H. (2012). *ASMR, the Good Feeling No One Can Explain*. *Vice*. Retrieved from <http://www.vice.com>.
- Chion, M. (1999). *The Voice in Cinema*, trans. Claudia Gorbman (Colombia University Press).
- Clinical Depression. (ND). *Depression Learning Path*. Retrieved from <http://www.clinical-depression.co.uk>.

- Cooper, K. (2017). *Mental healthcare at breaking point*. Retrieved from <https://www.bma.org.uk/news/2017/july/mental-healthcare-at-breaking-point>
- Counselling Directory. (2016). *Key statistics about women and mental health*. Retrieved from <http://www.counselling-directory.org.uk/women-and-mental-health-stats.html>.
- Craig, D.G. (2005). An Exploratory Study of Physiological Changes during “Chills” Induced by Music. *Musicae Scientiae* . 9 (1), 273-287.
- Davis, D.M. & Hayes, J.A. (2012). What are the benefits of mindfulness. *American Psychological Association*. 43 (7), 64-64.
- Demyttenaera, K., Bruffaerts, R., Possada-Villa, J., Gasquet, I., Kovess, V., et al. (2004). Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA*. 291 (21), 2581-2590.
- DeRebeis, R.J., Siegle, G.J., & Hollon, S.D. (2008). Cognitive therapy vs. medications for depression: Treatment outcomes and neural mechanisms. *Nat Rev Neurosci* , 9 (10), 788-796. doi: 10.1038/nrn2345.
- Dillner, L. (2013). *How useful are self-help books for treating depression?*. Retrieved from <https://www.theguardian.com/lifeandstyle/2013/jan/28/useful-self-help-books-treat-depression>.
- Dinleyici, M., Carman, K.B., Ozturk, E., & Sahin-Dagli, F. (2008). Media Use by Children, and Parents’ Views on Children's Media Usage. *Interactive Journal of Medical Research*, 5 (2). doi: 10.2196/ijmr.5668.
- Discover ASMR. (2015). *ASMR Triggers – Common ASMR triggers for relaxation*. Retrieved from <http://discoverasmr.com/what-is-asmr/asmr-triggers/>.
- Eargle, J. (2005). *The Microphone Book* (2nd ed.). Oxford: Focal Press.
- Edenfield, T.M. (2015). A Multivariate Twin Study of Traitmindfulness, Depressive Symptoms, and Anxiety sensitivity. *Depression and Anxiety* , 32 (1), 254-261. doi: 10.1002/da.22326.
- Edenfield, T.M. & Saeed, A. (2012). An update on mindfulness meditation as a self-help treatment for anxiety and depression. *Psychology Research and Behavior Management*, 5 (1), 131-141. doi: <https://doi.org/10.2147/PRBM.S34937>.
- Eisler, M. (2016). *History of Meditation*. Retrieved from <http://www.chopra.com/ccl/the-history-of-meditation>.

- Erkkilä, J., Punkanen, M., Fachner, J., Ala-Runona, E., Pöntiö, I., Tervaniemi, M. & Gold, C. (2011). Individual music therapy for depression: randomised controlled trial. *The British Journal of Psychiatry*. 199, 132-139.
- Eslinger, P.J. (1998). Neurological and neuropsychological bases of empathy. *European Neurology*, 39 (4), 193–199.
- Ferguson, D., Doucette, S., Glass, K. C., Shapiro, S., Healy, D., Hebert, P., et al. Fountoulakis, K.N. & Möller, H.J. (2005). Association between suicide attempts and selective serotonin reuptake inhibitors: systematic review of randomised controlled trials. *British Medical Journal*. 19 (Mar), 330-396.
- Ferguson, D., Doucette, S., Glass, K. C., Shapiro, S., Healy, D., Hebert, P., et al. Fountoulakis, K.N. & Möller, H.J. (2011). Efficacy of antidepressants: a re-analysis and re-interpretation of the Kirsch data. *The International Journal of Neuropsychopharmacology*. 14 (3), 405-412.
- Fernández-Sotos, A., Fernández-Caballero, A., & Latorre, J. M. (2016). Influence of Tempo and Rhythmic Unit in Musical Emotion Regulation. *Frontiers in Computational Neuroscience*, 10, 80.
<http://doi.org/10.3389/fncom.2016.00080>
- Fox S, Duggan M. (2013). Health online. Pew Internet and American Life Project. Retrieved from http://www.pewinternet.org/~media/Files/Reports/PIP_HealthOnline.pdf.
- Fredricks, R. (2008). *Complementary and Alternative Therapies for Mental Health*. CA: All Things Well Publications.
- Freeman, D. & Freeman, J. (2015). *New study shows mindfulness therapy can be as effective as antidepressants*. Retrieved from <https://www.theguardian.com/science/blog/2015/apr/21/could-mindfulness-therapy-be-an-alternative-to-antidepressants>.
- Gabrielsson, A. & Lindström Wik, S. (2003). Strong Experiences Related to Music: GentleWhispering. (2012, Sep 7). *Oh such a good 3D-sound ASMR video* [Video file]. Retrieved from <https://www.youtube.com/watch?v=RVpfHgC3ye0>
- Gale, C. & Davidson O, (2007). Generalised anxiety disorder. *BMJ*. 334 (7593), 579–581.

- Gallagher, R. (2016). Eliciting Euphoria Online: The Aesthetics of “ASMR” Video Culture. *The Aesthetics of Online Videos*, 40 (2), doi: <http://dx.doi.org/10.3998/fc.13761232.0040.202>.
- Giraudeau , B. & Ravaud, P. (2009). Preventing Bias in Cluster Randomised Trials. *PLoS Med*, 6 (5), 1-6. doi: 10.1371/journal.pmed.1000065.
- Gold, C., Solli, H. P., Krüger, V., & Lie, S. A. (2009). Dose-response relationship in music therapy for people with serious mental disorders: Systematic review and meta-analysis. *Clinical Psychology Review*, 29, 193–207.
- Goss, S., Anthony, K., Strech, L.S., & Nagel, D.M. (2016). *Technology in Mental Health* (2nd ed.). Springfield USA: Charles C Thomas.
- Gotlib, I. H., Joorman, J., Minor, K. L., & Hallmayer, J. (2008). HPA axis reactivity: A mechanism underlying the association among 5-HTTLPR, stress, and depression.
- Gray, L. (2000). *Connections in the Central Auditory System*. Retrieved from <http://neuroscience.uth.tmc.edu/s2/chapter13.html>.
- Grewe, O., Kopiez, R. & Altenmüller, E. (2009). Chills as an indicator of individual emotional peaks. *Annals of the New York Academy of Sciences*. 1169, 351-354.
- Groeger, L. (2012). *Making Sense of the World, Several Senses at a Time*. Retrieved from <http://www.scientificamerican.com/article/making-sense-world-sveral-senses-at-time/>.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits. A meta-analysis. *Journal of Psychosomatic Research*. 57 (1), 35-43.
- Guétin, S., Soua, B., Voiriot, G., Picot, M.C., & Hérisson, C. (2009). The effect of music therapy on mood and anxiety–depression: An observational study in institutionalised patients with traumatic brain injury. *Annals of Physical and Rehabilitation Medicine*. 52, 30-40.
- Gutiérrez, E.O.F., Camarena, V.A.T., Pérez-Campos, E., & Mayoral, M.A. (2015). Psychotherapy Music therapy in generalized anxiety disorder. *The Arts in Psychotherapy*. 44, 19-24.

- Hahna, N.D., Hadley, S., Miller, V.H., & Bonaventura, M. (2012). Music technology usage in music therapy: A survey of practice. *The Arts in Psychotherapy*. 39 (5), 456-464.
- Hakvoort, L. G. (2014). Cognitive behavioral music therapy in forensic psychiatry: Workable assumptions, empirical studies and theoretical foundations for primary goal-oriented treatment Arnhem: ArtEZ Press
- Hall, J.W. (2000). Development of the ear and hearing. *Journal of Perinatology*. 20 (8), 12-20.
- Hankin, B.L. (2006). Adolescent depression: Description, causes, and interventions. *Epilepsy & Behavior*. 40 (8), 102-114.
- Hansson, L., Stjernswärd, S., & Svensson, B. (2014). Perceived and anticipated discrimination in people with mental illness—An interview study. *Nordic Journal of Psychiatry*. 68 (2), 100–106.
- Hartley, S.L. & MacLean, W.E. (2006). A review of the reliability and validity of Likert-type scales for people with intellectual disability. *Journal of Intellectual Disability Research* , 50 (2), 813-827. doi: 10.1111/j.1365-2788.2006.00844.x.
- Harvard Health Publications. (2009). *What causes depression?*. Retrieved from <http://www.health.harvard.edu/mind-and-mood/what-causes-depression>.
- Hasselbring, T.S. & Duffus, N.A. (1981). Using microcomputer technology in music therapy for analyzing therapist and client behavior.. *Journal of Music Therapy*. 18(4), 156-165. Health in Adults? A Review. *Journal of Human Behavior in the Social Environment*. 23 (5), 591-603.
- Haug T, Nordgreen T, Öst LG, & Havik OE (2012). Self-help treatment of anxiety disorders: a meta-analysis and meta-regression of effects and potential moderators. *Clinical psychology review*, 32 (5), 425-45
- Hazelden Foundation. (2016). *The Stress-Vulnerability Model of Co-occurring Disorders*. Retrieved from <http://www.bhevolution.org/public/stress-vulnerability.page>.
- Health Line. (2012). *Did you know 80% of individuals affected by depression do not receive any treatment?* Retrieved from <http://www.healthline.com/health/depression/statistics-infographic>.
- Hear It. (2013). *How the brain processes auditory signals*. Retrieved from <http://www.hear-it.org/How-the-brain-processes-auditory-signals>.

- Heeger, D. (2006). *Perception Lecture Notes: Auditory Pathways and Sound Localization*. Retrieved from <http://www.cns.nyu.edu/~david/courses/perception/lecturenotes/localization/localization.html>.
- Hoge, E. A Oppenheimer, J. E. & Simon, N. M (2004). Generalized anxiety disorder. *The Journal of Lifelong Learning in Psychiatry*. 2(3), 346-359.
- Howard, D.M. & Angus, J.A.S. (2009). *Acoustics and Psychoacoustics* (4th ed.). Oxford: Focal Press.
- Huang, T.L. & Charyton, C. (2008). A Comprehensive Review of the Psychological Effects of Brainwave Entrainment. *Alternative Therapies*. 14 (5), 38-49.
- Hunt, A., Kirk, R., Abbotson, M., & Abbotson, R. (2000). Music therapy and electronic technology. *Proceedings of the 26th euromicro conference*, vol1.(A362-A367). Los Alamitos: IEEE Computer Soc.
- Huron, D. (2006). *Sweet anticipation: Music and the psychology of expectation*. Cambridge, Mass. 414.
- Jin, J., Sklar, G.E., Oh, V.M.S., & Li, S.C. (2008). Factors affecting therapeutic compliance: A review from the patient's perspective. *Journal of Therapeutics and Clinical Risk Management*. 4 (1), 269-286.
- Jorm, A.F., Morgan, A.J., & Hetrick, S.E. (2008). Relaxation for depression. *Cochrane Database of Systematic Reviews*. 330 (4), 1-7. doi:10.1002/14651858.CD007142.pub2.
- Jungup, L., & Thyer, B. A. (2013). Does Music Therapy Improve Mental Health in Adults? A Review. *Journal of Human Behavior in the Social Environment*. 23 (5), 597-609.
- Kabat-Zinn, J., Lipworth, L., Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine*. 8 (2), 163-190
- Karino, S., Yumoto, M., Iyoh, K., Uni, A., Yamakawa, K., Sekimoto, S., & Kaga, K. (2006). Neuromagnetic responses to binaural beat in human cerebral cortex. *Journal of Neurophysiology*. 96 (4), 1927-1938.

- Kart, J. (2016). *Mindfulness Therapy Can Prevent Depression Relapse, Review Finds*. Retrieved from <http://www.madinamerica.com/2016/05/mindfulness-therapy-depression/>.
- Kasper, S. & Olie, J. P. (2002). A meta-analysis of randomized controlled trials of tianeptine versus SSRI in the short-term treatment of depression. *European Psychiatry: The Journal of the Association of European Psychiatrists*. 17 (3), 331-340.
- Kau, E. (1998). *Separation or combination of fragments? Reflections on editing*. Retrieved from http://pov.imv.au.dk/Issue_06/section_1/artc5A.html.
- Kaumann, A.J., Hall, J.A., Murray, K.J., Wells, F.C., & Brown, M.J. (1989). A comparison of the effects of adrenaline and noradrenaline on human heart: the role of beta 1- and beta 2-adrenoceptors in the stimulation of adenylate cyclase and contractile force. *European Heart Journal*. 10 (1), 29-37.
- Kenny, T. & Knolt, L. (2015). *Depression: Key Facts*. Retrieved from <http://patient.info/pdf/4232.pdf>.
- Kessler, R. C., Olfson, M., & Berglund, P. A. (1998). Patterns and predictors of treatment contact after first onset of psychiatric disorders. *American Journal of Psychiatry*. 155, 62–69.
- Keysers, C., Kohler, E., Umiltà, M.A., Nanetti, L., Fogassi, L., & Gallese, V. (2003). Audiovisual mirror neurons and action recognition. *Experimental Brain Research*. 153 (1), 628-636.
- Kirsch, I., Deacon, B., Huedo-Medina, T., Scoboria, A., Moore, T., & Johnson, B. (2008). Initial Severity and Antidepressant Benefits: A Meta-Analysis of Data Submitted to the Food and Drug Administration. *PLoS Med*, 2(5) e45.
- Kirsch, I. (2014). Antidepressants and the Placebo Effect. *Zeitschrift Fur Psychologie*. 222 (3), 128-134.
- Kobayashi, J. (2015). *Musically Induced ASMR: An Amalgamated Experience* (Masters's Thesis). University of Jyväskylä, Säilytyspaikka.
- Koyanagi, C. (2007). *Learning From History: Deinstitutionalization of People with Mental Illness As Precursor to Long-Term Care Reform*. Retrieved from <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/7684.pdf>.

- Lally, N., Nugent, A.C., Luckenbaugh, D.A., Ameli, R., Roiser, J.P., & Zarate, C.A. (2014). Anti-anhedonic effect of ketamine and its neural correlates in treatment-resistant bipolar depression. *Translational Psychiatry*. 469.
- Langer EJ. (1989). *Mindfulness*. Reading: Addison-Wesley/Addison Wesley Longman.
- Lanouette, N. M., & Stein, M. B (2010). Advances in the management of treatment-resistant anxiety disorders. *FOCUS*. 8 (4), 501-524.
- Lauerman, J.F. (2000). *An "Understandable" Complication: Coming to terms with postsurgical depression*. Retrieved from <http://harvardmagazine.com/2000/07/an-understandable-compli.html>.
- Leung, Y.W., Flora, D.B., Gravely, S., Irvine, J., Carney, R.M., & Grace, S.L. (2012). The impact of pre-morbid and post-morbid depression onset on mortality and cardiac morbidity among coronary heart disease patients: A meta-analysis. *Psychosomatic Medicine*. 74 (8), 786-801.
- Li, X. (2011). Whispering: The Murmur of Power in a Lo-Fi World. *Media Culture & Society*. 33 (1): 19–34.
- Lingham, J. & Theorell, T. (2009). Self-selected “favourite” stimulative and sedative music listening – how does familiar and preferred music listening affect the body?. *Nordic Journal of Music Therapy*, 18 (2), 150-166. doi: 10.1080/08098130903062363.
- Link, B. G., Cullen, F. T., Struening, E., Shrout, P. E & Dohrenwend, B. P. (1989). A Modified Labeling Approach to Mental Disorders: An Empirical Assessment. *American Sociological Review*. 54, 400-423
- Little, W. (2014). *Introduction to Sociology – 1st Canadian Edition*. Retrieved from <https://opentextbc.ca/introductiontosociology/>.
- Lohoff, F.W. (2010). Overview of the Genetics of Major Depressive Disorder. *Current Psychiatry Reports*. 12 (6), 539-546.
- Long, P.W. (1998). *Major Depressive Disorder: Treatment*. Retrieved from <http://mentalhealth.com/rx/p23-md01.html>.
- Lynch, D. (1998). *The Monster Meets... Filmmaker David Lynch*. Retrieved from <http://www.lynchnet.com/monster.html>.
- Mackay, J. (2016). *Music Therapy and Mental Health*. Retrieved from

<http://www.mtabc.com/what-is-music-therapy/how-does-music-therapy-work/mental-health/>.

- MacRae, A. (1992). Should music be used therapeutically in occupational therapy? *American Journal of Occupational Therapy*, 46, 275-277.
- Maddux, J. E. (2014). Mental health and self-esteem. *The Wiley-Blackwell encyclopedia of health, illness, behaviour and society*. 1525-1528. New York.
- Marchesi, C. (2008). Pharmacological management of panic disorder. *Journal of Neuropsychiatric Disease and Treatment*. 4 (1), 93-106.
- Maser, J. D & Cloninger, C. R. (1990) Co-morbidity of mood and a psychodynamic psychotherapy. In Principles and techniques of brief, intermittent and long-term psychodynamic psychotherapy anxiety disorders. Washington, DC: American Psychiatric Press.
- Masterton, L. (2015, Dec 12). ASMR AN ELEGY TO THE MANGO [Web log post]. Retrieved from <https://lizziemasterton.wordpress.com/2015/12/12/asmr-an-elegy-to-the-mango/>.
- Matusiewicz, A.K., Hopwood, C.J., Banducci, A.N., & Lejuez, C.W. (2010). The Effectiveness of Cognitive Behavioral Therapy for Personality Disorders. *Psychiatr Clin North Am*, 33 (3), 657-685. doi: 10.1016/j.psc.2010.04.007.
- McKinney, C. H., Antoni, M. H., Kumar, M., Tims, F. C., & McCabe, P. M. (1997). Effects of guided imagery and music (GIM) therapy on mood and cortisol in healthy adults. *Health Psychology*, 16(4), 390-400.
<http://dx.doi.org/10.1037/0278-6133.16.4.390>
- Me, M. (2010). *Anxiety Caused by Noise*. Retrieved from <http://www.healthcentral.com/anxiety/c/157571/127500/anxiety-caused/>.
- Menon, V. & Levitin, D. (2005). The rewards of music listening: Response and physiological connectivity of the mesolimbic system. *Neuro Image*. 28, 175–184.
- Mental Health Foundation. (2016). *Did you know 80% of individuals affected by depression do not receive any treatment?* Retrieved from <https://www.mentalhealth.org.uk/statistics/mental-health-statistics-uk-and-worldwide>.
- Mind Alive. (ND). *Dave talks AVE*. Retrieved from <http://mindalive.com/index.cfm/about-us/company-history/>.

- Mind Alive. (ND). *FAQ*. Retrieved from <http://mindalive.com/index.cfm/faq/>.
- Mind Alive. (ND). *Technology*. Retrieved from <http://mindalive.com/index.cfm/technology/ave/>.
- Mind. (2016). *What side effects can antidepressants cause?*. Retrieved from <http://www.mind.org.uk/information-support/drugs-and-treatments/antidepressants/side-effects-of-antidepressants/>.
- Naeem. F., Farooq. S & Kingdon. D. (2014). Cognitive behavioural therapy (brief versus standard duration) for schizophrenia. Cochrane Database of Systematic Reviews, 4. doi: 10.1002/14651858.CD010646.pub2.
- Naeem, F., Trimmer, C., & Tyo, R. (2016). It is Time for the CBT Songs: Music as a Medium to Deliver Cognitive Behaviour Therapy. *J Biomusic Eng*, 4 (1), 1-1. Retrieved from <https://www.omicsonline.org/open-access/it-is-time-for-the-cbt-songs-music-as-a-medium-to-deliver-cognitivebehaviour-therapy-2090-2719-1000e110.pdf>.
- National Institute for Health and Care Excellence. (2011). *Generalised anxiety disorder and panic disorder in adults: management*. Retrieved from <https://www.nice.org.uk/guidance/CG113/chapter/1-Guidance>.
- National Institute for Health and Care Excellence. (2016). *Depression in adults: recognition and management*. Retrieved from <https://www.nice.org.uk/guidance/CG90/chapter/Introduction>.
- National Institute of Mental Health. (2013). *Depression*. [Leaflet]
- National Institutes of Health (US). (2007). *Information about Mental Illness and the Brain*. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK20369/>.
- Nature Space. (2016). *Nature For All*. Retrieved from <http://www.naturespace.org/benefits/>.
- Nayak, S., Wheeler, B., Shiflett, S., & Agostinelli, S. (2000). Effect of Music Therapy on Mood and Social Interaction Among Individuals With Acute Traumatic Brain Injury and Stroke. *Rehabilitation Psychology*. 45 (3), 274-283.
- Nestler, E. J., Barrot, M., DiLeone, R. J., Eisch, A. J., Gold, S. J., & Monteggia, L. M. (2002). Neurobiology of depression. *Neuron*. 34, 13–25.

- NHS Choices. (2016). *Cognitive behavioural therapy (CBT)*. Retrieved from <http://www.nhs.uk/conditions/Cognitive-behavioural-therapy/Pages/Introduction.aspx>.
- NHS Digital. (2012). *Mortality rate in sufferers of serious mental illness three times as high as in the general population*. Retrieved from <http://content.digital.nhs.uk/article/2091/Mortality-rate-in-sufferers-of-serious-mental-illness-three-times-as-high-as-in-the-general-population?caldate=201601>.
- NHS. (2016). *Generalised anxiety disorder in adults - Symptoms*. Retrieved from <http://www.nhs.uk/Conditions/Anxiety/Pages/Symptoms.aspx>.
- Ninan, P.T. & Berger, J. (2001). Symptomatic and Syndromal Anxiety and Depression. *Depression and Anxiety*. 14, 79-85.
- Novella, S. (2012). *ASMR*. Retrieved from <http://theness.com/neurologicablog/index.php/asmr/>.
- O'Connell, M. (2013). *Could a one-hour video of someone whispering and brushing her hair change your life?*. Retrieved from http://www.slate.com/articles/life/culturebox/2013/02/asmr_videos_autonomous_sensory_meridian_response_and_whispering_videos_on.htm
- Odell-Miller, H. (1995). Why provide music therapy in the community for adults with mental health problems?. *British Journal of Music Therapy*. 9 (1), 4-10
- Odell-Miller, H. (2013). *Music therapy – an introduction*. Retrieved from http://www.psychiatrycpd.co.uk/PDF/Music_Therapy_THN.pdf.
- Otte, C. (2011). Cognitive behavioral therapy in anxiety disorders: current state of the evidence. *Dialogues Clin Neurosci*, 13 (4), 413-421.
- Oxford Handbook of Psychiatry* (3rd ed.). (2013). Oxford: Oxford University Press.
- Oxford Internet Survey. (2011). *Next Generation Users: The Internet in Britain*. Oxford: The University of Oxford
- Panksepp, J. (1995). The Emotional Sources of "Chills" Induced by Music. *Music Perception: An Interdisciplinary Journal*. 13 (2), 171-207.
- Penn, E. & Tracy, D. (2012). The drugs don't work? antidepressants and the current and future pharmacological management of depression. *Ther Adv*

- Psychopharmacol*, 2 (5), 179-188. doi: 10.1177/2045125312445469.
- Powers, R.L., Marks, D.J., Miller, C.J., Newcorn, J.H., & Halperin, J.M. (2008). Stimulant Treatment in Children with Attention-Deficit/Hyperactivity Disorder Moderates Adolescent Academic Outcome. *Journal of Child and Adolescent Psychopharmacology*. 18 (5), 449-459.
- Ragilo, A., Attardo, L., Gontero, G., Rollino, S., Groppo, E., & Granieri, E. (2015). Effects of music and music therapy on mood in neurological patients. *World J Psychiatry*, 5 (1), 68-78. doi: 10.5498/wjp.v5.i1.68.
- Rafieyan, R. & Ries, R. (2007). A Description of the Use of Music Therapy in Consultation-Liaison Psychiatry. *Psychiatry (Edgmont)*, 4 (1), 47-52.
- Rapgay, L., Bystritsky, A., Dafter, R. E & Spearman, M. (2011). [New Strategies for Combining Mindfulness with Integrative Cognitive Behavioral Therapy for the Treatment of Generalized Anxiety Disorder](#). *J Ration Emot Cogn Behav Ther*. 29(2): 92–119.
- Richard, D. (2016). *Interview with Jennifer Allen, the woman who coined the term, 'Autonomous Sensory Meridian Response' (ASMR)*. Retrieved from <https://asmruniversity.com/2016/05/17/jennifer-allen-interview-coined-asmr/>.
- Richmond Music Trust. (2016). *Music Therapy*. Retrieved from <http://www.richmondmusictrust.org.uk/musictherapy>.
- Rollin, H. R. (1981). 'A Most Unusual Gift', *The Psychiatric Bulletin*. 5, 114.
- Rollin, H.R. (2003). Psychiatry in Britain one hundred years ago. *The British Journal of Psychiatry*. 183 (4), 292-298.
- Safren, S. A., O'Cleirigh, C., Tan, J. Y., Raminani, S. R., Reilly, L. C., Otto, M. W., & Mayer, K. H. (2009). A randomized controlled trial of cognitive behavioral therapy for adherence and depression (CBT-AD) in HIV-infected individuals. *Health Psychology*, 28(1), 1-10.
doi:<http://dx.doi.org.libaccess.hud.ac.uk/10.1037/a0012715>
- Salimpoor, V., Benevoy, M., Larcher, K., Dagher, A. & Zatorre, R. (2011). Atomically distinct dopamine release during anticipation and experience of peak emotion to music. *Nature Neuroscience*. 14 (2), 257-264.
- Sansone, R.A. & Sansone, L.A. (2012). Antidepressant Adherence- Are Patients Taking Their Medications? *Innovations in Clinical Neuroscience*. 9 (5-6), 41-46.

- Schaefer, S. (2015). *Translating Sensation: Inducing Empathy Through the Panoptic Screen: Voicing through ASMR* (Term Paper).
- Schwarz, D.W. & Taylor, P. (2005). Human auditory steady state responses to binaural and monaural beats. *Clinical Neurophysiology*. 116 (3), 658-668.
- Segal, Z. V., Williams, J. M. G., Teasdale, J. D. (2012). *Mindfulness-based cognitive therapy for depression*. New York: Guilford Press.
- Siedliecki, S. L., & Good, M. (2006). Effect of music on power, pain, depression and disability. *Journal of Advanced Nursing*. 54, 553–562.
- Siever, D. (2006). *Audio-Visual Entrainment: Safety and Tru-Vu Omniscreen Eyesets*. Retrieved from <http://web.stanford.edu/group/brainwaves/2007/files/Siever-Safety.pdf>.
- Siever, D. (2009). *Audio-visual entrainment: The application of audio-visual entrainment for the treatment of seniors' issues*. Retrieved from <http://www.mindalive.com/artlesix.htm>
- Siever, D. (2010). *Stress, the Brain and Audio-Visual Entrainment*. Retrieved from http://www.academia.edu/8895093/Stress_the_Brain_and_Audio-visual_Entrainment.
- Siever, D. (2012). *Article Nine Audio-Visual Entrainment: A Novel Way of Boosting Grades and Socialization While Reducing Stress in the Typical University and College Student* –. Retrieved from [https://mindalive.com/default/assets/File/A%20Novel%20Way%20of%20Boosting%20Grades%20and%20Socialization%20While%20Reducing%20Stress%20in%20the%20Typical%20University%20Student\(2\).pdf](https://mindalive.com/default/assets/File/A%20Novel%20Way%20of%20Boosting%20Grades%20and%20Socialization%20While%20Reducing%20Stress%20in%20the%20Typical%20University%20Student(2).pdf).
- Simons, A. D., Garfield, S. L., & Murphy, G. E. (1984). The process of change in cognitive therapy and pharmacotherapy for depression: changes in mood and cognition. *Archives of General Psychiatry*. 41, 45–51.
- Sloboda, J. (1991). Music Structure and Emotional Response: Some Empirical Findings. *Psychology of Music*. 19 (2), 110-120.
- Smith, M., Segal, R., & Segal, J. (2016). *Dealing with Depression*. Retrieved from <http://www.helpguide.org/articles/depression/dealing-with-depression.htm>.
- Smoller, J. W., Allison, M., Cochrane, B. B., Curb, J. D., Perlis, R. H., Robinson, J. G., et al. (2009). Antidepressant use and risk of incident cardiovascular

- morbidity and mortality among postmenopausal Women in the Women's Health Initiative Study. *Arch Intern Med.* 169 (2), 128–2139.
- Spence, D. (2013). Are antidepressants overprescribed? Yes. *British Medical Journal*, 346. doi: <http://dx.doi.org/10.1136/bmj.f191>.
- Staso, D. (2006, June 24). How watching a DVD can change your brain [Web log post]. Retrieved from http://drdanstaso.blogspot.co.uk/2006_06_01_archive.html.
- Steckler, M. A. (1998). The effects of music on healing. *Journal of Long-Term Home Health Care*, 17, 42-48.
- Stevens, L., Haga, Z., Queen, B., Brady, B., Adam, D., Gilbert, J. ... McManus, P. (2003). Binaural beat induced theta EEG activity and hypnotic susceptibility: contradictory results and technical considerations. *American Journal of Clinical Hypnosis*. 45 (4), 295-309.
- Stuckey, H.L. & Nobel, J. (2010). The Connection Between Art, Healing, and Public Health: A Review of Current Literature. *American Journal of Public Health*. 100 (2), 254-263. doi: 10.2105/AJPH.2008.156497.
- Surgeon General. (1999). *Mental Health: A Report of the Surgeon General – Executive Summary*. Department of Health and Human Services, Washington, DC, Retrieved from <http://www.surgeongeneral.gov/library/mentalhealth/home.html>.
- Tartakovsky, M. (2016). *How Mindfulness Can Mitigate the Cognitive Symptoms of Depression*. Retrieved from <http://psychcentral.com/lib/how-mindfulness-can-mitigate-the-cognitive-symptoms-of-depression/>.
- Taylor, K.L., Hadgkiss, E.J., Jelinek, G.A., Weiland, T.J., Pereira, N.G., Marck, C.H., & Meer, D.M.V. (2014). Lifestyle factors, demographics and medications associated with depression risk in an international sample of people with multiple sclerosis. *BMC Psychiatry*. 14 (1), 327-339.
- Tierney, D. (1998). *Physiology of Respiration*. Retrieved from <http://www.gayyoga.gn.apc.org/Respiration.htm>.
- Timms, P. (2015). *Antidepressants*. Retrieved from <http://www.rcpsych.ac.uk/healthadvice/treatmentswellbeing/antidepressants.aspx>.

- Transparent Corporation. (ND). *Mind Stereo*. Retrieved from <https://www.transparentcorp.com/products/mindstereo/>.
- Tufnell, N. (2012). *ASMR: Orgasms for Your Brain*. Retrieved from http://www.huffingtonpost.co.uk/nicholas-tufnell/asmr-orgasms-for-yourbrain_b_1297552.html.
- W.H.O International Consortium in Psychiatric Epidemiology. (2000). Cross-national comparisons of the prevalences and correlates of mental disorders/WHO International Consortium in Psychiatric Epidemiology. *Bulletin of the World Health Organization: The International Journal of Public Health*. 79 (4), 413-426
- Westman, J.C. & Walters, J.R. (1981). Noise and stress: a comprehensive approach. *Environment Health Perspective*. Oct (41), 291-309.
- Williams, M. & Penman, D. (2011). *Mindfulness: A practical guide to finding peace in a frantic world*. UK: Piatkus.
- Winn, A. (2012). *Can't Sleep? Crank These Sounds and Go to Bed in Minutes..*. Retrieved from <http://greatist.com/happiness/how-certain-sounds-help-us-sleep>.
- World Health Organisation. (2017). *Gender and women's mental health*. Retrieved from http://www.who.int/mental_health/prevention/genderwomen/en/.
- Wylie, M.S. (2015). *How the Mindfulness Movement Went Mainstream -- And the Backlash That Came With It*. Retrieved from <http://www.alternet.org/personal-health/how-mindfulness-movement-went-mainstream-and-backlash-came-it>.
- Yohn, S.E., Collins, S.L., Contreras-Mora, H.M., Errante, E.L., Rowland, M.A., Correa, M., & Salamone, J.D. (2015). Not All Antidepressants Are Created Equal: Differential Effects of Monoamine Uptake Inhibitors on Effort-Related Choice Behavior. *Neuropsychopharmacology*. 10.
- Yost, W.A. (2015). Psychoacoustics: A Brief Historical Overview. *Acoustics Today*. 11 (3), 46-53.

List of Appendices

Appendix One	Video Web Addresses and Website Screenshots
Appendix Two	Questionnaire
Appendix Three	Table of Results

Appendix One

Video Web Addresses and Website Screenshots

Links to Website and Videos

The website and can be accessed by the following link –

<http://www.audiovisualstudysurvey.weebly.com/> - Last Accessed 15/01/2017

The organic video can be accessed by the following link -

<http://tinyurl.com/organicvideo> - Last Accessed 15/01/2017

The electronic video can be accessed by the following link -

<http://tinyurl.com/electronicvideo> - Last Accessed 15/01/2017

Website Screenshots

Image 1 shows the initial page to the website and it briefly outlines the content of the study.

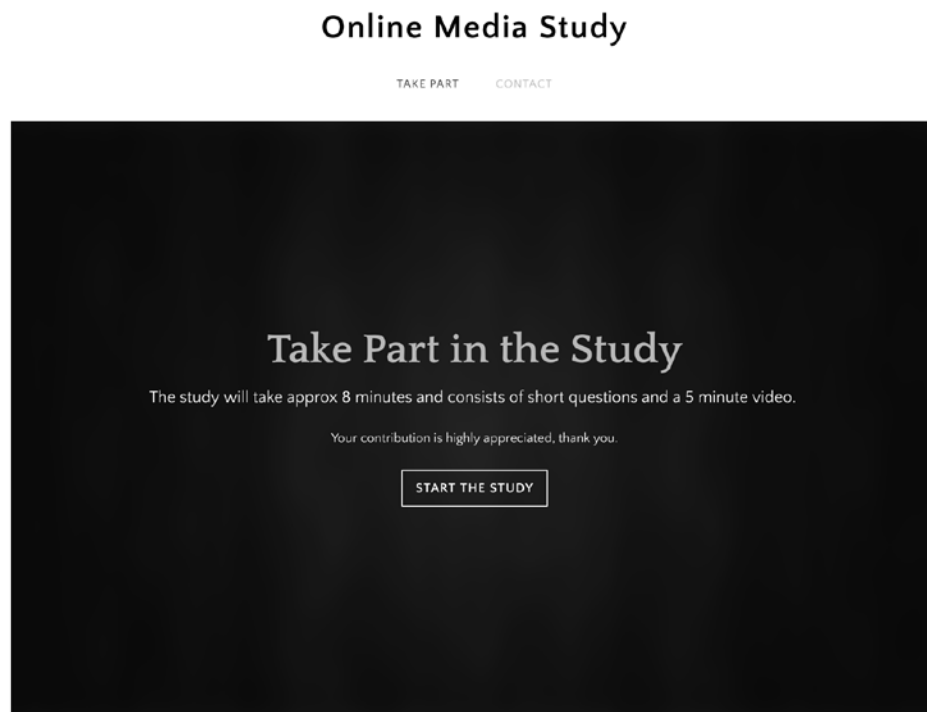


IMAGE 1 – WEBSITE PAGE 1 (WELCOME SCREEN)

Page 2 (Image 2) of the website takes the participant to the disclaimer and instructions to the study. The participant must agree with this page to start the study.

Online Media Study

TAKE PART CONTACT

Online Media Study Instructions - Please Read

This study will take approx 8 minutes to complete. You will be asked a few questions before watching a short film. Once the film has finished, you will be asked to answer a few more questions (please answer all questions as honestly as possible).

Please note - there is no material within the films that should scare you or make you feel uncomfortable at any point.

Please wear **headphones** with adequate volume, turn your screen **brightness** up and **full screen** the video to achieve optimum viewing experience.

Please watch the clip the whole way through for full effect, it is important that you either watch the entire 5 minute clip, OR state that you didn't complete watching the clip on the following page.

Please click **I AGREE** at the bottom to start the study.

Disclaimer

All data is submitted with your consent, by clicking agree below. Data submitted will be confidentially collected and could be shared in papers, posters, presentations, news articles and any other contained media article, by **Ryan J. Harrison** or an individual or company acting on my behalf located in the United Kingdom or in other countries. The information collected will be used by us, to analyse data regarding a MA study.

In no event will I be liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from loss of data or profits arising out of, or in connection with, the use of this website.

The information contained in this website is to be used for research purposes only.

Every effort is made to keep the website up and running smoothly. However, **Ryan J. Harrison** and the **University of Huddersfield** take no responsibility for, and will not be liable for the website being temporarily unavailable due to technical issues beyond our control.

You consent to watching the following video and then supplying data by answering a survey.

Film Disclaimer - Any resemblance to real persons, living or dead is purely coincidental. Ryan J. Harrison, shares no view of the audio visual portrayal. The short clips contain no distressing, uneasy or explicit material.

I AGREE & START

BACK TO HOME

IMAGE 2 – WEBSITE PAGE 2 (INSTRUCTIONS AND DISCLAIMER)

Image 3 shows the third page of the website, which is the random control of the study. Depending on the month of their birth, decides which video the participant is direct to. Odd birth months (Jan, Mar, May etc.) are directed to the organic video, while even birth months (Feb, Apr, Jun etc.) are directed to the electronic video.

Online Media Study

[TAKE PART](#) [CONTACT](#)

Start the Study

Please click on the MONTH you were born in from the list below.

January
February
March
April
May
June
July
August
September
October
November
December

IMAGE 3 – WEBSITE PAGE 3 (RANDOM CONTROL)

The fourth page (Image 4), takes the participant to the first questionnaire, to collect data about their state of relaxation and mood pre watching the video.

Online Media Study

[TAKE PART](#) [CONTACT](#)

Part 1/4

Please Enter your Date of Birth (20/11/1991) *

Have you watched any TV or audio/visual media in the last 24 hours? If so please select accordingly. *

- ☐ I have not watched TV in the last 24 hours
- ☐ Film
- ☐ Thriller TV program
- ☐ Comedy TV program
- ☐ Drama TV program
- ☐ Nature TV program
- ☐ Documentary
- ☐ Sport
- ☐ Other

Please select what best describes how relaxed you are feeling. *

- ☐ Extremely Tense
- ☐ Unrelaxed
- ☐ Neither Relaxed or Unrelaxed
- ☐ Relaxed
- ☐ Extremely Relaxed

Please select what best describes your mood. *

- ☐ Extremely Unhappy
- ☐ Unhappy
- ☐ Neither Happy or Unhappy
- ☐ Happy
- ☐ Extremely Happy

Over the past WEEK, what best describes your general mood? *

- ☐ Extremely Unhappy
- ☐ Unhappy
- ☐ Neither Happy or Unhappy
- ☐ Happy
- ☐ Extremely Happy

[NEXT - WATCH THE VIDEO](#)

IMAGE 4 – WEBSITE PAGE 4 (PRE VIDEO QUESTIONNAIRE)

Image 5 and image 6, show page 5a and 5b of the website. If directed by the odd birth months, the participant will arrive at the organic video, if directed by the even months; they arrive at the electronic video. Instructions on how to achieve the optimum-viewing environment are outlined, followed by the films.

Online Media Study

[TAKE PART](#) [CONTACT](#)

Part 2/4 - Naturalistic Short Video

Please wear headphones with adequate volume, full screen the video and turn up your brightness.

Please watch the following video to the end (or specify that you didn't on the following page) then click next at the bottom of this page.



Thank you for watching the video. Please click the button below to continue to part 3/4.

[NEXT - SURVEY QUESTIONS](#)

IMAGE 5 – WEBSITE PAGE 5A (ORGANIC FILM)

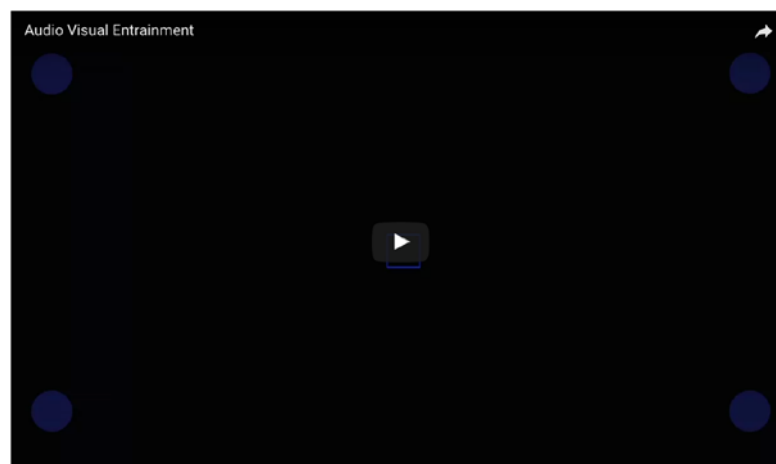
Online Media Study

[TAKE PART](#) [CONTACT](#)

Part 2/4- Short Electronic Video

Please wear headphones with adequate volume, full screen the video and turn up your brightness.

Please watch the following video then click next at the bottom of the page.



Thank you for watching the video. Please click the button below to continue to part 3/4.

[NEXT - SURVEY QUESTIONS](#)

Aft IMAGE 6 – WEBSITE PAGE 5B (ELECTRONIC FILM)

er viewing the respective video, the participant is then directed onto the second part of the questionnaire, which collects data about a participant's mood and state of relaxation post viewing the media. This page also allows the participant to provide details of their mental health history.

Online Media Study

[TAKE PART](#) [CONTACT](#)

Part 3/4

Did you watch the whole clip and enjoy it? *

☐ Yes, I enjoyed it

☐ Yes, but I didn't enjoy it

☐ Yes, Indifferent

☐ No, Indifferent

☐ No, I didn't enjoy it

☐ No, but I enjoyed what I watched

What best describes your mood right now? *

☐ Extremely Unhappy

☐ Unhappy

☐ Neither Happy or Unhappy

☐ Happy

☐ Extremely Happy

How are you feeling right now? *

☐ Extremely Tense

☐ Unrelaxed

☐ Neither Relaxed or Unrelaxed

☐ Relaxed

☐ Extremely Relaxed

Do you have a diagnosis of any of the following? *

☐ No Diagnosis

☐ Depression

☐ Panic Disorder

☐ Anxiety Disorder

☐ Bi-Polar

☐ Schizophrenia

☐ Autism Spectrum Disorder

☐ ADHD

If you have a diagnosis' please specify in as much detail any treatments you are currently taking. E.g. Music Therapy, Pharmacology (Medicine/Drugs), Talking Therapy, CBT etc) for each diagnosis.

SUBMIT & NEXT

IMAGE 7 – WEBSITE PAGE 6 (POST VIDEO QUESTIONNAIRE)

Website page 7 (Image 8) is the final part of the questionnaire. Mostly demographical data is collected here, including questions on gender, education level and favourite newspaper.

Online Media Study

TAKE PART CONTACT

Part 4/4 – About You

Please specify your gender *

- ☐ Male
☐ Female

Please select your favourite newspaper out of the following options *

The Daily Telegraph/ Sunday Telegraph

What activities do you normally do in order to relax yourself when you're stressed? *

- ☐ Drawing/ Painting (or other art)
☐ Music (Listening/ playing instruments)
☐ Watching Films/ TV
☐ Exercise & Sport
☐ Social Activities (Cinema, Eating out, Bowling etc)
☐ Domestic Activities (Cleaning, Cooking, Ironing etc)
☐ Consume Alcohol &/or Drugs
☐ Gaming
☐ Other
☐ Watch self-help media (ASMR videos, relaxation videos)

SUBMIT & NEXT

Please select your education level. *

- ☐ No Formal Qualification
☐ GCSE's or Equivalent
☐ A Levels or Equivalent
☐ Undergraduate Degree
☐ PHD, MD, Masters or Other Higher Degree Qualification

Please describe your ethnicity/ background e.g. White, British *

IMAGE 8 – WEBSITE PAGE 7 (DEMOGRAPHICS QUESTIONNAIRE)

Finally Image 9 shows the last page of the website. Page 8 thanks the participant for their contribution and offers the option to provide their contact details.

Online Media Study

TAKE PART CONTACT

Thank you!

Thank you for taking part in my research, I hope you enjoyed the video. Your contribution is **REALLY** appreciated. I would also be grateful if you could provide me with your details below to be contacted further, but of course this is optional. Please click this link if you have any questions or wish to contact me.

Optional Contact Details

Date of Birth (20/11/1991) *

Name

Email *

SUBMIT

RETURN TO HOME

IMAGE 9 – WEBSITE PAGE 8 (CLOSING PAGE)

Appendix Two

Questionnaire

Part 1- Pre-Video Subjective Mood (Multiple Choice Questionnaire)

Please enter your Date of Birth (20/11/1991).

Have you watched any TV or audio/visual media in the last 24 hours? If so, please select accordingly.

- Film
- Thriller TV Program
- Comedy TV Program
- Drama TV Program
- Nature TV Program
- Documentary
- Sport
- Other

Please select what best describes how relaxed you are feeling.

- Extremely Tense
- Unrelaxed
- Neither Relaxed or Unrelaxed
- Relaxed
- Extremely Relaxed

Please select what best describes your mood.

- Extremely Unhappy
- Unhappy
- Neither Happy or Unhappy
- Happy
- Extremely Happy

Over the past week, what best describes your general mood?

- Extremely Unhappy
- Unhappy

- Neither Happy or Unhappy
- Happy
- Extremely Happy

Part 3- Video Only (No Questions)

Part 3- Post-Video Subjective Mood (Multiple Choice Questionnaire)

Did you watch the whole clip and enjoy it?

- Yes, I enjoyed it
- Yes, but I didn't enjoy it
- Yes, indifferent
- No, indifferent
- No, I didn't enjoy it
- No, but I enjoyed what I watched

What best describes your mood right now?

- Extremely Unhappy
- Unhappy
- Neither Happy or Unhappy
- Happy
- Extremely Happy

How are you feeling right now?

- Extremely Tense
- Unrelaxed
- Neither Relaxed or Unrelaxed
- Relaxed
- Extremely Relaxed

Do you have a diagnosis of any of the following? Please select as many as appropriate.

- No Diagnosis
- Depression
- Panic Disorder

- Anxiety Disorder
- Bi-Polar
- Schizophrenia
- Autism Spectrum Disorder
- ADHD

If you have a diagnosis' please specify in as much detail any treatments you are currently taking. E.g. Music Therapy, Pharmacology (Medicine/Drugs), Talking Therapy (CBT) etc. for each diagnosis.

Part 4- Demographics

Please specify your gender.

- Male
- Female

Please select your favourite newspaper out of the following options.

- The Telegraph
- The Times
- The Guardian
- The Observer
- The Independent
- The Mail
- The Express
- The Sun
- The Mirror
- The Star
- The Metro

What activities do you normally do in order to relax yourself when you're stressed?

- Drawing/ Painting (or other art)
- Music (Listening/ playing instruments)
- Watching Films/TV
- Exercise & Sport
- Social Activities (Cinema, eating out, bowling etc.)
- Domestic Activities (Cleaning, cooking, ironing etc.)

- Consume Alcohol &/or Drugs
- Gaming
- Other
- Watching Self Help Media (ASMR videos, relaxation videos etc.)

Please select your education level.

- No Formal Qualification
- GCSE's or Equivalent
- A Levels or Equivalent
- Undergraduate Degree
- PHD, MD, Masters or Other Higher Degree Qualification

Please describe your ethnicity/background e.g. White, British.

Appendix Three

Table of Results

Total Population who watched Organic Video

Demographical Data									
Participant ID	O1	O2	O3	O4	O5	O6	O7	O8	O9
Date of Birth (DD/MM/YR)	30/08/84	24/12/94	20/02/66	14/12/69	03/02/55	01/10/96	07/04/93	01/10/93	14/02/93
Gender	Female	Female	Female	Female	Male	Male	Male	Female	Male
Diagnosis	GAD & Depression	No Diagnosis	Depression	Depression	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis
Treatments for Diagnosis	Pharmacology & CBT	N/A	Pharmacology	No Treatment	N/A	N/A	N/A	N/A	N/A
Location	England	England	USA (Arizona)	USA (Chicago)	England	England	England	England	England
Please select your favourite newspaper	Telegraph	The Guardian	Other	The Sun	The Sun	The Independent	The Independent	Daily Mail	Metro
Please state education level	A Levels	Undergraduate Degree	PHD or higher degree	Undergraduate Degree	No formal qualification	Undergraduate Degree	PHD or higher degree	Undergraduate Degree	Undergraduate Degree
Please describe ethnicity/ background	White, British	White, British	White, American	Mixed, American	White, British	White, British	White, British	White, British	White, British
What activities do you like to do to relax?	Music, Films/TV, Social Activities, Domestic Activities	Music, Art, Films/TV, Social, Domestic	Music, Films/TV, Social	Other, Gaming, Art	Music, Film/TV	Music, Art	Gaming, Art, Music, Films/TV	Alcohol/Drugs, Music, Films/TV, Sport, Social	Music, TV, Gaming
Have you watched any TV in the last 24hours?	Comedy/ Drama	No	No	Thriller, Film, Documentary	Documentary	Drama	Thriller	Comedy	Film, Drama, Other
Research Data									
Participant ID	O1	O2	O3	O4	O5	O6	O7	O8	O9
Past week mood	Extremely Unhappy	Happy	Unhappy	Unhappy	Neither Happy or Unhappy	Happy	Happy	Neither Happy or Unhappy	Extremely Happy
Pre Video Relax	Relaxed	Neither Relaxed or Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Unrelaxed	Relaxed	Relaxed	Unrelaxed	Neither Relaxed or Unrelaxed
Post Video Relax	Extremely Relaxed	Unrelaxed	Relaxed	Relaxed	Relaxed	Relaxed	Relaxed	Unrelaxed	Relaxed
Pre Video Mood	Happy	Neither Happy or Unhappy	Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	Extremely Happy	Unhappy	Neither Happy or Unhappy
Post Video Mood	Happy	Neither Happy or Unhappy	Happy	Neither Happy or Unhappy	Happy	Happy	Extremely Happy	Neither Happy or Unhappy	Neither Happy or Unhappy
Watch the whole video (Y/N)	Y	Y	Y	Y	Y	Y	Y	N	N
Enjoy the video? (Y/N)	Y	N	Y	Y	Y	N	Y	N	Y
Additional Comments	/	/	/	/	I felt in touch with the topics and themes the video showed.	/	voice too familiar	/	/

Total Population who watched Organic Video

Demographical Data									
Participant ID	O10	O11	O12	O13	O14	O15	O16	O17	O18
Date of Birth (DD/MM/YR)	19/04/91	05/08/89	12/06/87	11/12/91	12/04/94	03/10/92	17/04/92	01/06/53	07/04/95
Gender	Female	Male	Male	Male	Female	Female	Female	Female	Female
Diagnosis	Depression	No Diagnosis	No Diagnosis	GAD & Depression	No Diagnosis	No Diagnosis	No Diagnosis	GAD	No Diagnosis
Treatments for Diagnosis	CBT	N/A	N/A	Pharmacology & CBT (Venlafaxine)	N/A	N/A	N/A	Pharmacology & CBT (Diazepam)	N/A
Location	Germany	England	England	England	Scotland	England	England	England	England
Please select your favourite newspaper	The Times	The Times	Metro	The Guardian	Daily Mail	Metro	Daily Mail	Daily Mail	Metro
Please state education level	PHD or higher degree	A Levels	Undergraduate Degree	A Levels	A Levels	PHD or higher degree	A Levels	No formal qualification	Undergraduate Degree
Please describe ethnicity/ background	Mixed white/ Chinese	White, British	White, British	White, British	White British	White British	White British	White British	White British
What activities do you like to do to relax?	Domestic, Sport, Social	Alcohol/ Drugs, Sport	Art	Domestic, Alcohol/Drugs, Films/TV, Gaming	Drawing/ Art	Alcohol/Drugs, Music	Domestic	Films/TV, Other	Gaming, Alcohol/Drugs, Exercise & Sport
Have you watched any TV in the last 24hours?	Sport	Film, Comedy, Documentary	Drama	Comedy	Documentary, Sport	Drama	Comedy	Thriller, Drama	Film, Documentary
Research Data									
Participant ID	O10	O11	O12	O13	O14	O15	O16	O17	O18
Past week mood	Unhappy	Neither Happy or Unhappy	Happy	Unhappy	Unhappy	Happy	Happy	Happy	Happy
Pre Video Relax	Unrelaxed	Unrelaxed	Relaxed	Unrelaxed	Neither Relaxed or Unrealxed	Extremely Tense	Relaxed	Relaxed	Relaxed
Post Video Relax	Unrelaxed	Neither Relaxed or Unrelaxed	Relaxed	Relaxed	Relaxed	Extremely Tense	Extremely Relaxed	Extremely Tense	Relaxed
Pre Video Mood	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	Unhappy	Happy	Extremely Unhappy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy
Post Video Mood	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	Happy	Neither Happy or Happy	Unhappy	Happy	Happy	Neither Happy or Unhappy
Watch the whole video (Y/N)	Y	Y	N	Y	Y	Y	Y	N	Y
Enjoy the video? (Y/N)	N	I	Y	Y	Y	N	Y	Y	Y
Additional Comments	/	/	/	/	/	/	/	/	/

Total Population who watched Organic Video

Demographical Data							Omitted Results				
Participant ID	O19	O20	O21	O22	O23	O24		O*	O*	O*	O*
Date of Birth (DD/MM/YR)	20/12/93	09/02/72	31/08/72	28/04/59	17/08/46	16/04/59	25/04/92	17/04/92	28/02/89	16/10/87	27/08/95
Gender	Male	Female	Female	Male	Male	Female	/	/	/	/	/
Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	/	/	/	/	/
Treatments for Diagnosis	N/A	N/A	N/A	N/A	N/A	N/A	/	/	/	/	/
Location	England	England	England	England	England	England	England	England	England	England	/
Please select your favourite newspaper	The Independent	The Guardian	The Independent	The Times	The Times	Daily Mail	/	/	/	/	/
Please state education level	Undergraduate Degree	GCSE's	PHD or higher degree	Undergraduate Degree	GCSE's	GCSE's	/	/	/	/	/
Please describe ethnicity/background	Brown, British	White, British	Mixed white/asian	White, British	White, British	White, British	/	/	/	/	/
What activities do you like to do to relax?	Films/TV, Gaming	Art, Films/TV	Art, Music	Alcohol/Drugs, Sport, Music, Domestic	Sport, Other	Alcohol/Drugs, Music, Social, Sport, Films/TV	/	/	/	/	/
Have you watched any TV in the last 24hours?	Comedy	Drama	None	Comedy	Sport	Other	Documentary	Drama	No	Comedy	Film, Thriller, Drama
Demographical Data							Omitted Results				
Participant ID	O19	O20	O21	O22	O23	O24	O*	O*	O*	O*	O*
Past week mood	Happy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Unhappy	Unhappy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy
Pre Video Relax	Unrelaxed	Unrelaxed	Neither Relaxed or Unrelaxed	Relaxed	Relaxed	Unrelaxed	Extremely Tense	Unrelaxed	Neither Relaxed or Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed
Post Video Relax	Relaxed	Unrelaxed	Unrelaxed	Extremely Relaxed	Relaxed	Relaxed	/	/	/	/	/
Pre Video Mood	Happy	Unhappy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy	Unhappy	Unhappy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy
Post Video Mood	Happy	Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	/	/	/	/	/
Watch the whole video (Y/N)	Y	Y	Y	Y	Y	Y	/	/	/	/	/
Enjoy the video? (Y/N)	Y	N	N	Y	Y	Y	/	/	/	/	/
Additional Comments	/	/	/	/	/	/	/	/	/	/	/

Total Population who watched Electronic Video

Demographical Data									
Participant ID	E1	E2	E3	E4	E5	E6	E7	E8	E9
Date of Birth (DD/MM/YR)	03/01/94	29/09/92	11/07/93	29/03/92	07/07/94	01/11/91	23/05/92	19/07/94	14/09/92
Gender	Female	Female	Female	Female	Male	Female	Female	Female	Female
Diagnosis	No Diagnosis	GAD	Depression	No Diagnosis	No Diagnosis	No Diagnosis	GAD & Depression	No Diagnosis	No Diagnosis
Treatments for Diagnosis	N/A	Pharmacology	Pharmacology	N/A	N/A	N/A	CBT	N/A	N/A
Location	England	England	England	England	England	Scotland	England	England	England
Please select your favourite newspaper	The Sun	Daily Mail	The Guardian	The Guardian	Metro	Metro	The Sun	Metro	Metro
Please state education level	A Levels	PHD or higher degree	Undergraduate degree	PHD or higher degree	Undergraduate degree	GCSE's	PHD or higher degree	Undergraduate degree	A Levels
Please describe ethnicity/background	White, British	White, British	White, British	White, British	White, British	White, British	White, British	White, British	White, British
What activities do you like to do to relax?	Music, Films/TV	Music, Alcohol, Films/TV, Social	Music, Alcohol/Drugs, Art, Films/TV	Films/TV, Social	Sport, Alcohol/Drugs, Music, Social, Gaming, Films/TV	Art, Music, Gaming	Social, Exercise, Films/TV, Gaming	Alcohol/Drugs, Sport, Music, Social	Alcohol/Drugs, Music, Social, Films/TV
Have you watched any TV in the last 24hours?	Documentary	Thriller	Comedy, Drama	Comedy, Nature	Thriller, Drama, Comedy	Comedy	Film	No	Nature
Research Data									
Participant ID	E1	E2	E3	E4	E5	E6	E7	E8	E9
Past week mood	Unhappy	Extremely Happy	Unhappy	Happy	Unhappy	Happy	Happy	Neither Happy or Unhappy	Happy
Pre Video Relax	Relaxed	Relaxed	Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Relaxed	Relaxed	Relaxed	Neither Relaxed or Unrelaxed
Post Video Relax	Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Unrelaxed
Pre Video Mood	Neither Happy or Unhappy	Extremely Happy	Neither Happy or Unhappy	Neither Happy or Unhappy	Unhappy	Happy	Happy	Happy	Happy
Post Video Mood	Neither Happy or Unhappy	Extremely Happy	Neither Happy or Unhappy	Unhappy	Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Unhappy
Watch the whole video (Y/N)	Y	Y	Y	Y	Y	Y	N	Y	N
Enjoy the video? (Y/N)	N	N	N	N	N	N	N	N	N
Additional Comments	/	/	/	/	/	Watching the video actually made me go all hot and my hands started sweating!	/	/	/

Total Population who watched Electronic Video

Demographical Data									
Participant ID	E10	E11	E12	E13	E14	E15	E16	E17	E18
Date of Birth (DD/MM/YR)	21/07/92	09/03/93	23/07/92	29/09/92	08/09/92	12/11/92	04/01/94	12/07/90	20/01/91
Gender	Female	Female	Female	Female	Female	Female	Female	Male	Female
Diagnosis	GAD & Depression	No Diagnosis	No Diagnosis	Depression	No Diagnosis	Depression	GAD & Depression	No Diagnosis	No Diagnosis
Treatments for Diagnosis	Pharmacology & CBT	N/A	N/A	No Treatment	N/A	No Treatment	No Treatment	N/A	N/A
Location	England	England	Wales	England	England	England	England	England	England
Please select your favourite newspaper	Telegraph	The Independent	The Sun	The Independent	The Sun	The Guardian	Telegraph	The Sun	Telegraph
Please state education level	Undergraduate degree	Undergraduate degree	Undergraduate degree	PHD or other higher	Undergraduate degree	Undergraduate degree	Undergraduate degree	A Levels	No Formal Qualification
Please describe ethnicity/background	White, British	British Indian	White, British	White, British	White, British	White, British	White, British	White, British	White, British
What activities do you like to do to relax?	Alcohol/Drugs, Music, Films/TV, Gaming	Domestic, Art, Music, Social, Films/TV	Alcohol/Drugs, Music, Sport	Self Help Media, Alcohol/Drugs, Other, TV	Alcohol/Drugs, Films/TV, Sport, Social, Music	Domestic, Alcohol/drugs, Film/TV, Social, Music, Self help media	Films/TV	Domestic, Social, Sport	Other
Have you watched any TV in the last 24hours?	No	Other, Drama	Documentary, Sport	Other	Nature, Sport	Thriller	Drama	Comedy, other	Other
Research Data									
Participant ID	E10	E11	E12	E13	E14	E15	E16	E17	E18
Past week mood	Unhappy	Neither Happy or Unhappy	Unhappy	Unhappy	Happy	Neither Happy or Unhappy	Happy	Happy	Unhappy
Pre Video Relax	Extremely Tense	Neither Relaxed or Unrelaxed	Extremely Tense	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Unrelaxed	Unrelaxed	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed
Post Video Relax	Extremely Tense	Neither Relaxed or Unrelaxed	Unrelaxed	Relaxed	Relaxed	Relaxed	Unrelaxed	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed
Pre Video Mood	Unhappy	Neither Happy or Unhappy	Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	Neither Happy or Unhappy	Neither Happy or Unhappy
Post Video Mood	Extremely Unhappy	Neither Happy or Unhappy	Unhappy	Unhappy	Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy
Watch the whole video (Y/N)	N	Y	Y	Y	Y	Y	Y	Y	N
Enjoy the video? (Y/N)	N	N	N	I	I	N	N	N	I
Additional Comments	/	/	/	/	/	/	/	/	/

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Demographical Data									Omitted Results	
Participant ID	E19	E20	E21	E22	E23	E24	E25	E26	E*	E*
Date of Birth (DD/MM/YR)	14/07/91	22/07/93	26/09/93	16/03/95	17/07/95	30/05/95	19/09/91	22/09/92	20/11/92	21/03/95
Gender	Female	Female	Female	Female	Male	Female	Female	Male	/	/
Diagnosis	No Diagnosis	Depression	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	No Diagnosis	/	/
Treatments for Diagnosis	N/A	Pharmacology & CBT	N/A	N/A	N/A	N/A	N/A	N/A	/	/
Location	England	England	England	Netherlands	England	Italy	England	England	/	/
Please select your favourite newspaper	Daily Mail	The Guardian	The Times	Metro	Telegraph	Metro	The Independent	Telegraph	/	/
Please state education level	A Levels	Undergraduate degree	A Levels	Undergraduate degree	A Levels	A Levels	Undergraduate degree	Undergraduate degree	/	/
Please describe ethnicity/background	White, British	White, British	White, British	Mixed: White & Black Caribbean, British	White, British	White, British	White, British	White, British	/	/
What activities do you like to do to relax?	Domestic	Domestic	Art, Films/TV, Social	Domestic, Art, Music, Films/TV, Sport	Music, Films/TV, Gaming	Music, Films/TV, Social	Music, ASMR, Social	Sport, Alcohol/Drugs, Films/TV, Art	/	/
Have you watched any TV in the last 24hours?	Other	Comedy	Nature, Comedy	Drama, Comedy	Other	Film	Film, Thriller	Documentary	Drama	Thriller, Comedy
Research Data									Omitted Results	
Participant ID	E19	E20	E21	E22	E23	E24	E25	E26	E*	E*
Past week mood	Happy	Happy	Unhappy	Happy	Extremely Happy	Happy	Neither happy or unhappy	Happy	Unhappy	Extremely Unhappy
Pre Video Relax	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Extremely Tense	Relaxed	Relaxed	Relaxed	Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Extremely Tense
Post Video Relax	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Relaxed	Neither Relaxed or Unrelaxed	Neither Relaxed or Unrelaxed	Relaxed	Extremely Tense	Relaxed	/	/
Pre Video Mood	Neither Happy or Unhappy	Neither Happy or Unhappy	Unhappy	Happy	Happy	Happy	Neither happy or unhappy	Happy	Unhappy	Extremely Unhappy
Post Video Mood	Neither Happy or Unhappy	Neither Happy or Unhappy	Neither Happy or Unhappy	Happy	Happy	Happy	Neither happy or unhappy	Neither happy or unhappy	/	/
Watch the whole video (Y/N)	N	Y	N	Y	Y	N	Y	N	/	/
Enjoy the video? (Y/N)	N	I	I	N	I	I	N	N	/	/
Additional Comments	/	/	/	/	/	/	/	/	/	/