

An Exploration of the Effects of the Hypnotic State on Cognitive Functioning

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A thesis submitted in partial fulfilment
of the requirements for the Degree of Doctor of Philosophy

The School of Psychotherapy and Psychology

Regent's University London

& University of Wales

December 2024

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Acknowledgements

I would like to express my gratitude to Professor John Nuttall for his expertise, guidance and patience throughout this challenging journey. Thank you Professor Joanne Lusher and Dr. Rosamond Watling for your guidance, support and encouragement. Without your valuable feedback, this work would be very confusing.

I would like to thank Regent's University London and the University of Wales for affording this opportunity to undertake doctoral research. I would also like to express my gratitude to the London College of Clinical Hypnosis for equipping me with the skills necessary for conducting this study.

Thank you to my irreplaceable parents who have always believed in my dreams and supported me in all of my endeavours. Your courage, strength and wisdom will continue to inspire me to never give up and keep moving forward.

List of Abbreviations Used in the Text

APA	American Psychological Association
APD	Antisocial Personality Disorder
ASAT	Attributional Style Assessment Test
BPS	British Psychological Society
BSCH	British Society of Clinical Hypnosis
CBT	Cognitive Behavioural Therapy
DSM	Diagnostic Statistical Manual of Mental Disorders
EIT	Empathic Involvement Theory
HAFRT	Hypnosis Aided Fixed Role Therapy
IPA	Interpretative Phenomenological Analysis
MDD	Major Depressive Disorder
PANAS	Positive and Negative Affect Schedule
PPI	Psychopathic Personality Inventory
PTSD	Posttraumatic Stress Disorder
QMEE	Questionnaire Measure for Emotional Empathy
SSHS	Stanford Scale of Hypnotic Susceptibility
THA	Transactional Hypno-Analysis
UKCP	UK Council for Psychotherapy

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Abstract

This study contributes to knowledge regarding the effects of state specific hypnosis on reasoning and perception. The research used a mixed methods research design consisting of an experimental quantitative part (Part One) combined with a qualitative inquiry part (Part Two). The quantitative part investigated the impact of three states of consciousness (hypnosis, progressive muscle relaxation and the control condition of no treatment) on emotional empathy, self-attribution, and affect, in thirty adult participants. Three questionnaire measures were employed in a controlled observational setting to examine and compare the dependent variables in the three conditions. These measures consisted of the Questionnaire Measure for emotional Empathy (QMEE), the Attributional Assessment test, Version II (ASAT II) and the Positive and Negative Affect Schedule (PANAS). A qualitative approach was then used to explore the subjective experiences of five participants from the hypnosis group in the quantitative part of the study. Semi-structured interviews were analysed using Interpretative Phenomenological Analysis (IPA). The experimental Part One findings indicated that there is a statistically significant difference between the groups with respect to the three conditions for emotional empathy (QMEE), positive affect (PANAS) and self-attribution (ASAT II). The emotional empathy QMEE scores were statistically significantly higher for those in the hypnosis condition compared to those in the no treatment condition. The self-attribution ASAT II scores revealed that there are statistically significant differences for strategy attributions for success scenarios between the hypnosis and the progressive muscle relaxation (PMR) conditions. Additionally, the scores revealed that there are also significant differences between the hypnosis and the PMR conditions for effort attributions for success scenarios. The positive affect PANAS scores were statistically

significantly higher for those in the hypnosis condition compared to those in the no treatment condition. Also, a statistically significant difference was observed between those in the PMR (higher) and no treatment conditions. The qualitative inquiry asserts that perceptual changes take place during hypnotic induction. The qualitative Part Two findings revealed four major themes associated with the experience of being hypnotised; a pleasant and happy place, spontaneity and feeling free, not what I expected, and expanded perspective. The qualitative insights introduced information about the lived experience of the hypnotic state. The combined research findings yield new knowledge about how the hypnotic state affects cognitive functioning, specifically with regard to reasoning and interpretation. This knowledge has identified potential cognitive restructuring competencies associated with the hypnotic state, which are clinically valuable and indicative for further research. The research contributes to the development of a practical and theoretical framework for psychotherapy and psychology, which posits state specific cognitive and perceptual effects of the hypnotic state.

Keywords: Cognitive Functioning, Perception, Interpretation, Trance Logic, Empathy, Affect, Attribution, Hypnosis

Preface: An Introduction to the Study

This work has investigated the impact of the hypnotic state on cognitive functioning by exploring the effects of the hypnotic state on aspects of perception, specifically empathy, attribution and affect. It contributes to knowledge about this by experimentally assessing whether the hypnotic state changes these variables compared to the control states of progressive muscle relaxation and no treatment (Part One). Qualitatively, this study has explored the lived experience associated with the hypnotic state through interviewing participants from the experimental part of the study (Part two).

A review of the literature has indicated that a large portion of the hypnosis research is predominantly based on non-hypnotic state cognitive considerations associated with the post therapeutic effects of hypnotic induction as opposed to hypnotic state specific considerations (Gruzelier and Burkhard, 2009). A growing volume of research, specifically neuropsychological research, has shown increased support for the state specific perspective (Jensen et al., 2015; Cussen, 2015; Walsh et al., 2015). However, research which specifically incorporates a cognitive-perceptual state specific framework focusing on the hypnotic state's situational capacity for cognitive alterations, is still limited. In view of this, this thesis sought to examine the state specific hypnotic effects on reasoning and perception, quantitatively and qualitatively in order to present new knowledge and determine some novel parameters for further research.

Motivation for the Research

Interest in my dreams and their meaning inspired me to explore literature regarding conscious and unconscious phenomena, which led me to an interest in hypnosis. I read about hypnosis and its use throughout history and decided to experience hypnotic induction for myself. I located a professional hypnotherapist and arranged a past life regression session. I had an insightful experience, which I discuss in more detail in Chapter Two. My experience of being hypnotised led me to disregard my previous assumption that hypnosis is similar to sleep and dreaming. I also found it to be different from a normal state of conscious awareness. This seemingly uncategorizable experience further motivated me to learn more about hypnosis and its relationship to conscious and unconscious processes. So, in addition to my PhD studies, I enrolled in a university accredited hypnotherapy program. I first received a certificate in Clinical Hypnosis, then a Diploma in Clinical Hypnotherapy. Through this specialised training and education, I gained more knowledge about hypnotic phenomena and its therapeutic application. This training equipped me with the tools and knowledge necessary to carry out my PhD research.

A review of the literature suggests that the phenomenon of hypnosis might be underexplored. Jensen (2017) argues, this might be because it is challenging to systematically define and test its boundaries. My personal experience inspired me to accept a theoretical position of hypnosis that considers hypnotic experience to be a particular state specific level of consciousness that is different from a normal state of awareness. My professional training and education motivated me to research state specific cognitive changes that might occur in the hypnotic state. The combined motivation for this research direction and perspective was built upon personal and professional

influences. The overall aim was to gain knowledge about the nature of the hypnotic phenomenon and to come closer to understanding and systemically defining its parameters.

Structure of this Thesis

This thesis is composed of five chapters. The first chapter provides an introduction to the presented research. Hypnosis is characterised and explored historically. This is followed by an exploration of the theoretical and practical developments, which are presented in research literature. Hypnosis and its association with cognitive functioning is also explored. The chapter concludes with an overview and narrows in on the aims, hypotheses and rationale of the presented research.

The second chapter introduces the research approach and methodology. Here, the epistemological position and the mixed methods approach is discussed. The research consists of two parts. Part One is the experiment and quantitative element and Part Two is the interpretative qualitative element. Part One is reviewed, explaining the conditions, variables and measures used. Part Two is also reviewed, considering the interviewing process and the basis of the Interpretative Phenomenological Analysis. This is followed by a reflexive discussion on the evolution of the research and a review of ethical considerations. The chapter concludes with the presentation of the Part One Pilot Study.

The third chapter explores the method and analytical position used in the Main Study of Part One. The observations are presented and discussed. This is followed by a discussion of validity and reliability. There is a reflection on the materials and measures used. Ethical considerations

are also reviewed. The chapter concludes with an overview of the research findings, which includes a reflection on Part One.

The fourth chapter explores the research method and analytical position used in Part Two. Here, the research design, sampling, interview process, and the process of analysis are reviewed. Ethical considerations are discussed. Validity and reliability are considered. An exploration of the qualitative data is presented. The group experiential and personal experiential themes are reviewed. The chapter concludes with a discussion of the findings, including a reflexive discussion about IPA.

The fifth and final chapter provides a detailed discussion of the findings from Part One and Part Two. Findings summaries are introduced and a combined overview of the findings is presented. Compatible, possibly related and discrepant findings are reviewed. The combined interpretation and relevance of the study is presented. Implications for psychology, psychotherapy and research are discussed. Study limitations are reviewed. The chapter concludes with a final reflexive discussion, recommendations for further research and a conclusion.

Chapter One: A Review of the Literature on Hypnosis

Chapter One provides an introduction to the topic of hypnosis, starting with a brief historical overview, followed by a review of relevant literature on the theoretical, psychotherapeutic and neuropsychological underpinnings. The chapter concludes with a discussion of the rationale and objectives of the current research.

1.1 A Brief History of Hypnosis

The use of hypnosis for the treatment of health conditions has a very remote origin. It is claimed to be one of the oldest known forms of psychotherapy and has also been used for religious purposes (Pintar & Lynn, 2008). In 2008, Judith Pintar and Steven Jay Lynn published a book called *Hypnosis: A Brief History*, which explores the advances and controversies surrounding hypnosis throughout its history. The book is insightful, specifically with regard to the innovations and developments surrounding hypnosis. However, the historical exploration of hypnosis is incomplete and seems to be lacking details regarding the hypnotic methods used. This could be because the descriptions of the presumed hypnotic practices do not neatly align with current hypnosis applications (e.g. scripted hypnotic inductions and deepeners). Therefore, it is debatable whether previous practices involved the use of what we now consider hypnosis to be.

Nonetheless, many archaeological discoveries, found in tombs and temples, suggest numerous hypnotic techniques were employed in an array of ceremonial and practical circumstances. These consciously (during awake state) or unconsciously (during sleep state) applied techniques seem similar to those used in modern psychotherapeutic applications in the form of suggestion. There are indications of the use of hypnosis in ancient China, for example, dating back to 1600BCE when Wong Tai, considered the founder of Chinese medicine, taught hypnotic techniques to his followers and students (Lonie & Tsingos-Lucas, 2017). His therapeutic technique induced a hypnotic state and was based on the practice of passing the hands above the body of individuals during treatment. Throughout China, experiences of self-induced hypnosis have also been recorded, where individuals engaged in fasting for days remaining perfectly still in an effort to meditate and recall the appearances, behaviours, and habits of deceased ancestors (Pintar & Lynn, 2008).

Similarly, in ancient India and South Asia hypnosis was used through various forms of practice. In Hindu medicine, around 1500 BCE, therapeutic procedures were based on rituals that incorporated songs and dances, accompanied by the sound of drums and bells, alternating with the music of bamboo flutes (Pintar & Lynn, 2008). Here, the participants began by dancing with light steps, in a continuous movement of rotation, while murmuring words with mystical meaning, until they reached an altered state of consciousness. However, Pintar and Lynn suggest it is unclear whether such states of altered consciousness constituted a hypnotic state as we know it today or some different shamanic trance state. Grof (1996), a leading pioneer and founder of the transpersonal psychotherapy movement, coined the term ‘holotropic states’ for a range of trance states embracing hypnosis, experiential therapies and shamanistic healing practices, which

constitute fundamentally similar ‘non-ordinary states of consciousness’ (NOSC) (p.488). He argued that ‘it is useful and important to study non-ordinary states of consciousness because of their great therapeutic potential and because they are a rich source of revolutionary new information about the psyche, human nature, and the nature of reality’ (p.581). In a summary of his experiences and observations of the transpersonal over thirty-five years, he asserts that work with NOSC ‘activate the spontaneous healing potential of the psyche and of the body and initiate a transformative process guided by deep inner intelligence’ (p.486).

It is believed that in eastern countries, there existed a much more comprehensive concept of meditation, which can be compared to hypnosis (Robinson, 1995). In the Middle East, specifically in ancient Egyptian civilizations, hypnosis was known and used both as a therapeutic tool and a procedure aimed at obtaining anesthesia for surgical interventions. An Egyptian record, dating back to third century BCE, possibly represents the first complete documentation of a hypnotic induction similar to the methods used by modern practitioners. It describes the techniques used by therapists to hypnotise subjects through the fixation of the gaze on a source of light, focusing on what is seen and heard, while in a hypnotic state. Additionally, the ability of individuals to undergo incisions and punctures, or to have stiffened bodies for long durations, indicates a phenomenon similar to hypnotic numbness. It is speculated that hypnotic techniques aimed at curing or alleviating symptoms might have been established in ancient Egypt (Hovec, 1975). Nevertheless, there is no concrete evidence that can confirm or discredit this proposition . Perhaps, in time more information will be uncovered that will bring researchers closer to understanding hypnosis’s true origins.

The practice of hypnosis spread from ancient Egypt to ancient Greece, where the practices of the cult of Asclepius (God of Medicine) were supposedly used to induce the hypnotic state for therapeutic purposes during religious rites (Gauld, 2006). The priests of the cult, who worked in the temples of sleep, used induction, considered to be an artificial state of sleep, while working with the individuals participating in the ritual (Gauld, 2006). Individuals would spend the night in the temple in order to have a special dream (spontaneous or provoked by suggestion), which was later interpreted by the priest for diagnosis. This was followed by therapy. The cult of Asclepius considered this to be a clear indication of the therapeutic capabilities of the hypnotic state. As a result, hypnosis gained vast popularity within society (Gauld, 2006).

The Greek myth of Medusa, who was endowed with the ability to turn into stone whoever looked into her eyes, might be another example of the variety of belief on the subject in the Hellenic world (Pintar & Lynn, 2008). Throughout Greece, it seems that healers used variations of hypnosis for religious and medical purposes. The Romans were also interested in the exploration of hypnosis for therapeutic aims. Many sanctuaries were dedicated to healing, where priests soothed the suffering with the touch of their hands, using hypnotic induction as a passage into a state that was considered similar to sleep (Hughes, 2008). The so-called royal touch, practiced with the hands of authoritarian figures and guides, was considered to be an essential therapeutic act. Even the mysteries of the Great Mother (Cybele) seem to be infused with connotations to knowledge about hypnosis. Similarly, Celtic populations practiced various hypnotic techniques through rituals in which individuals passed through the woods to approach a sacred place where they invoked healing after fasting and trance inducing purification ceremonies. They would pause, while in trance, for their souls to be purified with the greatness of the divine power

(Hughes, 2008). Historical accounts and analysis of the ancient roots of hypnosis suggest that human beings have engaged in its use for healing purposes for some time. However, what is now assumed to have mimicked hypnosis does not guarantee its use through these practices. The described hypnotic connotations solely indicate that the practices probably involved what we now know as hypnosis. Nevertheless, progress from these earlier times set the stage for further developments throughout the Medieval period.

In the Middle Ages, hypnosis was depicted in songs and in the frenetic folk dances of the tarantula, which were widespread across Europe and especially popular in Southern Italy. These were used for therapeutic purposes and consisted of rituals with many participants dancing to the sound of musical instruments played by healers. The practice was capable of guiding the participants into a state of profound dizziness, with characteristics similar to those presented through modern day hypnotic trance (Gauld, 2006). Turkish and Mongolian shamans also knew how to practice hypnosis and applied it throughout their rituals (Gauld, 2006). In North America, an indigenous tribe called Chippewa, which settled in the areas that are now part of Canada as well as the United States, is said to also have used hypnosis for therapeutic and prophetic purposes (Gauld, 2006). Gauld (2006) provides a detailed and comprehensive description of the historical and geographic context and evolution of hypnotic states. However, the contemporary perspective and use of hypnosis are not fully considered and its modern use in stage entertainment, for example, is barely described.

At the end of the 15th century, the foundations were laid for a more psychological conception of hypnosis, moving away from religion and mysticism, towards the idea of ‘animal magnetism’ and the study of the mind (Krippner, 2005). A theory of magnetism was advanced by the

physician-philosopher Paracelsus (1493-1541), according to whom the magnetic influence of the planets and stars conditioned the human mind, while terrestrial radiation had an effect on the body (Grell, 1998). Later, Franz Mesmer (1734-1815) described the concept of animal magnetism as an invisible natural force possessed by all living things, which had the potential to have physical healing effects on the mind and body (Krippner, 2005). Psychological suffering was considered to be associated with evil spirits and demonic possession and was often ignored or dealt with harshly by the community and the religious establishment. However, developments in health and wellbeing improved and physicians during that time began to grant importance to the power of the mind in healing. Hypnosis was used, along with magnets as an alternative to conventional medicines and herbs. The hold of religious leaders began to fade and a new rational and a scientific healing paradigm began to explain and treat illness phenomena, physical and psychological, in a more humane and empirically grounded way.

These developments initiated and propelled scientific exploration into the phenomena of hypnotic trance and the mind and into the overall methodical applications of hypnosis. Its use by physicians seems to have gained credibility during this period and the knowledge gained to have contributed to the groundwork underlying the advancement of the curative sciences. By the end of the 19th century, hypnosis practices were more widely used in healing. These practices however were not specifically defined or given formal terminology. The term ‘hypnotism’ was introduced in 1843 by James Braid (1796-1860), who defined it as a particular state (not like sleep), influenced by changes in the nervous system. In the same era, Jean-Martin Charcot (1825-1893) in Paris, and Hippolyte Bernheim (1840-1919) in Nancy, proposed new theories of hypnosis and methods of induction, which integrated with the emerging ideas in psychology

(Forrest, 2000). At the turn of the twentieth century, Freud (1856-1939), after having studied with Charcot and worked for some time with hypnosis developed the sophisticated techniques of psychoanalysis (Hammond, 2013). Clark Hull (1884-1952) recommended the postural sway procedure to assess the suggestibility or hypnotisability of individuals in 1929 (Schneck, 1972). After the Second World War, experts began to use hypnosis and psychotherapy simultaneously as it was asserted that hypnosis might be more beneficial when accompanied by another psychological treatment (Wampold & Imel, 2015). These key developments set the stage for the acceptance of hypnosis in psychology and psychotherapy.

Milton Erickson (1901-1980) linked the concept of induction with hypnotherapy. Induction was introduced as a context for offering therapeutic suggestions. During hypnotic induction, the hypnotherapist encourages responsiveness to implied meaning, which sets the stage for therapeutic use. Erickson explored a vast amount of induction techniques and pioneered the idea that many common experiences (i.e. confusion) naturally involve a state of hypnotic trance. He introduced a variety of direct and indirect (i.e. metaphor) hypnotic suggestions and developed both verbal and non-verbal hypnotic induction strategies (Zeig & Tanev, 2022).

1.2 Characterising Hypnosis

There is no agreed single definition of hypnosis, and several have been proposed with overlapping characteristics. The British Society of Clinical and Academic Hypnosis (BSCAH) provides two definitions of hypnosis. The first definition asserts that:

Hypnosis is essentially a psychophysiological state of aroused, attentive, receptive focal attention with a corresponding diminution in peripheral awareness (Spiegel & Spiegel, 2004).

The second definition proposes that:

Hypnosis uses guided relaxation, intense concentration, and focused attention to achieve a heightened state of awareness that is sometimes called a trance. The person's attention is so focused while in this state that anything going on around the person is temporarily blocked out or ignored (Griffin & Tyrrell, 2003).

Current descriptions of hypnosis emphasize that cognitive, affective, behavioural, and physiological processes become modified and that the subjective experience of hypnotised individuals seem to be authentic and occurring involuntarily (Hauser, Hagl, Schmierer, & Hansen, 2016). Selective amnesia, a warped notion of time, an emotional reaction to suggestion, and regression, characterise some potential responses to hypnotic induction. Hypnotic phenomena also occur spontaneously in different clinical situations. During hypnosis suggestions are interpreted as direct or indirect proposals which correspond to an individual's internal visual representations or imagery.

Jensen et al. (2017) assert that if conducted properly, hypnotic suggestions have a profound effect on psychological and somatic processes. They argue that in practice, the effects of hypnosis rely predominantly on the hypnotised individual's own capacity and desire rather than

being directly induced by the hypnotist's suggestion. Orne (1959) studied subjective states of mind and strived to understand what cognitive changes occur in the hypnosis state. This is discussed in his book titled *The nature of hypnosis: Artifact and essence*. His development of the concept of trance logic emphasized how hypnosis facilitated the simultaneous engagement of logically contradictory thoughts and perceptions. He believed that this in turn provides evidence for parallel processing in that there appears to be simultaneous registration of information at different levels of awareness.

Hypnosis has been defined and described differently over various phases of its evolution. It is considered to be a widely incorporated therapeutic method that uses verbal techniques by a qualified practitioner to guide the patient or client into a hypnotic state of conscious awareness (Sheehan & McConkey, 2015). It is said to assist therapists in uncovering underlying psychological reasons for patients' conditions and undesired behaviours. The core purpose is recovery and healing or a therapeutic solution of symptom minimization or remission.

Health and wellbeing professionals are constantly trying to find better cures or management tactics for physical and psychological symptoms and conditions (Milling, Gover, & Moriarty, 2018). In retrospect, hypnosis has been one of the most enduring techniques employed by different earlier cultures for these purposes, although in modern medicine it has gained clinical significance only in recent decades (Pintar & Lynn, 2008). Hypnotic practice dates back to past civilizations, but the term "hypnosis" is relatively new and was introduced only in the last century (O'Neil, 2018). Today, clinical practitioners use hypnosis to treat an array of ailments ranging from tension headaches to depression and anxiety. It has shown to be useful in

psychotherapy and counselling, with successful results in individuals suffering from various conditions for extended periods of time (O'Neil, 2018). Its benefits further increase when combined with one or more other means of treatment, varying from medical interventions to yoga and breathing exercises. Today, hypnosis functions as a useful tool in the hands of trained professional counsellors and psychotherapists who strive to alleviate various symptoms of physical and psychological distress (Sawni, & Breuner, 2017).

Hypnotic techniques have a variety of medical applications. Medical hypnosis can be applied to facilitate the relief of physiological symptoms such as pain as well as psychological symptoms such as stress or anxiety. Erickson, Hershman and Selter (2014), describe an extensive range of medical and dental applications for the use of hypnosis including its use in surgical anaesthesia. Nevertheless, hypnosis is still not fully understood or accepted as an individual mode of therapeutic intervention despite its potential to enhance treatment in various branches of medicine having been confirmed (Hauser, Hagl, Schmierer, & Hansen, 2016).

In the contemporary era of evidence-based medicine research has been undertaken with the aim of better understanding the nature of hypnosis and the ways in which it can be applied more effectively in professional healing practice (Hauser et al., 2016, Kekecs et al., 2022).

Developments in psychology suggest that further research within the field of hypnosis could benefit from a well devised combination of quantitative and qualitative research methods (Elkins, Barabasz, Council, & Spiegel, 2015). It is suggested that only through a more holistic research style can an insightful paradigm emerge. Currently, a distinction is made between experimental and clinical hypnosis (Nash & Barnier, 2012). The former deals with applications

specifically in the research area, whilst clinical hypnosis is called hypnotherapy or hypno-psychotherapy (UKCP, 2023).

Osiwiec (2014) has examined the various implications that research about hypnosis might be facing and considers the current direction of science from a philosophical standpoint. She highlights the significance of the current disparity between clinical and academic research vistas, suggesting that the growth of research knowledge is hindered by the lack of credibility given to clinical practitioners researching lived experience, while many academic researchers engage in an objective to standardize measures through more accepted positivistic models of statistical analysis (Jensen et al., 2017). Elkins et al. (2015) stress that only through a more integrative approach to research can knowledge about hypnosis develop further. Jensen et al. (2017) assert that with time more applications of hypnosis will develop and its scope will broaden as a result of more expansive research.

1.3 Theoretical Foundations of Hypnosis

There are currently three main types of theoretical approaches to understanding hypnosis - state or dissociation theories (for example, Hilgard's Neo-dissociation Theory), non-state or cognitive theories (for example, Spanos's Socio-cognitive Theory), and integrative theories (for example, Dienes and Perner's Cold Control Theory). State theories argue that the hypnotised individual separates from their conscious awareness and enters a different state of consciousness. Non-state theories claim that there is no altered state of consciousness or of mind but that individuals under

hypnosis are active participants playing the socially understood role of a hypnotised individual. Integrative hypnosis theories consider both state and non-state perspectives and propose that hypnotic responding is facilitated by self-intended changes in attention (Heap, 2017).

Theoretical positions differ greatly amongst hypnosis researchers as the phenomenon has not yet been fully explored and understood (Peebles-Kleiger, 2001; McCann, B. S., 2023), and there continues to be a great amount of controversy over which theoretical stance is correct. Much of the research literature on hypnosis is based on non-state specific or cognitive theory, such as Sarbin's role theory, where hypnosis is considered to be part of a conscious suggestive process that promotes certain behaviours (Heap, 2017). Research using a state specific framework has been under-explored for reasons not understood (Bonshtein, 2012). The Neo-dissociation state theory (Hilgard, 1986) was used as foundation for the presented research. It is more specifically labelled state specific theory of hypnosis (Woody & Bowers, 1994).

1.4 Theoretical and Practical Developments in Hypnosis

Despite Freud's early use, and subsequent abandonment, of hypnosis as a psychoanalytic technique recent developments exploring the use of hypnosis have grown predominantly within what is generally referred to as the cognitive behavioural school of psychotherapy and psychology (Nuttall, 2019). According to Alladin (2012), these trends in hypnotherapy outline the need for five major advancements: (i) its use in the treatment of various psychological and medical disorders, (ii) a well-formulated protocol of the research methodology and measurement to facilitate replicability, (iii) empirical validation, meta-analysis and reviews of the therapy, (iv)

a perceptible approach to hypnotherapy as a comprehensive model of integrative psychotherapy, and (v) a growth in the number of publications. In contrast, the potential role of hypnosis as a psychoanalytic tool has not been pursued within classical psychoanalysis or in recent research developments (Kluft, 2018). However, Bonshtein (2012) discussed how hypnosis can be readily accommodated within the tenets of relational psychoanalysis for which he coined the term relational hypnosis. He explored connections between hypnosis and psychoanalysis and three areas were considered important concerning the interplay of psychodynamic practice and the use of hypnosis. These are neuroscience and psychoanalysis, hypnosis and psychoanalysis, and the various schools of psychoanalytic practice. Bonshtein (2012) argued that by reconciling these areas, integration of neuroscience, psychoanalysis and hypnosis can be achieved within his conception of relational hypnosis.

Another approach to the therapeutic use of hypnosis that has developed over the last few decades is called transactional hypno-analysis (THA). THA shares many parallels with the transpersonal school of psychotherapy, which is argued to have evolved from humanistic psychotherapy (Nuttall, 2019; Boorstein, 1996). Transpersonal psychotherapy incorporates spiritual components and practices into a more integrated therapeutic approach. In relation to hypnosis theory, transpersonal psychotherapy seems to be sympathetic to the dissociative theory of hypnosis, with its focus on transforming consciousness and exploring non-ordinary states of consciousness (Grof, 1996). The main idea of the transpersonal approach is built on the assumption that the transcendent self has a significant role in healing the body and mind (Boorstein, 1996). Moreover, transpersonal theory posits that each individual consists of a numerous array of aspects or parts which compose his or her personality. This concept seems consistent with the

dissociative state-specific theoretical underpinning of hypnosis and its potential therapeutic use. Here, the main therapeutic goal is to integrate ego awareness into the personality by assisting individuals in the management of their so-called “parts” through hypno-psychotherapeutic intervention (Biechonski, 2007).

Peebles-Kleiger (2001) and Kluft (2018) have discussed the shifts that have taken place over the last one hundred years regarding the various psychoanalytical associations with hypnosis, while considering the less prominent role of psychoanalysis in the mental health arena. Peebles-Kleiger (2001) and Kluft (2018) place a large emphasis on the value in employing psychodynamic tenets into the current hypnotherapeutic and general psychotherapeutic settings. Hypnosis is presented as a unique and promising tool, with a multi-faceted history, possessing the capacity to fortify the importance of psychoanalytic ideas through research and practice. Even though there is an incongruity between the socio-cognitive and dissociative theories of hypnosis, developing a more unified understanding of hypnotic processes might be valuable. A study by Lynn and Green (2011) exploring the automaticity and the non-conscious aspects, incorporating information processing and goal setting and action, promotes the need for collaborative examinations irrespective of theoretical stance .

The European perspective on hypnosis and its psychotherapeutic applications endorses the need to include “classical hypnosis” as opposed to focusing solely on the cognitive properties of suggestive criteria as endorsed by the American perspective (Gruzelier & Burkhard, 2009).

Classical hypnosis favours the concept of conscious alteration and a more state specific theory approach to the hypnotic state. Accordingly, hypnosis is seen as a useful tool with the capacity to facilitate empathy and the adaptation of individual therapeutic needs, directing attention and

navigating subjective reality (Gruzelier & Burkhard, 2009). In an earlier work, Gruzelier (2000) referred to hypnosis as an “altered state of brain functional organization,” which involves interrelations between brain regions initiated by hypnotic intervention. He emphasized the need for researchers to approach this unique phenomenon through a multi-dimensional lens and stressed the need for formal assessments regarding the social conceptions associated with hypnosis. It is expected that as new knowledge develops understandings of hypnosis in psychotherapy and psychology will likely continue to shift.

Hypnosis and Psychotherapeutic Applications

Freud’s abandonment of hypnosis in favour of his new discipline of psychoanalysis in the 20th century should not discredit the use of hypnosis as a psychotherapeutic tool (Hammond, 2013). Many forms of psychotherapy, including behavioural, cognitive, humanistic, and existential, incorporate directly or indirectly ideas from hypnosis such as forms of suggestion, relaxation, and visualisation. Researchers have displayed the potential successes of hypnosis in the treatment of an array of psychological and neurological ailments (Hope & Sugarman, 2015). Meyerson (2017) has demonstrated that incorporating the hypnotic state into psychotherapeutic intervention facilitates positive therapeutic outcomes. For example, practitioners have effectively applied cognitive hypnotherapy (CH), which is a comprehensive evidence-based technique, in the treatment of clinical depression and anxiety (Alladin, 2015). CH has empirical evidence of its efficacy in the treatment of psychological disorders and will likely continue to be applied alongside mainstream psychotherapies (Alladin, 2010). Hypnotherapy is also used in the treatment of cancer patients undergoing chemotherapy for pain management exhibiting

significant effectiveness (Jensen et al., 2009). In Montgomery et al.'s (2000) review, it was found that hypnosis can relieve different kinds of pain in 75% of the population. Results revealed a moderate to large effect of hypnotic analgesia in reducing both clinical and experimental pain which supports the efficacy of hypnotic procedures for chronic and acute pain management. Moreover, the results indicated that hypno-analgesic techniques are superior to medication, psychological placebos and other treatments (Mendoza & Capafons, 2009).

Hypnosis is also extensively applied in breaking bad habits like thumb-sucking, excessive drinking, and smoking. It is also frequently applied in the treatment of forgetfulness and certain memory problems, resulting in positive therapeutic outcomes (Barnier, Cox & Savage, 2008). Individuals with concentration deficiency issues can also benefit from hypnotic suggestion, which strive to support a focus enhancement approach through the application of the anchoring technique for example, where a desired response is linked to a specific gesture (anchor) via conditioning. Hypnotherapists can also assist students with strategies aimed at sharpening memorization during exams. It is additionally used as a valuable tool in prisons as a method aimed at breaking certain criminal behavioural patterns. Some weight loss specialists have also introduced hypnosis counselling into their services (Milling, Gover, & Moriarty, 2018). Hypnosis is similarly effective for addressing anorexia and bulimia. Medical as well as dental surgeries have taken place under hypnotic induction, where hypnotic state effects have been used as a substitute for anesthesia (Erickson, Hershman, & Sector, 2014).

With the initiation of modern and developing hypnotic techniques experts might now be able to promote new applications for hypnosis. Both aspects of scientific investigation, including the research process as well as the outcome, must be attended to in order to enhance the scope of

hypnosis uses (Tompkins & Swift, 2015). Similarly, it is suggested that more focus should be directed towards understanding the mechanisms associated with state specific effects themselves.

Kekecs, Moss & Elkins (2022) have discussed the efficacy of hypnotherapy in the treatment of various ailments including depression, anxiety, phobias, sleep disorders, post-traumatic stress, and pain, providing a number of studies which support this claim. It is stressed that the field of clinical hypnosis is now at a point, after nearly a century of formal scientific hypnosis research, where hundreds of research trials and case studies investigating the effectiveness of hypnosis-based interventions for the treatment of various symptoms and conditions have been published (Kekecs, Moss & Elkins, 2022). It is reasonable to expect researchers to be able to formulate evidence-based recommendations about clinical applications of hypnosis. Kekecs, Moss & Elkins (2022) conclude that these recommendations, which must be built on the systematic evaluation of accumulated evidence, are exceedingly important for decision making with regard to the adoption of effective therapeutic strategies.

The following section provides an overview of the effectiveness of hypnosis applications in psychotherapeutic and research settings. A number of prominent areas of research are discussed, including hypnotic susceptibility, hypnotic imagery, sleep disorders, smoking cessation, depression, memory, post-traumatic stress, anxiety, and social cognition.

Efficacy of Hypnotherapy

Research has contributed to a deeper understanding of the efficacy of hypnosis in the management of varying clinical conditions (Elkins et al., 2015). The literature reveals that hypnosis can be used to manage a variety of somatic and psychological conditions. This section focuses on the research developments that are relevant to psychotherapeutics and the experiential aspects associated with the hypnotic phenomenon. Research has compared the efficacy of current hypnotic techniques and similar approaches (Elkins et al., 2015). A deeper understanding of the mechanisms underlying hypnosis might facilitate its efficient application in psychotherapy. In turn, this could encourage evaluation of its value through clinical management.

Much literature to date highlights clinical research in support of the efficacy of hypnosis for managing a variety of clinical issues (Jensen et al., 2017; Kekecs, 2022; Hope & Sugarman, 2015; Alladin, 2015; Barnier, Cox & Savage, 2008). On a subjective level, recent studies have indicated that self-hypnosis has the capacity to moderate one's internal drive (unconscious), ego and super-ego, and by doing so allows for a more reflective exploration of conscious and unconscious elements, which could influence an individual's rational/irrational impulses (Navaneethan, 2012). Considering such research, in relation to this study, parallels can be made regarding the need for a greater examination of the cognitive and perceptual changes that occur during hypnotic induction. In a relevant work, Appel (2014) discussed the model of psycho-synthesis and how it effectively integrates hypnotic principles, proposing a "transpersonal model for hypnotically mediated psychotherapy (pp. 260-267)." The approach integrates a variety of techniques that involve active imagery, aid self-awareness, and synthesise psychotherapeutic components from intrapersonal, interpersonal, as well as transpersonal approaches.

Susceptibility to Hypnotic Suggestion

Mohl (2013) explored the connection between hypnotisability and awareness of potential for being hypnotised. He reported that the majority of participants who had undergone therapist-guided hypnotic induction expressed surprise with regard to their hypnotic responsiveness and interpretation of suggestive content. The degree of responsiveness was higher, both objectively and subjectively, when suggestions were provided by the therapist rather than through self-hypnosis. This was confirmed by analysis of both the qualitative and quantitative data gathered. Notably, the study supports the notion that individuals have a tendency to undervalue their capacity to become hypnotized until they actually experience the hypnotic state.

In contrast to the above, there have been some studies which support the idea that hypnotic susceptibility and hypnotic responsiveness are mutable and unstable (Fassler, Lynn & Knox, 2008; Terhune & Oakley, 2020). After conducting a number of test and re-test measures, in reference to subjective experiences and expectations, significant variation was observed (Fassler, Lynn & Knox, 2008), and the importance of the individual experience considered. Further variations regarding hypnotic suggestibility have been found highlighting discrepancies in age and gender. For example, susceptibility to hypnotic suggestion gradually decreases from age seventeen to forty (but slightly increases after forty), and that females are generally more susceptible to hypnotic suggestion than males (Page & Green, 2007). Jensen et al. (2017) emphasize that hypnotic susceptibility is associated with atypical brain connectivity profiles and recommend further research to be sceptical about how hypnotic susceptibility is assessed, suggesting that it might be useful to use research participants who score in the middle range of hypnotic susceptibility as this trait is unstable.

Hypnotic Imagery and Relaxation

According to Yapko (2001), guided mindfulness relaxation and hypnosis share similarities with regard to numerous interpersonal and intrapersonal processes which promote focus and information absorption, through suggestion. Moreover, Yapko (2001) has pointed out that both mindfulness and hypnosis have the capacity to modify thoughts, feelings and behaviours, specifically attention, absorption, memory, imagination, and expectation. Fox et al. (2015), emphasize the ability of hypnosis and meditation practices to increase cognitive-emotional flexibility, while emphasizing the value of further research on this topic. In another study (Simpkins & Simpkins, 2012), mentioned empathy as a component of the interpersonal dimension, and explored it through the consideration of mirror neurons as the brain's integral components, which facilitate an inherent capacity to resonate with others during psychotherapy. There is a growing interest in exploring how empathy is affected by different modes of psychotherapy. Antonelli and Luchetti (2010) have also mentioned the importance of mirror neurons and empathy for building a new paradigm for understanding hypnosis.

In a recent work, Terhune and Oakley (2020) explored the association between hypnosis and imagination and concluded that that hypnotic suggestibility might relate to variability in imagination. Furthermore, they state that hypnotic suggestion and voluntary forms of imagery might be influenced by dissimilar neurocognitive mechanisms. This work implies that the hypnotic experience is dynamic and encompasses a variety of cognitive processes and that further research in this area is required.

Green and Lynn (2005) researched cognitive processes in participants asked to recall the dates of international news events. They found that participants in both hypnotic and relaxation

conditions performed similarly with regard to accuracy, confidence, memorability, and emotionality of the reported events. However, when individuals in both conditions were told that some of their estimations were incorrect and given the option to change their answers the hypnotic participants were less likely to alter their responses (irrespective of the complexity of the events). Here, it was suggested that significant cognitive differences between hypnosis and relaxation might exist. Similarly, research investigating the possible differences between self-hypnosis and progressive muscle relaxation (PMR) in patients with multiple sclerosis and chronic pain, found that hypnotised patients reported greater decreases in pain when compared with PMR patients. Notably, susceptibility to hypnotic suggestion was not related to successful treatment outcomes (Jensen, Barber, Romano, Molton, Raichle, Osborne, Engel, Stoelb, Kraft, & Patterson, 2009).

Hypnosis in the Management of Sleep Disorders

Hypnosis has a broad application in the management of sleep disorders, such as acute and chronic insomnia, nocturnal enuresis, parasomnia, sleep terrors, and sleepwalking (Beng-Yeong & Lee, 2008). However, research pertaining to its efficacy with regard to these sleep conditions is limited. The research that is available stems solely from reviews of case studies and reports. Cheng et al. (2017) conducted a double-blind clinical trial to investigate the efficiency of hypnotherapy in the management of chronic insomnia. Research subjects were assessed by means of the Symptom Checklist-90 (to eliminate those suffering from psychiatric conditions), and the Pittsburgh Sleep Quality Index (to investigate sleep quality). The study found that

hypnotherapeutic interventions, involving relaxation and positive suggestions successfully improved sleep quality among participants.

Chamine, Atchley, and Oken (2018) screened one hundred thirty-nine abstracts and reviewed twenty-four papers in a qualitative analysis exploring hypnotic intervention effects on sleep outcomes. It was found that 58.3% of the included studies reported hypnosis to be beneficial on sleep outcomes, with 12.5% showing mixed results, and 29.2% indicated no benefit. The authors concluded that hypnosis for sleep problems is a promising treatment that merits further investigation, explaining that the current evidence is limited because there have been few studies assessing populations with sleep complaints, small samples, and low methodological quality.

Smoking Cessation via Hypnotherapy

Barnes et al. (2010) conducted a meta-analysis, which evaluated the effectiveness of hypnotherapy as a therapeutic option in the management of smoking. The research asserted that hypnotherapy has the capacity to contribute to smoking cessation. Although, there was only a minor difference observed in cessation rates between smokers undergoing hypnotherapy and those who engaged in formal counselling. The authors further showed that hypnotherapy resulted in higher cessation rates than other psychological treatments, where all individuals were provided with nicotine patches throughout the study. Hypnotherapy was shown to be a useful adjunct to other treatments of problematic smoking. Barnes et al. (2010) compared cessation rates between two closed groups. In one group, individuals were provided with self-help

materials and phone calls. Those in the other group underwent multiple hypnotherapy sessions in addition to the mentioned provisions. The latter showed higher cessation rates.

Dickson-Spillmann, Haug, and Schaub (2013) conducted a randomized clinical trial comparing the efficacy upon abstinence of a single session of hypnosis to group relaxation. The research was based on recommendations from the meta-analysis presented by Barnes et al. (2010). After a six-month follow-up period, there was no significant difference in the abstention rate between the hypnosis and relaxation groups. However, the study showed that participants in the hypnosis group who abstained, experienced fewer withdrawal symptoms than those in the relaxation group. This finding sheds some light on the reason that hypnotherapy might be an excellent adjunct to other treatments used for smoking cessation, while providing some evidence that relaxation does not possess the same effects as hypnosis. Hasan et al. (2014) compared the effectiveness of hypnotherapy to nicotine replacement therapy in another randomized clinical trial. They showed that hypnotherapy resulted in higher abstention rates than nicotine replacement therapy, after discharge from a treatment facility. These publications assert the role of hypnotherapy in encouraging smoking cessation. Nevertheless, they also suggest that future research should strive to determine the optimal methods associated with integrating hypnosis into therapeutic practice. A qualitative exploration of individuals' accounts on hypnotic smoking cessation might facilitate the development of such methods.

Hypnosis, Depression and Memory Reconstruction

Gravitz (2011) has explored the possibility of using hypnosis for memory reconstruction as a treatment for grief. Here, unwanted and intrusive memories are approached with the aim of reconstruction rather than with the aim of removing the given memory completely. The author employed a dynamic clinical strategy in which the image generation of pleasant memories was incorporated into the present frame of reference in an effort to diminish the grief association systemically linked to the maladaptive memory. This approach was concluded as highly helpful and rapidly effective in reframing memory, maintaining the reformatted memory four months post-treatment. The potential for a substantial positive impact via hypno-cognitive psychotherapeutic intervention on deeply rooted perceptual constructs (i.e. intrusive memories), was illustrated here. Gravitz (2011) however, reports only a single case with a four-month follow up. It would be valuable to conduct a randomised clinical trial with more participants, and numerous follow up assessments, which are spread out over a longer period.

Alladin (2010) has described the role of hypnotherapy in the management of major depressive disorder (MDD). This can be a debilitating condition, which has the capacity to strain the affected individual physically and psychologically. Much research on this condition has emphasized the need for a diverse approach towards its management because of its varied manifestation and origins. Alladin (2010) asserts that hypnotherapy can enhance the improvement of the sufferer's psychological state, while preventing the occurrence of relapse. Hypnotherapy sessions, for individuals with MDD, focus predominantly on inducing a relaxation response, producing somatosensory alterations, while working on strengthening the ego and expanding awareness. Moreover, Alladin (2010) indicates that a significant portion of patients

with MDD prefer hypnotherapy to the prescription of anti-depressants. Alladin (2010) also suggests that providing training for depressed patients on the techniques for self-hypnosis, augments the positive outcomes of treatment by improving self-reliance, increasing the capacity for self-correcting behaviour, and boosting an individual's will. Hypnotherapy has additionally shown to proactively influence the continuation of treatment. Assen (2010) asserts that cognitive hypnotherapy (CH) might be used to study the potential of hypnosis in the management of psychological disorders such as clinical depression.

Milling et al. (2019) conducted a meta-analysis on the effectiveness of hypnosis for treating the symptoms of depression and concluded that it is a very effective way of alleviating the symptoms of depression. They screened 197 records, reviewing 10 studies incorporating 13 trials of hypnosis. The mean weighted effect size for the 13 trials at the end of hypnosis treatment was 0.71 ($p \leq .001$), indicating the average participant receiving hypnosis showed more improvement than about 76% of control participants. The mean weighted effect size for four trials of hypnosis at the longest follow-up was 0.52 ($p \leq .01$), indicating the average participant treated with hypnosis showed more improvement than about 51% of control participants.

Yapko (2010) reviewed numerous research findings, which explored the mechanisms encompassed in hypnosis, the aspects associated with unconscious psychological processes, information processing, cognitive and affective processes, and the nature of perception. In addition, he examined the existing knowledge on the nature of depression to understand the connection between hypnosis and MDD. His analysis points out several overlaps between the mentioned constructs. Both depression and hypnosis entail social processes and are influenced considerably by the quality of personal relationships. Yapko (2010) argued that they result from

expectancy. In cognitive psychology depression is considered to be the result of negative reinforcement which might originate in the individual's past leading to feelings of apathy and hopelessness. Yapko believes hypnosis provides an opportunity to enforce positive messages through suggestion and that incorporating mixed applications via hypnotherapy in the treatment of depression might assist positive treatment outcomes. Such applications include the acquisition of new skills, the facilitation of therapeutic learning, the sharpening of perceptual distinctions to prevent overthinking, and the encouragement of better individual definitions of personality. Sawni and Breuner (2017) have successfully applied these tactics into hypnotic suggestions associated with the management of depression in adolescents. The authors suggested that the inclusion of hypnosis in clinical practice enables healthcare providers to teach adolescents effective ways to cope with challenging psychological states, such as depression, anger, nocturnal enuresis, and sleep disorders.

Hypnotherapy for Post-Traumatic Stress and Anxiety

Bozorgkhou et al. (2022) recently conducted a study (N = 60) that compared the effectiveness of hypnosis and cognitive behavioural therapy (CBT) on the management of post-traumatic stress disorder (PTSD) and found a significant difference between hypnosis and CBT ($P < 0.01$). There was also a significant difference between the control and CBT groups ($P < 0.01$). The after-effects of their examination indicated that both hypnosis and CBT are effective at decreasing post-traumatic stress, however hypnosis is more effective at doing so.

Abramowitz and Bonne (2013) have outlined several clinical reports which discuss the use of hypnotherapy in the management of Post-Traumatic Stress Disorder (PTSD). They emphasized that hypnotherapy has a substantial capacity in the effective management of this condition. They posit that hypnotic techniques can be used to help patients/clients work through traumatic memories, thereby strengthening coping skills, and enhancing a sense of competency. They attribute hypnotherapy's exclusion from the therapeutic armamentarium for PTSD as being due to a lack of controlled clinical trials. Rotaru (2016) has also analyzed the efficacy of hypnosis in the treatment of PTSD in six clinical trials. Here, hypnosis was shown to have significant potential to compete with other modalities of treatment of PTSD, such as exposure therapy and cognitive behavioural therapy (CBT), as recently exhibited by Bozorgkhrou et al. (2022). Still, there seems to be need for more study on the applications of hypnosis in managing PTSD (Saripanidis, 2016).

Many psychological interventions, in practice, have been shown to be useful in combating anxiety disorders (Fresco, Alloy & Reilly-Harrington, 2006). Several authors have argued that the integration of hypnosis is likely to improve the efficacy of psychotherapeutic interventions for anxiety (Holdevici & Craciun, 2013, Kraft, 2012). Holdevici and Craciun (2013) investigated the potential efficacy of using hypnosis in the management of anxiety disorders. Their study examined two groups. One group incorporated cognitive-behavioural interventions while the other group incorporated the same cognitive-behavioural interventions with the addition of some hypnotic techniques. The group with the dual interventions showed a statistically significant higher reduction in anxiety.

Valentine et al. (2019) conducted a meta-analysis on the efficacy of hypnosis in treating anxiety. Included studies were required to use a between-subjects or mixed-model design where hypnosis intervention was compared to a control condition in reducing the symptoms of anxiety. Of 399 records considered, 15 research studies incorporating 17 trials of hypnosis met the inclusion criteria. At the end of treatment, 17 trials yielded a mean weighted effect size of 0.79 ($p \leq .001$), exhibiting the average participant receiving hypnosis minimised anxiety more than 79% of control participants. At the longest follow-up, seven trials showed a mean weighted effect size of 0.99 ($p \leq .001$), indicating the average participant treated with hypnosis improved more than about 84% of control participants. It was concluded that hypnosis was more effective in reducing anxiety when combined with other psychological interventions than when used as alone as a therapeutic treatment.

Iglesias and Iglesias (2014) emphasized the importance of using diverse case studies, where researchers employed hypnosis aided fixed role therapy (HAFRT) in the treatment of social anxiety disorder. The treatment was comprised of ten hypnotherapy sessions conducted every two weeks. It improved the patients' capacity to interact socially and professionally in a manner that was impossible before the initiation of the treatment. The results were maintained six months after completion. Notably, agoraphobia, unlike many other types of anxiety disorders, was said to be considerably resistant to many forms of treatment. Hypnosis is incorporated into numerous treatment applications for agoraphobia, which include systematic desensitization, ego strengthening, and internal visualizations of the feared external environment. Kraft (2012) reviewed the developments on the uses of hypnosis in the treatment of anxiety and phobias concluding that although hypnosis is potentially beneficial in treatment clinicians need to strengthen its application and learn more about resistance during hypnotic induction.

Effects of Hypnosis on Social Cognition

A number of studies have explored the association between psychological well-being and attributional interpretation (Firth-Cozens & Brewin, 2011, Fresco, Alloy & Reilly-Harrington, 2006). Particularly, research has indicated the tendency for people to observe negative events as arising from internal, stable, and generalised causes, whilst positive events are seen as arising from external, unstable, and specific causes, and this is associated with higher rates of clinically assessed symptoms of depression (Fresco, Alloy & Reilly-Harrington, 2006, Sturman, Mongrain & Kohn, 2006). In a related study, Firth-Cozens & Brewin (2011) investigated the causal attributions for life events involved in the process of recovery from depression. They found a positive relationship between attributional change and a change in depressive symptoms, with a significant correlation occurring on all of the measurable attributional dimensions.

A study by Wagstaff and Holden (1996) assessed whether individuals with experience of being hypnotized are prone to attribution errors. Sixty participants underwent a standard measure of hypnotic depth and were presented with a monotonous audio tape recording of numbers from which some numbers were missing. The participants who reported themselves as hypnotized by this measure were more likely to misattribute the missing numbers to hypnosis and report higher levels of hypnotic depth. However, participants under formal hypnotic induction (by a hypnotherapist) did not show this tendency to misattribute the missing numbers. This study indicates that there might be relationship between changes in attribution and hypnosis. However, the results are inconsistent and could benefit from further exploration.

Some research has been conducted on emotional intelligence, where the roles of empathy, attributional complexity, self-control levels, and responses towards interpersonal conflicts, were considered (Fitness & Curtis, 2005). In sum, the results indicated that individuals who scored high on the trait meta-mood scale (a measure of emotional intelligence) exhibited higher levels of empathy and attributional complexity, while paying attention to a greater range of emotions. Empathy and attribution are consequently related to an individual's capacity to easily discriminate between emotions (Fitness & Curtis, 2005). Further studies suggests that individuals tend to use the same mental processes for both producing and perceiving actions and that such "shared representations" underlie social perception and empathy (Lawrence, Shaw, Giampietro, Surguladze, Brammer, & David, 2006, p. 1173). These studies imply that changes in empathy and attribution might occur simultaneously. The authors indicate the need for further exploration of empathy and attributional tendency in the psychotherapeutic context.

Wickramasekera II (2015) has taken a socio-cognitive approach to understanding hypnosis through the propositions of empathic involvement theory (EIT). Here, hypnotic phenomena are seen as being involved with processes of empathy where hypnosis is embodied in an empathy-related system of neural networks. Wickramasekera II (2015) discusses how adaptive resonance between perceptual output and top-down expectancies, and connectionist learning algorithms, facilitates the empathic enactment of affect, cognition, body language, response expectancies, social roles, sensations, etc., which are presented during hypnotic induction. His view, however, does not address the possibility of discrepancies and/or inconsistencies. It might be suitable to isolate and separately examine these facets (i.e. the different components of cognition) that might become altered by the hypnotic state, to better understand the hypnotic process.

Matsuki (2002) identified the valuable role of empathy in hypnotherapy for both the therapist and patient and three important observations were considered. These are that hypnotic trance facilitates the patient's problem-solving capacity, enables the development of empathic relations, and the individual's voluntary activity increases as a result. This opens up greater possibilities for personal change (Matsuki, 2002). Some authors argue that hypnosis should be a more significant topic of interest in mainstream psychological, neuropsychological, social, and clinically related research (Gruzelier, 2005, Oakley, 2006). There is a need for further research regarding the role of reasoning, emotion and empathy within the hypnotherapeutic context. There seems to be a particular lack of research literature exploring the association of hypnotic trance and attributional interpretation. Gaining more insight into this could promote the use of hypnosis in the treatment of depression and anxiety as well as providing new knowledge about its effects on attributional interpretation.

Kekecs, Moss, Elkins, Benedittis, Palsson, Shenefelt, and Whorwell (2022) assert that research on the clinical efficacy of hypnosis continues to grow although gaps between science and clinical practice remain. They argue that there is little consensus on which clinical applications should be targeted whilst methodological controversy exists about guidelines for efficacy standards contribute to the gaps. McCann (2023) also highlights the wide variety of different approaches to clinical hypnosis in research and practice and stresses the need to bridge research and clinical practice. This can be achieved through a consensus regarding efficacy standards for clinical and experimental hypnosis applications.

The following section discusses the effects of hypnotic induction on cognitive functioning. The literature reviewed presents significant differences between hypnotic and non-hypnotic responding and offers neuropsychological support for these differences.

1.5 Hypnosis and Cognitive Functioning

The exploration of consciousness and its cognitive processes is a dominant area of study within the whole of psychology and recent developments in neuropsychology have linked various domains of the brain with alterations in conscious states. These states have been divided into categories of origin, such as those occurring spontaneously, physiologically, psychologically, and disease driven (Vaitl et al., 2013). Spontaneous changes in consciousness have shown to be associated with drowsiness, daydreaming, hypnagogic states, sleep, dreaming, and near-death experiences. Physiologically induced conditions seem to accompany extreme environmental conditions (i.e. temperature), starvation, diet, sexual activity, respiratory manipulation, and sensory deprivation. Some disease stemming alterations include psychotic disorders, coma, vegetative state, and epilepsy. Psychologically induced origins seem to be linked with homogenisation, rhythm induced trance, relaxation, meditation, and biofeedback. Vaitl et al. (2013) suggest that the hypnotic state might have some effects on the capacity for integrative functioning by inducing a change in the communication between components within the brain where specific conscious experiences are created.

Research has shown that the various brain areas, which perform cognitive processes of consciousness and attention are more likely to be affected by hypnosis (Terhune & Kadosh, 2012). The brain regions associated most consistently with hypnotic responding are the frontal

and the mid-cingulate and anterior cingulate cortices; MCC & ACC, respectively (Cussen, 2015). The frontal cortices are involved in planning, setting goals, selective attention, and the selective inhibition of other brain functions. The MCC and the ACC comprise a part of the limbic system which is involved in multiple functions including the anticipation of reward, detection of error, motivation, attention, and emotion. These areas are involved vastly in the regulation of the behaviour involved in hypnotic responding.

The effect of hypnosis on the activity in the MCC and the ACC has been shown to depend on the nature of the suggestions being made. For example, asking a hypnotised patient to imagine a pleasant memory vividly seems to be associated with an increased activity in the MCC. Whereas, suggesting a reduction in pain is associated with a decreased activity in the ACC (Jensen et al., 2015). Hypnosis has also shown to result in fluctuations within the functional connectivity between brain areas. Those who exhibit elevated levels of hypnotic suggestibility have indicated greater functional connectivity between the lateral visual cortex and the multiple clusters in the bilateral posterior cingulate cortex (McGeown, Mazzoni, Vannucci, & Venneri, 2015). They have also indicated functional connectivity between the left frontoparietal resting state network and the MCC. There is less functional connectivity between the right frontoparietal network and the right lateral thalamus (McGeown et al., 2015). These findings demonstrate the association between hypnotic suggestibility and the structural characteristics of different brain regions. Wolf, Faerber, Rummel, Halsband, and Campus (2022) have added to these observations by systemically reviewing the functional changes that occur in brain activity during hypnosis. They found that Electromyography (EMG) startle amplitudes and Somatosensory Event-Related Potentials (SERPs) exhibit greater activity in the frontal brain during hypnosis. Additionally,

Electroencephalography (EEG) oscillations were shown to be positively associated with hypnosis, further highlighting significant brain variations occurring from hypnotic induction.

Vaitl et al. (2005) have shown that a neurophysiological approach has revealed that the different states of consciousness are mainly brought about by a compromised brain structure, transient changes in brain dynamics (dysconnectivity), and neurochemical and metabolic processes, as well as environmental stimuli, mental practices, and self-control techniques. Additionally, there seems to be a significant variation in brain activity during the hypnotic state. In a study by Naish (2010), participants of high and low hypnotic susceptibility were assessed on a temporal order judgment task. Neural function asymmetry was declared most prominent amongst high hypnotically susceptible individuals. The significant difference was observed in brain function between people of low and high susceptibility to hypnotic suggestion. Interestingly, individuals who were categorized as highly susceptible exhibited a faster-acting left hemisphere in the waking state but faster-acting right hemisphere when hypnotized. Neurological studies such as these have successfully laid out a foundation for the necessary expansion of research in this field and further explorations into the state specific changes that occur in hypnosis. However, this was a behavioural and not a neuroimaging study. Therefore, hemispheric activity was assumed. There were only two conditions for the independent variable of susceptibility (high & low) and no control group. Also, there were only ten participants in each group and research with a larger sample and a control condition would be valuable.

Dienes and Hutton (2013; also cited by Jensen et al., 2015) conducted a study which illustrated that the repetitive disruption of activity in the dorsolateral prefrontal cortex through transcranial magnetic stimulation is associated with an increase in hypnotic responding. Thus, an increase in

frontal cortical activity might be expected during hypnosis, especially for individuals that show high suggestibility (Jensen et al., 2015). Such increases seem to occur when there is enhanced suggestibility, for example, during the inhibition of a sensory experience.

Semmens-Wheeler, Dienes, and Duka (2013) conducted a study which affirmed that alcohol increases hypnotic suggestibility. Alcohol is known to impair activity in the frontal lobe. The experiment supports the notion that hypnotic responding might be associated with attenuation of executive responses, rather than the enhancement of inhibitory mechanisms. Parris (2016) later considered these findings in a meta-analysis, confirming attenuation, but sought to understand the basis of the decreased functioning through further investigation. After the analysis of numerous studies on behavioural functioning, he explained that there is insufficient evidence regarding the role of the frontal executive functions in hypnosis, emphasizing the need for more research in this area.

Research has shown that the cerebellum might also play a significant role in hypnotic suggestibility. Menzocchi, Mecacci, Zeppi, Carli, and Santarcangelo (2015) evaluated the differences in suggestibility by observing the sensorimotor integration of various individuals. Those with high suggestibility expressed less accurate motor control and posture, while demonstrating the absence of motor learning while hypnotized which was attributed to less efficient cerebellar functioning. Individuals showing a higher level of hypnotic suggestibility also seemed to manifest paradoxical pain stimulation after transcranial cerebellar anodal stimulation (Huber, Lui, Duzzi, Pagnoni, & Porro, 2014). The identification of the brain areas affected during hypnosis and the comprehension of the underlying mechanisms indicate the need

for further exploration of these areas to assist with the development of better therapeutic intervention strategies (Santarcangelo, 2014).

Walsh, Oakley, Halligan, Mehta, and Deeley (2015b) conducted a fMRI study on highly hypnotically suggestible participants to investigate the neurological mechanisms associated with alien control. Alien control is a term used to encompass symptoms that are reported by schizophrenia patients. These symptoms are based on a sense of lost feelings of control. Similar feelings are said to arise in dissociative states. The authors used suggestions aimed at reducing the ownership of thoughts and movements. Under hypnosis a reduction in the activity of the left supplementary motor area was observed suggesting that this area plays a vital role in alien control and the ways individuals sense control and of their thoughts and movement. In another study, Walsh et al. (2015a) asserted that hypnotically suggestible participants are better able to focus and maintain attention during experimental tasks. In the study, which explored the association of hypnotic suggestibility and susceptibility to the rubber hand illusion, the results were not clear cut. The authors concluded that “hypnotic suggestibility might facilitate, via attentional mechanisms, the multisensory integration of visuo-proprioceptive inputs” (Walsh et al., 2015, pp. 710). This, in turn, leads to greater perceptual mislocalization of the hand.

The impact of hypnosis on attention has been investigated, demonstrating the modulation and even the complete elimination of the classic Stroop color-word interference test, where participants were given a post-hypnotic suggestion that words were meaningless (MacLeod, 2011). The results suggest that during the hypnotic state the capacity for reasoning and perception are significantly altered when compared to the normal state of conscious awareness. In a relatable neuropsychological study, Kallio, Hyona, Revonsuo, Sikka, and Nummenmaa

(2011) discussed how the hypnotic state becomes clearly apparent through a measure of eye movement during hypnotic induction. This provides another observable distinction between the hypnotic and alert states.

Deeley et al. (2013) incorporated suggestion and fMRI testing to explore loss of control and awareness of the right hand in highly hypnotically susceptible participants. Loss of perceived control was shown to be related with decreased connectivity between the supplementary motor area and motor regions of the brain. The reduction of awareness of involuntary movements was shown to be related to a decreased activation in the parietal lobes as well as in the insula. These findings imply that sensing voluntary control of movement might be dependent on the functional associations of the supplementary motor area and motor regions of the brain. The authors propose a neural basis for understanding awareness in pathological conditions as well as dissociative states, such as hypnosis. Humpston et al. (2016) explored whether different types of dissociation might be associated with psychosis-like experiences in healthy participants. They found that detachment type dissociation and absorption are associated with such psychosis-like experiences; whereas compartmentalisation-type dissociation was not found to possess any significant associations with psychosis-like symptoms.

Cojan et al. (2009) have emphasized that brain mechanisms which are associated with the hypnotic state are poorly known. They sought to explore motor and inhibitory brain circuits during hypnotic paralysis by comparing fMRI results between three conditions (normal state, hypnotic left-handed paralysis and feigned or simulated paralysis). Findings suggested that executive attentional systems might influence the selective inhibition or disconnection of some cognitive operations. The results indicate that the hypnotic state can instigate self-monitoring

mechanisms that facilitate the development of internal representations of the suggestive content, which guide behaviour. However, it is stated that this does not occur through direct motor inhibition. Further exploration is suggested.

Neurological research regarding the impact of mirror neurons in the brain (as an automatic mechanism that allows individuals to experience empathy as well as acknowledge others' intent through observation, whilst naturally matching their brain functioning patterns) has been explored (as mentioned earlier, on page 40). It is suggested that this process might have the capacity to operate through an innately occurring, rapport building dynamic (Rossi & Rossi, 2006). Notably, this process has shown to be deficient amongst autistic research participants. An interaction between mirror neurons, the recognition of conscious state, genetic expression, and brain plasticity (i.e. cognitive re-mapping) during hypnotherapy has been highlighted (Rossi & Rossi, 2006). Here, a link between hypnosis, mirror neurons, cognitive change, and the necessity to incorporate the role of empathy into the present theoretical considerations, regarding hypnosis, as well as into practice, is emphasized again. In a related study Braboszcz, Farinelli and Vuilleumier (2017) showed that brain responses to pain that is experienced by oneself as well as pain observed in others, shares similarities regarding pain processing patterns in the anterior insula. The authors have shown that inducing analgesia via hypnotic induction results in decreased responses towards personal and others' experiences of pain. The findings support the position that self-nociception is associated with empathy for pain. The authors further suggest the possibility of using hypnosis to modulate higher-level emotional and social processes and recommend further study. Studies such as these indicate that measurable neuropsychological alterations result from hypnotic suggestion and provide reason for further researching potential cognitive changes that might arise in the hypnotic state.

1.6 Chapter Overview

The literature review provides an overview of the historical and theoretical foundations of hypnosis and its relationship and relevance to psychotherapy and neuropsychology. It explores a range of published material in which researchers and qualified practitioners strive to integrate hypnosis into theories of psychology and psychotherapy. The review has identified a number of key areas of investigation. These cover how hypnosis might be used to moderate psychodynamic processes (Navaneedhan, 2012), how it can help control of attention (MacLeod, 2011), and how it can contribute to hypnotherapy (Matsuki, 2002). Other research covers the use of cognitive hypnotherapy to help mediate adaptive response sets (Lynn, Das, Hallquist, & Williams, 2006), affect attributional style in depression and anxiety (Fresco, Alloy and Reilly-Harrington, 2006), and help with emotional distress (Modlin, 2012). However, most of this research has sought to explore post-hypnotic effects with little interest in exploring the potentially significant psychological changes that occur while in the hypnotic state.

1.7 Rationale and Aims of the Presented Study

Practitioners from a wide range of ancient and indigenous cultures of the world have contributed to the development of techniques to induce non-ordinary states of consciousness or what Grof (1996) has called ‘holotropic states’ that are manifestly similar to the state of hypnosis. The religious significance of such non-ordinary states of consciousness is less prominent in modern times although the healing and scientific interest in the state of hypnosis has gained significant

attention (Graef, 2010). The need for understanding this extraordinary state's theoretical and practical underpinnings has become important as new treatment paradigms for psychological conditions are sought. Kittle, and Spiegel (2021) have boldly emphasized that "hypnosis is the most effective treatment you have yet to prescribe (p.304)." They stress that when the benefits of hypnosis are illuminated its role will become more prominent in the treatment of various psychological and physiological conditions. They call for action in research development for the broader use of hypnosis.

Over the last decade the use of hypnosis in psychotherapy and counselling has increased and positive therapeutic outcomes have shown to improve when it is applied in conjunction with other therapies and remedies (O'Neil, 2018). Thankfully, a number of professional bodies have been formed to promulgate the clinical use of hypnosis in medicine and especially psychotherapy (Jensen, Jamieson, Lutz, Mazzoni, McGeown, Santarcangelo, & Terhune, 2017). Such regulated bodies not only provide clinical hypnosis training and education but also professional support for practitioners, while offering the public a database of members that hold credible qualifications in the field of hypnosis. These bodies similarly strive to educate the public about hypnosis and its uses. Their core aims are to promote the safe and responsible use of hypnosis in psychotherapy, medicine and dentistry, and to promote its clinical and experimental progression (British Society of Clinical and Academic Hypnosis, 2022). Prominent in the United Kingdom are the British Society for Clinical Hypnosis, the Association for Professional Hypnosis and Psychotherapy, and the British Society of Clinical and Academic Hypnosis.

The present study was designed to examine the effects of the state of hypnosis while hypnotised on reasoning and perception, both quantitatively and qualitatively, in order to present some novel

knowledge and parameters for further research using a state specific perspective. The overview of the research literature demonstrates that psychotherapeutic applications of hypnosis can be valuable in the management of varying psychological and medical conditions. However, much of the research indicates that the cognitive shifts that occur in the hypnotic state require further exploration. This research seeks to contribute to this body of work by multi-dimensionally examining and exploring the hypnotic state in order to understand and identify cognitive shifts in reasoning, awareness, and insights. As such, this study seeks to gain a deeper understanding of the mechanisms underlying hypnosis, thereby providing valuable practical information that can be applied in psychotherapy and in the clinical management of various psychosomatic and psychological conditions.

It has been established that an individual's thought processes can be altered through hypnotic induction and suggestion (Gravitz, 2011, Terhune & Kadosh, 2012, Cussen, 2015). The consideration for the current research was whether the hypnotic state can modify an individual's self-awareness and provide a different perspective of life experiences and events. If so, whether such a shift results in modified psychological insight. This study maintains the perspective that proposes that psychological effects occur in the hypnotic state. It aims to provide clinical insights regarding the effects of hypnosis for use during therapeutic intervention, which might facilitate the resolution of maladaptive behavioural patterns and cognitive schema. Affording a deeper understanding of how hypnotised individuals might interpret, respond to associations, and empathically reflect during the hypnotised state will contribute to both the theory and clinical applications of the hypnotic state.

This thesis investigates the impact of the hypnotic state on cognitive functioning by exploring its effects on key measurable cognitive variables. It contributes to knowledge about the implications for empathy, attribution and affect by experimentally comparing the effect of the hypnotic state on these variables. The research also explores the lived experience associated with the hypnotic state by interviewing research participants from a hypnosis group where attention was given to if and how variations in the above mental processes were experienced and understood. Finally, this thesis questions whether and how hypnosis has the capacity to change an individual's understanding of life events and experiences with an increased level of interpersonal and intrapersonal insight.

The aims and hypotheses of the research were:

- To contribute to the development of a theoretical framework about the state specific cognitive and perceptual effects of the hypnotic state through an exploration of *trance logic*. *Trance logic* is the state in which a hypnotised person generally accepts their perceptions that are experienced during the hypnotic state seemingly without any critical evaluation or logical contradiction (Orne, 1959).
- To examine the effects of state specific hypnosis and *trance logic* on cognitive functioning in comparison with a) progressive muscle relaxation and b) no intervention. The goal was to explore whether the hypnotic state affected reasoning and interpretation by focusing specifically on changes in empathy, self-attribution, and positive and negative affect.

Hypothesis One: Participants in the hypnosis condition would exhibit higher emotional empathy as indicated by higher scores on the Questionnaire Measure for Emotional Empathy than those in the control conditions (progressive muscle relaxation and no intervention).

Hypothesis Two: Participants in the hypnosis condition would show differences in self-attributional style as indicated by observable differences on the Attributional Style Assessment Test, version II, when compared to those in the control conditions (progressive muscle relaxation and no intervention). These differences refer to the ASAT-II's strategy, ability and effort response options which correspond to the aspects involved with the causal inference regarding a given situational result for both interpersonal and non-interpersonal questions.

Hypothesis Three: Participants in the hypnosis condition would exhibit higher positive affect as indicated by higher scores on the positive items on the Positive and Negative Affect Schedule than those in the control conditions (progressive muscle relaxation and no intervention).

Hypothesis Four: Participants in the hypnosis condition would exhibit lower negative affect as indicated by lower scores on the negative items on the Positive and Negative Affect Schedule than those in the control conditions (progressive muscle relaxation and no intervention).

- To explore the subjective experience of individuals that have been hypnotised through retrospective interview accounts of their hypnotic experience. The overarching question

for this part of the research was: How did the participants, after being hypnotised, understand and evaluate their experience of hypnosis? Within this there were a number of ‘secondary research questions’ (Smith et al, 2009, p.48) that the analysis hoped to address. These were as follows:

What senses do participants recall being stimulated?

How would they react to certain life situations and circumstances normally and when hypnotized?

How do participants describe their level of awareness of feelings, thoughts and sensations? Are any changes mentioned?

How do participants generally compare the hypnotic state to the normal state of awareness?

Did participants’ experience align with their expectations?

The purpose of this research was to explore what cognitive shifts are instigated by hypnotic induction and to signpost the potential cognitive restructuring competencies of the hypnotic state. To address the study aims, it was necessary to incorporate quantitative and qualitative research methods. As a mixed methods study, the research aims were driven by the desire to find practical value from the knowledge gained, for psychotherapeutic purposes and theory development.

Chapter Two: Research Methodology

In this chapter the epistemological and the theoretical underpinnings of the research undertaken are explained, and the use of a mixed methods design is discussed in detail. This includes a discussion about the rationale for the combined use of quantitative (Part One) and qualitative (Part Two) research inquiries and a reflection on the structural composition and evolution of the research. The chapter concludes with a personal reflection and ethical considerations concerning the presented research.

2.1 Epistemological and Theoretical Position

The investigative position that was adopted for the research was built on the practicality and prospective usefulness of the research and data collected and analysed. The research aims were to develop knowledge that contributes to psychological theory about hypnosis and be useful for psychotherapeutic applications. This epistemological perspective places pragmatism as a principle that values application and suitability; where reality is negotiated and interpreted in a way that ponders the usefulness of any investigation or action (Mertens, 2014). This approach to understanding reality was realised in the presented work by combining the two research strategies of quantitative and qualitative inquiry to address the research aims and questions.

In part one of the research, where a quantitative approach employed a controlled experiment, direct observation was used to contribute empirical knowledge on the subject. In part two, a

qualitative approach involving interpretative phenomenological analysis of participant interviews was used. The perspective taken of hypnosis was built upon the theory that hypnotic trance is a specific state of cognitive awareness which possesses discrepant psychological characteristics compared to a normal state of awareness, and that such a specific altered state exists (Hasegawa & Jamieson, 2002). This reflects a critical realist position that such a state exists that we can know more about, albeit about which we can only build theories or update our understanding.

Critical realism is an epistemological perspective that falls between an ontological realist and relativist stance. It distinguishes between the real world and the observable world (Bhaskar (1989). The real world cannot be observed and is thought to exist independently from human perceptions, theories, and constructs. The observable world or the world as we know and understand it is developed from our perspectives and personal experiences. For critical realists, the real world causes observable events which portray an observable world. Bhaskar (1989) has proposed that it affirms the existence of a material world out there, both environmental and biological, which exists independently from human interpretation. However, the ‘critical’ before ‘realism’ means that it rejects the objectivist belief that an individual has direct access to the realities of the real world. Reality is thought to be constructed and negotiated, while considering culture, language and politics, for example (Parker, 1997).

Parker (1997) proposed that in research, critical realism considers the material, physical, and social influences on behaviour and interpretation, including the interpretation of theories. When a researcher conducts an experiment, conditions are established to create and observe results (such as certain behavioural changes). However, these results are explained by underlying theoretical

mechanisms and influences that cannot be totally observed. As a result, the researcher's understanding is through epistemological constructivism and relativism. This is where critical realism originates – from the epistemic fallacy that limits what can be considered real to what is considered observable.

From an ontological perspective, the present study takes a position between realism and relativism. The general view of conscious awareness is not independent from environmental, social and personal influences. It takes on a critical realist position that asserts that a hypnotic state exists and that we can know more about it through updating our theoretical understanding. One such theoretical understanding is provided by the psychoanalytic model of the mind which claims that a state specific unconscious realm of the mind exists that allows hypnotic induction (Silverstein, 2022). There is contentious debate on the topic of state versus non-state theories of hypnosis (Hasegawa & Jamieson, 2002) and a strict adherence to a specific type of state theory (i.e. dissociated control theory or neo-dissociation theory) with regard to hypnotic trance was avoided in this study as there is a lack of research available that provides sound support for distinct sub-classification (Hilgard, 1973; Hasegawa & Jamieson, 2002). Nonetheless, the research perspective of this thesis is based on the assumption that hypnosis facilitates a specific state of awareness and influences state specific cognitive changes.

Mixed Method Research Design

There is currently some debate regarding the use of different research approaches (Cohen et al., 2007). Predominantly, there are two major paradigms of research methodology debated with

regard to what can be considered true and useful, which derive from different epistemological and ontological considerations and views of reality. The first, quantitative research, considers knowledge to be objectively attainable and emanates from a positivist or empiricist approach to understanding. It is founded on a realist ontology; that reality exists beyond human experience and interpretation and assumes the researcher can be an independent observer and measurer of such reality. The second paradigm, qualitative research, considers reality and knowledge of it to be subjective and socially constructed. This more fluid paradigm comes from a constructivist epistemological or phenomenological approach to understanding. It allows the researcher to bring a level of interpretation to the research material such as descriptive accounts of phenomena experienced by individuals.

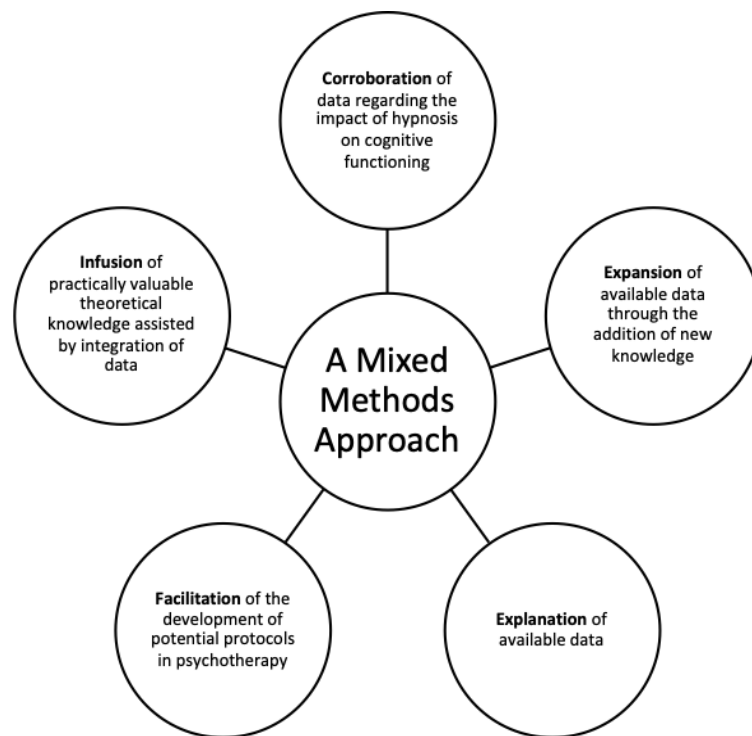
Bryman (2009) suggests that over the last few decades, an epistemological shift has taken place with regard to the juxtaposition of quantitative and qualitative research as being oppositional to one another or unrelated. The rise of a pragmatic approach in research has taken place making way for more integrated inquiries where both methodologies are embraced. Reichardt and Ralliss (1994) considered that the two paradigms possess more shared beliefs and research interests than discrepancies. For example, both paradigms share the aims of understanding and improving the human condition. Also, for both paradigms, importance is granted to evidence-based decisions. Additionally, it is emphasized that both paradigms share the belief that the world is multi-faceted and complex, and that it is difficult to investigate and understand.

Poth (2018) argued that a mixed methods approach is often inspired by a pragmatic position towards addressing research problems. The use of mixed methods is described as a means for enhancing advocacy for further research, while contributing to ongoing studies and building on

previous knowledge, as well as continuing with practical and technical advancements (Poth, 2018). It was decided that a mixed method approach would be appropriate for this research inquiry which intended to corroborate data, add knowledge to the field, expand on previous findings, facilitate the development of protocols in psychotherapy, and infuse a valuable theoretical position by integrating different types of data. Below, is a depiction of the aims for this research.

Figure 2.1

Mixed methods aims for the presented research



Poth (2018) claims that “the rationale for framing mixed methods research problems is grounded in the need for conveying the significance of the problem, when the understandings are

considered to be evolving and incomplete (p. 24).” The presented research is built on these principles. The main purpose of integrating quantitative and qualitative procedures stems from the necessity to create a design that reflects the inquiry’s needs rather than being inhibited by fitting within the framework of existing design typologies (Poth, 2018, p. 25). Hypnosis has been considered valuable for psychotherapeutic applications and the discipline of psychology for some time (Wright & Wright, 1987). However, as the reviewed literature suggests, research in this area is inconclusive and needs further investigation. Osowiec (2014) has stated that further research within the field of hypnosis could benefit from a well devised, balanced combination of quantitative and qualitative research methods and suggested that only through a more holistic research style, can novel insights emerge. Gruzelier (2000) also accentuated this need and suggested researchers should approach the hypnotic state through a multi-faceted position while incorporating the application of formal assessments in research. To contribute to the evolution of its practical application and theoretical basis, mixed methods research initiatives were established for this research.

2.2 Quantitative Research: Part One

In Part One of the project, the research approach was carried out through experimental assessment of participants, which included the application of three psychometric tools, in a structured observational setting. This part of the study used an exploratory perspective and was predominantly influenced by a positivist paradigm. This position was adopted to measure certain cognitive aspects of the hypnotic state, which are discussed below, by employing reliable and validated psychological measuring tools to investigate its associations with cognitive shifts.

Participants were allocated into one of three conditions – hypnosis, progressive muscle relaxation or no treatment. Progressive muscle relaxation was incorporated as a second control condition in order to examine any observable differences compared to no treatment and hypnosis. Moreover, it acted as a baseline, or a reference point from which the other control condition (no treatment) and treatment condition (hypnosis) were examined. Progressive muscle relaxation (PMR) has been compared to hypnosis in terms of its effects on the mind and body in previous studies. For example, Sabherwal et al. (2021) found hypnosis and PMR to be effective techniques for anxiolysis and pain control in paediatric dental patients. The study comparatively evaluated the role of hypnosis and PMR on anxiety, heart rate, oxygen saturation, blood pressure, pain, and analgesic requirement during extraction in children. Both techniques proved to be comparable in all measures. Research literature has also discussed how hypnosis differs from PMR. For example, Zhang, et al. (2022) found that hypnosis was more effective than PMR in reducing test anxiety among medical college students, concluding that hypnosis could modify attentional bias toward threatening stimuli, but PMR could not. The goal in Part One was to explore whether hypnosis has similar or different cognitive effects on emotional empathy, self-attribution and affect, in comparison to no treatment and PMR.

Empathy, Attribution and Affect

Aside from personal interest and motivation for this research, the review of the literature greatly influenced the study's direction. A theme of previous research showed a focus on the cognitive post-effects of hypnotic induction treatment. In view of this, it was considered that it would be meaningful and contribute to knowledge by investigating the hypnotic state specific effects of

the hypnotic trance itself, specifically the cognitive changes that arise during hypnotic induction.

Research has shown that the various brain areas (i.e. frontal and the midcingulate and anterior cingulate cortices), which perform certain cognitive processes of consciousness and attention, are more likely to be affected by hypnosis (Terhune & Kadosh, 2012). Hypnosis has also shown to result in fluctuations in the functional connectivity between brain areas (McGeown, Mazzoni, Vannucci, & Venneri, 2015). The impact of hypnosis on attention has been investigated and the results suggest that during the hypnotic trance state, the capacity for reasoning and perception are significantly altered, when compared with the normal state of conscious awareness (MacLeod, 2011). The potential for state specific cognitive shifts is evident through studies such as these and those cited in the previous chapter but further exploration is needed to bring about valuable, and more concrete insights.

The uses and potential benefits of hypnosis through hypnotherapy alone as well as combined with other treatments has been reviewed in the literature review. More empirical support is required for the development of definitive theoretical and practical inferences, especially around exploring what components of cognitive functioning are altered and how. Rossi & Rossi (2006) forged links between hypnosis, mirror neurons, and cognitive change, and highlighted the need to incorporate the role of empathy into the theory building about hypnosis and its practical therapeutic value. A therapeutic benefit has been identified with respect to the role of empathy in hypnotherapy for the therapist as well as the patient/client (Matsuki, 2002). Nonetheless, it is

emphasized that the potential relationship between empathic understanding and hypnosis requires further exploration (Matsuki, 2002; Rossi & Rossi, 2006; Antonelli & Luchetti, 2010).

Several studies have explored the association between psychological well-being and attributional interpretation; specifically, the associations between attributional interpretation and depression (Fresco, Alloy & Reilly-Harrington, 2006; Sturman, Mongrain & Kohn, 2006). However, there is a lack of research exploring the association between the hypnotic state and attributional interpretation. There is also little information on the affect shifts that occur in the hypnotic state, yet several neuropsychological studies have expressed interest in exploring brain function during this specific state of awareness. To analyse the possible effects of hypnosis on cognition, Yapko (2010) reviewed an array of related research on the subject which explored the possible mechanisms involved in hypnosis. These include the aspects associated with unconscious psychological processes, information processing, cognitive and affective processes, and the nature of perception. Yapko (2010) argued that further research within these areas is needed to expand our understanding of the mental processes involved in hypnosis.

Lastly, the use of guided muscle relaxation was incorporated into the experimental procedure to a) act as a secondary control group and b) compare cognitive shifts with the hypnosis group and primary control group. Fox et al. (2015) have shown that both mindfulness and hypnosis have the capacity to modify thoughts, feelings and behaviours by affecting attention, absorption, memory, imagination, and expectancy. Moreover, this work emphasized the significant effects of both hypnosis and meditation upon cognitive-emotional flexibility. The study presented here contributes to knowledge in this area.

Part One Questionnaires and Measures

Questionnaire Measure for Emotional Empathy (QMEE) (Mehrabian & Epstein, 1972):

No consensus on the definition of empathy exists (Dohrenwend, 2018). It has been described as emotional and spontaneous, cognitive and deliberate, or some combination of the two. However, two classifications of empathy have gained prominence over the years. These are emotional or affective empathy and cognitive empathy. Emotional empathy relates to one's ability to share the emotions of others, whereas, cognitive empathy involves a rational understanding and the ability to take another's perspective (Smith, 2006).

For the purpose of this study, empathy was defined as the emotional response to an individual's own perception of the emotional experience of others. It is an affective state, which results from a process where an individual or a group has an impact on the emotional states and possibly the behaviour(s) of another individual or group (Mehrabian & Epstein, 1972). This process can happen on a conscious and/or unconscious level, resulting in the transmission of emotional experiences and behaviours. This description reflects the definition of emotional empathy that is presented in the Questionnaire Measure for Emotional Empathy (QMEE).

The QMEE was used in this study to measure the level of the participants' empathy whilst in the hypnotic state. The questionnaire is specifically designed to evaluate emotional empathy rather than cognitive empathy. An alternative measure of empathy is the Interpersonal Reactivity Index, the alternative use of which was deliberated. However, this focuses on both emotional and cognitive empathy whilst the aims of this study were concerned with the effects of hypnosis

on emotional empathy only. This study's aim was to observe if and how the hypnotic state affects an individual's emotional response when it comes to empathic interpretation. It is possible that hypnosis research would benefit from further research on the topic of empathy, including an exploration of cognitive empathy.

Experiments were designed to explore the validity and reliability of the QMEE in distinctively different social situations (aggression and helping behaviour). The 33 items of the scale, which consist of intercorrelated subscales, showed high reliability and discriminant validity (Mehrabian & Epstein, 1972). The subscale inter-correlations are all significant at the 0.01 level and exceed 0.30 in all instances. The split-half reliability for the entire measure is 0.84 (Kryvenko, 2019). In general, the QMEE has shown high validity and reliability across a range of settings and has potential for applications in different situations (Chlopan, McCain, Carbonell, & Hagen, 1985).

Attributional Style Assessment Test - Version II (ASAT II) (Anderson, 1999):

The ASAT-II was applied to address the study's objectives of exploring self-attribution. Unlike the Attributional Style Questionnaire, which was another viable option, the ASAT-II measure incorporates an even number of items, which comprise success and failure situations, while effectively mirroring one another. Because of this, discrepancies in the participant response patterns can easily become apparent. In addition, considerations relating to the interpersonal and non-interpersonal divisions between the items are more distinctly defined when compared with the affiliation versus achievement items on the Attributional Style Questionnaire (Fernandez-

Ballesteros, 2002), for example. The ASAT-II's even number of mirrored items and categorical dimensions also facilitate modifications and adjustments.

For the purpose of this study, attribution, more precisely self-attribution, is defined as the causal inference associated with a situational result; an explanation by indication of a cause. The ASAT-II's strategy, ability and effort response associations correspond to the aspects involved with the causal inference, regarding a given situational result. The interpersonal dimension accounts for relational scenarios involving others (or the potential influence of others). The non-interpersonal dimension accounts for purely personal scenarios. In the current research the interpersonal and non-interpersonal dimensions were combined during data analysis, the reasons for which are discussed in Chapter Three.

In an early study, Anderson, Jennings and Arnoult (1988) argued that attributional style is not a valid construct, showing convergent and discriminant validity when explored at moderate levels of specificity. They stated that statistical techniques cannot separate these effects and that in general attributional style cannot be accurately explored across situations. They conclude that attributional style is not cross-situationally consistent and therefore cannot be applied and analysed adequately via attributional measures. Moreover, they argue that the validity and utility of the attributional style construct are weak, explaining that it is not used appropriately, hindering construct validity. From a different perspective, Fernandez-Ballesteros (2002) argues that there is value in assessing the attributional construct, arguing that to minimize the drawbacks of the moderate reliabilities of attributional measures, more attention must be granted to sample size, power and scale. For example, the third and fourth versions of the Attributional Style

Assessment Test (ASAT-III and ASAT IV) have weak to modest internal reliabilities (0.5 – 0.6). However, if they are collapsed across situation types, for example by collapsing the interpersonal and non-interpersonal dimensions, larger alpha levels are yielded. Fernandez-Ballesteros (2002) emphasizes that irrespective of these drawbacks measures of attribution have successfully predicted depression, loneliness, and shyness as well as depressive-like motivational deficits in laboratory settings and should therefore not be disregarded.

Positive and Negative Affect Schedule - Version SF (PANAS) (Watson, Clark & Tellegen, 1988):

Prior to conducting the full experiment, a pilot study involving six participants was carried out. During this pilot study it was observed that measurable discrepancies between hypnotized versus normal state participants might exist and variances in affect relevant to the aims of this research were detected. As a result the PANAS-SF assessment tool was introduced. The selection of the PANAS-SF was made due to the desire to assess emotional changes whilst in the hypnotic state. Unlike other scales (i.e. Differential Emotions Scale, which is more suitable as a self-report assessment), the PANAS-SF allows researchers to understand the current affective states of participants. An alternative and extended option that would be suitable in further research might involve the use of PANAS-X, which is an expanded PANAS measure containing a wider array of items. It was not considered in this research because it requires more time to complete. Another alternative measure that might be useful for conducting an extended exploration of affect is the Profile of Mood States Questionnaire-2, which contains 65 items that assess seven

different mood state dimensions. As with the PANAS-X, it was not considered for this study because it possesses too many items and is more time consuming. It might be insightful to apply extended measures such as the PANAS-X or the Profile of Mood States Questionnaire-2 in future research that seeks to explore how feelings and emotions are affected by the hypnotic state.

In a study on the reliability and validity of the PANAS, Watson, Clark and Tellegen (1988) conducted regression and correlational analyses to determine the influence of demographic variables on PANAS scores. The PANAS was administered to a non-clinical sample that was representative of the general UK adult population (N = 1,003). The outcome of the study showed that demographic variables had little influence on the PANAS scores, which exhibited measurement invariance across different demographic subgroups. The study concluded that the PANAS is a reliable and valid measure. Additionally, it was shown that the hypothesis of complete independence between positive and negative affect must be rejected, and that the accuracy of this measure is enhanced by large-scale normative data.

2.3 Qualitative Research: Part Two

Cohen et al. (2007) argue that epistemological and ontological considerations impact research methodology which, in turn, influence decisions about research tools and the collection of data (2007). Research methods are not simply influenced by technical requirements but represent the researcher's understanding and views on reality and the interpretation of the realities of others. They are representative of what is considered understanding in the first place, and how others view the reasons for understanding. Cohen et al. (2007) emphasize that this has a significant

effect on any research approach and that research methods should be steered towards an evaluative and applied approach, which often calls for an in-depth phenomenological exploration.

Part two of the research was carried out using semi-structured interviews that were analysed using interpretative phenomenological analysis (IPA). This part utilised an interpretative perspective, which is predominantly influenced by a constructivist paradigm. IPA is based on a synthesis of critical realism and constructivism (Mir & Watson, 2001). This was considered an appropriate position from which to understand how participants of the experiment made sense of their experience of the hypnotic state. The primary aim of this part of the research project was to discover the meaning previously hypnotised participants made of their lived experience of being hypnotised through an analysis of their verbal accounts.

Interpretative Phenomenological Analysis

The aim of the interpretative phenomenological analysis was to get a detailed understanding of how participants experienced and understood their experience of the hypnotic state. IPA stems from phenomenology and hermeneutics and the general method is built upon idiographic analysis of individuals' experience of the phenomenon being studied (Smith, Flowers & Larkin, 2009). In this research, understanding of the hypnotic state experience is attained through an interpretative analysis of the experience of a number of participants from the hypnotised group. IPA's ultimate objective is to explore how individuals make sense of their personal experiences and to uncover potential patterns of associated meanings (Shinebourne, 2011).

The choice to use an interpretative as opposed to a descriptive phenomenological approach was decided because the research aim was not only to describe the human experience but to interpret and understand it. Descriptive phenomenology emphasizes the need for careful description of experience which can include cognitive as well as physiological human processes. However, descriptive phenomenology does not strive to bring understanding to experiences through interpretation. Interpretation however cannot function without rich descriptive content. The goal of interpretative phenomenological research is to enter an individual's understanding of reality in order "to examine and comprehend lived experience (Smith, Flowers & Larkin , 2009, p.11)."

IPA, in particular, engages a double hermeneutic as Smith and Osborn (2008) describe "the participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their worlds (p.51)." As the research aim of Part Two was to explore what was experienced by participants and how they understood that experience of being in the hypnotic state, an interpretative phenomenological analysis was considered a suitable method.

As the hypnotic state, in terms of cognitive functioning, is still not fully understood the goal was to explore how the impact of this state on the participants' cognitions was experienced through gathering and bringing a level of interpretation to the rich descriptions of their experiences. These descriptions introduced some insightful information about the hypnotic state. Even though the findings cannot be generalised this approach enabled the development of new knowledge about the hypnotic state.

Grounded theory was considered an alternative qualitative methodology for this part of the study. It would also be consistent with the epistemological position (Oliver, 2012). The approach would have similarly focused on the extraction of meaningful themes associated with the hypnotic experience. However, the research objective at this stage was not to construct theory about the causal effects of hypnosis on cognition as this had already been tested and measured by Part One of the research. Grounded theory might also have required a much broader inclusion, under the principle of theoretical sampling and saturation, of participants from the other groups in the experiment, as well as extant literature in the field. This would have been beyond the scope of this research. As descriptions of the experience of the hypnotic state are scarce, the interest in this research was in connecting the lived experiences with the quantitative data from Part One as well as extant research. A secondary aim was to lay the foundation for further research.

IPA has been employed in a range of research endeavors as a method for examining phenomena which have been underexplored and/or challenging to categorise (Alase, 2017). Hypnosis research fits well in this category as it both underexplored and difficult to classify (Hasegawa & Jamieson, 2002; Fromm & Shor, 2006). The longstanding debate on state versus non-state perspectives of hypnosis seem to resulted from the inability to fully characterize and understand the psychological processes associated with hypnotic phenomena. This suggests a need for further research on individuals' lived experiences of hypnosis.

2.4 Personal Inspiration, Reflection and Reflexivity

I have always questioned the concept of consciousness and the validity of thought and perception that reflect our subjective experience of life events. I occasionally battle with the idea of solipsism which implies that nothing exists except the self and that even if something seems to exist, nothing can be known about it with certainty or be adequately communicated to others (Peake, 2006). This view posits that what we consider to be objective knowledge is impossible to ascertain and I often find myself contemplating this stance. If we consider that phenomena of any kind are in constant change and can be viewed differently depending on situational factors and sensual perspectives, how can we ensure the validity and reliability of our research and scientific endeavours? Descartes proposed that individuals' interpretations are attained from personal, subjective and temporary mental states, that is through abstraction, borne from personal experience (Broughton, 2003). I am inclined to side with this philosophical position which raises the question of how can we be certain that our perceptions and interpretations represent 'truth' or are understood by others in the same way?

The quest to understand the vicissitudes of consciousness ignited my interest in researching hypnosis and its attributes. Initially, I had a fascination with dreaming, which instigated a desire to understand the borders between conscious and unconscious processes. I always assumed that consciousness equals reality, whereas unconsciousness represented some kind of mental fantasy. I started to keep a dream journal, recording my dreams immediately upon waking in an effort to remember the details. The aim was to determine whether my dreams had any meaning or possessed any connection to the experiences I had lived during my daily conscious state of awareness. I noticed that as I became aware of my intent to remember the details of my dreams, I

developed more control during the dreams themselves. I seemed to learn how to navigate through these dream experiences while, at the same time, not being fully in control of them. I was navigating through various mental representations that portrayed metaphorical explanations that were sometimes more obvious than others. Through this experience, I discerned a pattern. For mundane experiences the metaphors were relatively simple, whereas more complex life events were represented through more complex metaphorical depictions. Although I questioned the reliability and validity of my interpretations, I was surprised by the accuracy of certain dreams' metaphorical representations which, for me, seemed to sometimes relay details of future events. I began to suspect that the borders between unconscious and conscious mental states might not be as clear-cut as I had assumed.

My fascination with dreams propelled me to read about conscious and unconscious phenomena. I began to learn about hypnosis and its use throughout history and found that the literature is limited on the effect of hypnosis on cognitive states. I decided to experience hypnosis for myself and sought to locate a qualified professional that would guide me through a past life regression. It was only later, when undertaking professional hypnotherapy training, that I learned that past life regression is a hypnotherapeutic tool that has psychodynamic theory underpinnings, considering unconscious implications and a retrospective stance to addressing cognitive and behavioural issues. The procedure lasted about three hours but it felt, whilst in the hypnotic state, as if only ten minutes had passed. Later, through my training, I learned about the possibility of individuals experiencing time distortion while in the hypnotic state. The experience itself was incredibly meaningful, although the imagery seemed quite diverse and random. I was surprised to find that hypnosis did not feel like sleep and, contrary to my expectations, I felt completely aware and conscious during the process. However, the way I made sense of my emotional

responses and how I experienced my feelings seemed very different from when I was in a normal state of conscious awareness. The imagery I experienced ignited very deep feelings, which I reacted to with a great deal of uncontrollable sobbing. However, I felt as if I were experiencing them through a dissociated state, as if the feelings were separated from me. Consequently, a heightened sense of awareness arose from the experience. Also, I noticed that my perception during hypnosis of the mental states of others in the imagery seemed to be intensified. I recognised this through my reliving, whilst under hypnosis, some other individual's deep sense of sadness and emptiness. During my hypnotic experience, I felt that the deep sense of sadness and emptiness was a result of my behaviours in that evoked or imagined life.

My experience of being hypnotised led me to believe that hypnosis is not sleep (or dreaming), nor is it a normal state of conscious awareness. However, it seemed to me to be a component of some level of consciousness. The phenomenon seems to be underexplored; as Jensen (2017) argues, this might be because it is challenging to systematically define and test its parameters. My personal and professional experiences lead me to accept a theoretical position of hypnosis that considers hypnotic experience to be a particular state-specific domain or level of consciousness (Gruzelier, 2000). This opposes so-called non-state theories which argue that hypnosis is simply a manifestation of normal cognitive processes invoked under specific conditions such as those directed or suggested by a hypnotist (White, 1941).

Upon embarking on my research, I was aware of the potential effects of personal beliefs and attitudes about hypnosis and the subjects I intended to address. From the early stages, I made it a priority to attend to any personal biases that might result in an undesired skewing of my research process and its outcomes. I took steps to maintain a non-biased attitude throughout the data

collection process as well as during the interpretation of the results. However, personal experiences and behavioural predispositions play a role in the way individuals interpret. As a result, it becomes challenging to observe situations or approach experiments and other research inquiries objectively. It was particularly challenging to accurately categorise my epistemological stance and ontological underpinnings. Depending on how I chose to look at my research questions, I seemed to easily find associations with both empiricist and interpretivist approaches.

My view is that, for each human being, with a lifetime of learned values and existential experience, the capacity for reasoning is steered in some way or another. The direction of analysis might also shift depending on perspective, and this might not necessarily classify it as correct or incorrect. I suspect that in research making sense of observations might not always guarantee constant or continuous results. I considered that personal inclinations might impact my research interpretations. To avoid this, I made sure to stay cognisant during my data analyses by remaining actively aware of my research objectives and stance throughout the study.

Accordingly, I kept a personal journal in which I recorded my feelings and thoughts throughout the research process. I believe this facilitated greater self-awareness.

When starting this research, I expected differences in cognitive functioning between the normal state of conscious awareness and the state-specific hypnotic experience, and I was curious as to how that difference might be experienced and understood by individuals having been hypnotised. The research project described in this thesis was developed to investigate the impact of the hypnotic state on interpretation and reasoning; in particular, the specific mental processes of empathy, affect, and self-attribution. The exploration of empathy and self-attribution was

initially inspired by personal experience, which suggested that changes in empathic interpretation and attributional style might occur during the hypnotic state. A review of the research literature indicated that these topics show promise and need further exploration. The exploration of affect was added after the pilot study when it was noticed that positive affect might be altered by the hypnotic state.

Reflection on the Pilot Study

The pilot study was conducted with the aim of testing the methodology while gaining a preliminary understanding of the contents under question. An important benefit of the pilot study was the identification of a number of significant issues about the preliminary research procedure. Initially, it was planned that all the hypnotic inductions be carried out by an independent guest hypnotherapist, under my supervision as the primary researcher, on the university campus. This was organised to test for any confounding effects that might influence, change or distort the effect of a dependant and/or independent variable. For example, intonation of the hypnotist's voice might influence the response of the induced individual. An independent hypnotherapist unrelated to the study was considered less likely to possess such a confounding effect. However, after the sixth participant, scheduling difficulties made it necessary for myself to carry out the hypnotic inductions and assessments. The process of the induction was constructed so that participants would receive the same instructions, irrespective of the hypnotherapist. Nonetheless, I was aware that I needed to take extra care so that my personal interests and research aims did not affect the participants' responses.

Validated questionnaire measures (QMEE, ASAT II and PANAS) were used to determine if any associations between the variables under consideration existed. The same testing procedures were used for each participant, irrespective of their assigned group, to maintain standardisation. The same scripts were used for the hypnosis and progressive muscle relaxation (PMR) groups/conditions, respectively. I was aware of the potential influence of the testing space/environment. Therefore, I maintained the same space setup for each participant, containing minimal distractions. The testing rooms were always equipped with a desk, Kleenex, water, two or three chairs, and the assessment tools, along with participant documentation. The setting was always comfortably lit with minimal external noise.

Following the pilot a number of changes were made to the original research plans and process. The first modification was the discontinuation of the Stanford Scale of Hypnotic Susceptibility; Form C (SSHC:C), which was included initially to identify the level of susceptibility amongst participants. The scale was initially thought to be valuable in providing some criteria regarding the degree of hypnotic susceptibility during data analysis. The aim was to see if there are associations between level of susceptibility to hypnotic suggestion and participant response tendencies. As discussed in the literature review, previous research explored hypnosis with the inclusion of hypnotic susceptibility. According to the test's scoring criteria, the results from the initial participants in the pilot study indicated that all the participants would be considered moderately to highly susceptible to hypnotic induction.

However, the SSHS:C results along with the measure itself were disregarded due to the negative feedback received from the participants that underwent the assessment. These participants

reported that they found the hypnotist's suggestions psychologically tiring. The regressive item on the scale was especially problematic as one participant experienced a spontaneous regression to a traumatic life event that occurred in early childhood. Appropriate measures were taken to minimise the risk of harm and discomfort. As soon as it became apparent that a participant was recalling a traumatic life event the hypnotherapist immediately progressed them to the present day and guided them to their pre-established favourite place of relaxation before awakening. The favourite place of relaxation was the hypnotic deepener used during the induction procedure. In addition to deepening, this technique equips those that are hypnotised with a positive frame of reference that is accessible at any point during the hypnotic experience. The inclusion of the favourite place deepener was successful in bringing the participant to a calm and safe psychological place. Upon awakening, both the guest hypnotherapist and I took responsibility for what had occurred and provided emotional support to the participant to alleviate any distress. Counselling resources were also offered. The participant expressed that they were not affected by the recollection of the traumatic event as they had experienced it from a dissociated state of awareness. Nonetheless, even though the participant insisted that the experience was not harmful, the SSHS:C was omitted from the study.

According to the BPS (2014), risk in research can be identified as a potential for physical or psychological harm, discomfort, or stress to participants in a study. It is a very important concern in psychological research. However, it is difficult to foresee risks such as adverse reactions, including spontaneous regression to a traumatic life event. Nonetheless, these risks exist and it is necessary to advise participants. Potential risks, including the possibility of spontaneous regression were communicated to the participants in this study prior to participation. Consent

was received, acknowledging these risks. However, ethical steps such as omissions and changes in the research structure should be taken to minimize risks.

The second modification arose from concerns in the pilot study regarding the assessment of self-attribution. Initially, the third version of the Attributional Style Assessment Test (ASAT-III) was applied. However, the specific questioning format of the ASAT-III posed a challenge for me as the primary researcher, the independent hypnotherapist, as well as the participants. The ASAT-III provides a scale grading system of four concepts (locus, globality, stability, and controllability) over twenty questions. These concepts needed to be defined to participants during hypnotic induction. All the participants in all three groups expressed confusion as to what these concepts meant even after having been defined numerous times. The perceived contradictory language of the ASAT-III created some serious interpretative challenges for the participants. The concepts were not only confusing for the participants but also for the hypnotherapist and myself who had a difficult time remembering the definitions. Each question ended up taking between five to ten minutes to get through, which proved time consuming. As a result, the ASAT-III was replaced with the ASAT-II. The ASAT-II has a multiple-choice format and is less confusing than the ASAT-III. The ASAT-II is a forced choice measure but participants had the option to skip questions they were unable to answer. Some items of the ASAT-II measure were removed to shorten the test and avoid the exhaustive questioning that was experienced with the ASAT-III.

The final modification to the research process based on the pilot study was the introduction of the Positive and Negative Affect Schedule (PANAS). This third assessment measure of

emotionality was added for the assessment of the last three participants of the pilot. The insertion of the PANAS was inspired by the initial six participants of the pilot. From observation of the initial six participants, potentially measurable discrepancies between hypnotized and normal state participants were indicated. It was noticed that the hypnotic state might have an impact on affect, specifically positive emotions and feelings. After awakening, all the participants expressed that they felt more positive and relaxed during the hypnotic state when compared to a normal state of awareness. Some participants mentioned that they felt less stressed after hypnotic induction when compared to the start of the procedure.

Reflection on the Research Structure and Aims

The pilot study for Part One of this research had a valuable impact on the formation of the final approach to the quantitative investigation, specifically with regard to the method and assessment tools. The aim to explore the impact of the hypnotic state on perception through an assessment of participants' state specific verbal responses was challenging because a large portion of research in this field has not attempted to measure state specific self-reported responses – little research was available to serve as an execution guide. The pilot study presented an opportunity for reflection on the evolving research approach and quantitative methodology. Hypnosis research aims to engage and explore a particular state of awareness and requires caution and careful risk assessment; conditions facilitated by pilot studies.

The results of the pilot indicated that the specific state of hypnosis would result in changes in cognition and affect whilst in the induced state. With the possibility of such change being apparent statistically, further discussion with my supervisors led to the conclusion that an

additional qualitative assessment of how the hypnotic state was experienced by the participants would add insight to the statistical findings from the experiment. Additionally, participant feedback from Part One uncovered some interesting insights that sparked this need for further subjective exploration. Therefore, a qualitative inquiry was also instigated (Part Two) which used an interpretative phenomenological analysis methodology to provide insight into the lived experience of the hypnotic state, specifically. Five participants from the hypnosis group of the quantitative study were purposively selected for semi-structured interviewing. The selection process for this is covered in more detail in Chapters Three and Four.

Reference that hypnosis involves a different state of awareness was made by participants during the Part Two interview process. Comparisons to a normal state of awareness and/or sleep were drawn by participants. Moreover, the comparisons to either the alert state or sleep were made because participants seemed naturally familiar with these states when evaluating their hypnotic experience. My goal during this part of the research was to keep the interview questions as open-ended as possible to have minimal influence on the participants' responses. The questions were focused on exploring the individuals' understandings of hypnosis, their expectations, feelings and interpretations, of their hypnotic state. My goal was to discover any depictions, in their recalled experiences, regarding empathy, affect and attribution, which were different in the hypnotic state versus a normal state. This was challenging because I was already aware that the results from the quantitative part of the research indicated significant differences in cognition between hypnotised and non-hypnotised participants. It was difficult to refrain from disclosing this knowledge, even indirectly through the tone of my voice and/or body language. To avoid

any biased insinuations I remained aware of my body language and maintained a stable tone of voice and posture.

The qualitative part of the study set out to bridge the objective and subjective perspectives of the hypnotic trance state. The quantitative investigation intended to corroborate and expand on knowledge presented through previous studies, which focused on exploring hypnosis and its particular traits with regard to cognitive functioning. The qualitative exploration provided knowledge about the experience of hypnosis and aimed to integrate this with the quantitative findings from the experiment.

2.5 Ethical Considerations

Over the years, counselling psychology and psychotherapy have evolved as distinct disciplines in professional psychology (Gelso, Nutt Williams & Fretz, 2014). There is a focus on social, vocational, emotional, developmental, and health-related dimensions, whereby the objective is to enhance the personal and interpersonal workings of individuals (Johnson, 2015). The British Psychological Society (BPS, 2019) mentions that individuals seek support for challenges involving bereavement, trauma, depression, stress, anxiety, and work/academic performance. These take into account a wide range of culturally-sensitive processes, with the aim of improving people's well-being and their ability to function in society. The BPS position is human-centric, and its underlying philosophy recognizes individual diversity and differences. Accordingly, this necessitates a strong ethical approach to procedures in both practice and research.

Research and practice in the growing fields of counselling psychology and psychotherapy has also developed over time (Gelso, Nutt, Williams & Fretz, 2014). Hypnotherapy has become more popular in the past few decades as a valuable treatment option and/or an additional therapy (Spiegel & Spiegel, 2008). Ethical guidelines have played a significant role in its development. To ensure best practices, the American Psychology Association (2017) has offered general procedures and particular ethical standards that psychologists and psychotherapists should follow. Like the BPS standards, the importance of research guided by a code of ethics when working with human participants is stressed.

In a rapidly changing world, new ethical challenges develop from innovative advances (BPS, 2018). The BPS states that practitioners need to make decisions under these changing circumstances, while taking into consideration the procedures involved in alleviating risks. Ethical principles serve to guide thinking and decision making, and the BPS (2018) lists some important bias considerations to stay cognisant of. These include salience, confirmation bias, loss aversion, disclosure bias, and dissonance reduction. The guidelines also suggest being aware of the context and personality characteristics that might affect behaviours. In experimental settings this is applicable when researchers are interested in observing the effects of specific variables. This applied in Part One, where there was an interest in observing the cognitive effects of state specific hypnosis. However, these issues were minimised by the use of standardized tests. In Part Two a conscious effort was made to minimize these issues through a mindful approach to body language and speech, as well as interpretation during data analysis.

The UK Council for Psychotherapy (UKCP) (2019) refers to hypnotherapy as a subset of hypnopsychotherapy and can be applied to modify individuals' behaviours, attitudes and emotions. It identifies hypnosis as a distinct form of psychotherapy that uses hypnotic techniques to induce a deep state of relaxation and altered awareness. It asserts that during this state the unconscious mind is highly receptive to new perspectives and ideas and open to opportunities for the maintenance of the body towards health. Hypnotherapy is now considered a distinct branch of psychotherapy, and although it is still obscure to the public (Elkins, Barabasz, Council, & Spiegel, 2015) it has gained more support in the past few decades as a tool in modern psychotherapeutic treatment (Edgette & Edgette, 2013). Hypnotherapy uses the power of suggestion through an induced different state of awareness to treat such areas as managing addictions, pain control, and improving mental capacity (Bartolucci & Lombardo, 2017). It is widely regarded as an alternative and complementary treatment to other therapies (Spiegel & Spiegel, 2008) and over the past decade has grown in evidence-based treatment and clinical-based practice (Edgette & Edgette, 2013). It is also found in applications towards weight management, treatment of anxiety, depression, sleeping disorders, and sports psychology.

Much research has been conducted to expand and integrate the various disciplines within psychology, particularly counselling and psychotherapy (Gelso, Nutt Williams & Fretz, 2014). Besides the challenges applicable to any research endeavor, research on hypnosis has some additional concerns as it handles human subjects under some form of suggestion. Unfortunately, studies involving human participants have not always been considerate of basic rights, and several cases of poor treatment of human test subjects have been documented (Resnik, 2018a). That is why ethical and methodological guidelines and adequate protection for the vulnerable subject are granted the upmost importance (Resnik, 2018b).

Hypnosis in Psychology Research and Good Practice

Ethical guidelines in psychotherapy and counselling psychology have as their goal the prevention of physical, mental, and psychological harm within these professions and associated practices. They also aim to curtail research procedures that are questionable and produce unwarrantable findings. However, to develop a basis for good practice it is important to understand the evolvement of hypnosis in scientific inquiry and research. A study by Bartolucci and Lombardo (2017) on one of the pioneering works on hypnotherapy by Enrico Morselli, explores hypnosis and Morselli's analysis in the light of present-day research. Morselli was a leading figure in experimental psychological and physiological research in the late 19th and early 20th century. His works encouraged the development of a science-based program of psychiatry in Italy and he pioneered research into hypnotism and suggestion. His work, released in 1886, was dedicated to issues about hypnosis, and used several research methods, structured in a systematic way, to consider how powerful suggestion, in the hands of the magnetizer (hypnotiser), impacts the test subjects. Morselli asserted that the responsibility of the hypnotiser was to ensure that the participants were not affected negatively. For example, negative hallucinations that were suggested under hypnosis were handled with great caution as they could persist after individuals reverted to the waking state. This was considered a negative effect of hypnosis, holding the capacity to cause "artificial injuries to the memory system." (Bartolucci and Lombardo, 2017). In addition, the possibility of correcting individuals' behaviour through memory alteration, although credible in the clinical field, might also have adverse side effects, such as permanent memory deformation. Morselli's work also provided support for the notion that mental processes in hypnosis could be experimentally analyzed.

Over the years two major explanatory models for hypnosis have been developed. These are the neo-dissociative model, which is based on the ability to neurologically distancing subjects them from their immediate experience such as pain. The other is the social-cognitive model proposed by Theodore X. Barber, which implies hypnotic induction is produced by task-motivating instructions (Bartolucci & Lombardo, 2017). Nevertheless, researchers argue that further investigation is needed to understand more clearly how hypnotic induction affects state specific cognition. The current ambiguity around fully understanding hypnosis and hypnotherapy is highlighted in numerous studies. There is a lack of accepted objective reports by subjects who have experienced hypnosis and the hypnotic state. Yet, research suggests that hypnosis significantly facilitates the capacity to promote desired psychological and physiological change (Fromm & Shor, 2006; Spiegel & Spiegel, 2008; Lonie & Tsingos-Lucas, 2017). This implies that further research is required accompanied by strong ethical guidelines for hypnotic applications.

The British Psychological Society combines ethics for professional conduct, practice guidelines, and human research ethics in an applied framework. The structure of this code of ethics is divided into four parts, which include respect, competence, responsibility, and integrity. The principle of respect involves the dignity of individuals and its values include privacy, confidentiality, community and environmental shared values, issues of power, consent, and the importance of compassionate care. Competence values the possession of appropriate skills for practice, acknowledgement of limits to competence, , maintenance of skills, evidence-based advances, and practicing caution in claims and decisions. The principle of responsibility values professional accountability, responsibility of knowledge and skills, and respect for the welfare of

individuals. The ethical principle of integrity values honesty and openness, accurate and unbiased representation, fairness, avoidance of exploitation and conflicting interests, maintenance of personal as well as professional boundaries, and the ability to address misconduct. These principles and values were engaged in the presented work. However, such ethical codes do not intend to provide an answer to every possible situation (BPS, 2018).

The American Psychological Association (APA) has also developed general principles and specific ethical standards, as guides for psychologists and researchers. (APA, 2017). These closely align with the ethical considerations presented by other organisations, including the UK Council for Psychotherapy (UKCP) and the British Psychological Society (BPS). However, the APA provides a more thorough description of the ethical principles that are precisely relevant to this research. These principles apply to psychotherapists, hypnotherapists, educators, diagnosticians, consultants, and administrators. They are obliged to act in good faith, and principles are aspirational in nature and are aimed at guiding such professionals, towards the highest possible ethical ideals. However, they are not obligatory or legally binding, but do form the basis for imposing sanctions when standards are faulted. These principles include beneficence and nonmaleficence, fidelity and responsibility, integrity, justice and the respect for people's rights and dignity (APA, 2017). For the most part, they are applicable specifically to research but also set the stage for professional practice.

The issue of competence is also a major consideration, and scholars and practitioners are expected to conduct research with human subjects within the confines of their proficiency. In cases when work is delegated, for example through employing research or teaching assistants,

steps should be taken to guard against incompetence, exploitation, and loss of objectivity. In terms of human relations, issues of unfair discrimination, sexual harassment or other forms of harassment, multiple or exploitative relationships, conflicts of interest, and uninformed consent from the subjects are deemed unethical and will likely attract strict punishment (APA, 2017). Competence was considered in this work. During the pilot study, as a guest hypnotherapist was invited to conduct the hypnotic inductions, a clearance procedure was carried with guidance of the degree programme's director of studies. The hypnotherapist was asked for a formal interview and to provide a curriculum vitae with supporting references. Supervision ensured appropriate conduct with the participants.

Johnson (2015) emphasized that competence, record keeping, confidentiality and privacy, managing crisis situations, and informed consent are integral ethical aspects. Personal information about clients/patients and research participants is expected to be kept confidential. The research data should not be used for didactic or other purposes, especially when personally identifiable information is involved (APA, 2017). I prioritised confidentiality during the entirety of this study. Similarly, during research it is vital to adequately inform and orientate research participants about the purpose of the research, procedures involved, and the expected duration of the study. Researchers are also required to understand that participants have the right to refuse to contribute or even withdraw after the research has commenced. Other information that should not be kept from the participants, includes any potential benefits of the research, incentives for participating, and sources of inquiry pertaining to the study (APA, 2017). This is emphasized even more in cases involving the use of experimental treatments such as this research. Participants should be made aware of the nature of the experiment beforehand. All the

participants in my research described in this thesis were made aware of these aspects and their rights to withdraw from the study at any point.

For the study to be credible and valid, investigators must not give unnecessary rewards, financial or other to research participants. Studies involving deception are discouraged, unless it can be justified as the only viable option. Participants should not be misled, particularly when the investigation might cause physical harm or psychological anguish. Any deception that forms an integral part of the study design should be communicated to participants upon completion (APA, 2017). The participants in the presented research were provided with details and procedures of the study to avoid deception. Researchers are also expected to advise subjects how they can acquire material about the nature of the investigation, its results, and conclusions. Participants were told they could receive a copy of their assessment results and were provided with a list of reading relevant to hypnosis and the research topic. Researchers are also required to take practical actions to reduce any likely harm. In this research the encountered regressive potential of the SSHS:C resulted in the scale being omitted to avoid harm. It is unethical to fabricate data and all the data in the presented work is true and available for review. Steps were taken to correct any inconsistencies and ambiguities. These APA principles and ethical standards are only parts of the full script, and have been extracted from the more detailed report.

Hypnosis and Ethics

The Code of Ethics of the National Guild of Hypnotists has contributed to best practices in the United States and internationally (The Code of Ethics of the National Guild of Hypnotists,

2017). These guidelines closely resemble those of other organisations and institutions, including the British Society of Clinical Hypnosis (BSCH). Relevant considerations that were considered throughout the presented research, are summarized below.

- Adequate record keeping is essential for professional practice.
- The scope of practice should only be applied to motivate individuals to eliminate unwanted or negative habits. Additionally, it should improve learning and other educational, cultural, and social endeavors that are non-medical or health related. Unless otherwise stated by law, the application of hypnotism in medicinal or psychological disease cases must be supported with written referral from a licensed psychological or medical health professional.
- Hypnotherapists are expected to truthfully reveal to each patient or participant the nature and venue of the hypnotist's training, the field of study, the lawful limits of the practice, theoretical orientation, and all other relevant information.
- The hypnotized person should not be subjected to frightening, obscene, degrading, or inappropriately sexually suggestive imagery during the entire process.
- Hypnotherapists who have received sufficient education and are free to practice are obligated to uphold high moral character and conduct themselves in a professional and ethical manner.

Ethical codes have provided a basis for developing a standardized and structured approach towards learning and research in this sphere (Wall, 1991). A good example is presented in a

study by Etzrodt (2013), titled “Ethical Considerations of Therapeutic Hypnosis for Children.” The research identifies education, competence, confidentiality, training, informed consent, supervision, consultation, and boundaries, as major ethical considerations. Overall, research reports argue for the ethical use of scientific and objective techniques in studies involving hypnotic induction where replicable experimental methods are favoured.

Ethical Considerations for the Presented Research

Prior to starting the research, the university’s ethical approval procedure and requirements were properly met and the thesis supervisors were guides through this process. The requirements involved the submission of a research application, which included a description of the study, proposed conduct, and supportive documentation such as copies of the questionnaire measures. After formal review, the research ethics committee approved the research proposal. The changes to the research following the pilot study were also communicated and approved by the ethics committee. A copy of the ethics approval letter can be found in Appendix A.

The consent process ensured that the individuals participating in the experiment were voluntarily involved in the research, having full knowledge of any relevant risks and/or benefits. Each individual was given a document that outlined the general purpose of the research, expected duration and the procedures involved. The qualifications of the independent hypnotherapist were also communicated. Participants were then reminded of their rights to decline participation or withdraw from the experiment at any point, should they wish to discontinue with testing. Any factors that might have influenced their willingness to participate, including the potential side

effects of hypnotic induction, possible discomfort or benefits were communicated. Some of the mentioned effects included dizziness, emotionality, anxiety (often linked to perceived loss of control), spontaneous regression (rare but possible as happened in the pilot), tiredness, extreme relaxation, panic attacks, loss of concentration, and confusion (Graef, 2010).

Participants were also reminded that the content and overview of their responses would be discussed with them during the debriefing procedure. Respect for the confidentiality and privacy of each participant was openly acknowledged. Additionally, the limits to confidentiality, such as during data coding, and the sharing and documenting information was reviewed, as was when confidentiality must be disrupted. Contact details for myself as the principal investigator, the independent hypnotherapist (during the pilot study) and the supervisory team were provided to all the participants, should they have further questions. Contact details for counselling services were also provided in case of distress.

During the experimental procedure standardization and objectivity concerning the administration of the questionnaires and the environment, was considered of crucial importance. Consistency with the application of the hypnotic scripts and psychometric assessments was ensured.

However, a possible limitation to the study was the use of convenience sampling, which brought a risk of sampling bias which limits the external validity of the research. The experiment was primarily concerned with measuring and analyzing psychological variables during the hypnotic state. The results are informative, irrespective of the possible sampling bias, and this is discussed further along in the following chapter.

2.6 Part One Pilot Study

A pilot study was conducted for the quantitative Part One of the study with the aim of testing the methodology and gaining preliminary insights. The goal of Part One and the pilot testing was to examine the effects of state specific hypnosis and *trance logic* on cognitive functioning in comparison with a) progressive muscle relaxation and b) no intervention. The specific aims were to explore whether the hypnotic state affected reasoning and interpretation by focusing specifically on changes in empathy, self-attribution, positive affect, and negative affect. Additionally, sample size estimation was another aim of pilot testing.

Pilot Study Method and Design

An external qualified clinical hypnotherapist was invited to hypnotise the first six candidates in the pilot study. This was initially arranged to minimize the possibility of confounding effects during the experiment testing. An additional examiner was positioned as a clinical advisor during the early stages of the research. The primary researcher was also present during the experiment and the debriefing process.

An experimental between-participants design was employed in which participants were randomly assigned to one of three groups which constituted the independent variables. These were: hypnosis group, progressive muscle relaxation group and no treatment or control group. Each of these groups were to be measured for the dependent variables of self-attribution, emotional empathy, and (for three participants only) positive and negative affect.

Sampling and Participants

A convenience sample was obtained through a self-selection process. Participants willingly expressed their interest in participating in the study after learning about it from posters (please, see Appendix U) that were displayed throughout the university campus. The pilot was comprised of nine adult participants. More participants were not invited primarily due to time restrictions (completion deadline) and scheduling difficulties (i.e. room booking challenges). The first six participants from the pilot study did not receive the positive and negative affect measure, which was added after the sixth participant. The table below illustrates the gender and age range for the pilot study participants.

Table 2.6

Pilot participant gender and age range

Number of Participants	Gender	Age range
5	Male	25-40
4	Female	25-35

Participant Incentives:

Refreshments (i.e. beverages and light snacks) were available during the entirety of the experiment. Additionally, participants had the option to request a uniquely tailored post-hypnotic suggestion or to explore a personal theme of interest, while in the hypnotic state. Participants

were also able to receive a complimentary hypnotic induction recording on request after participating.

Participant Screening:

The screening criteria maintained that candidates must not have auditory or speech impediments so that they would be able to understand the questions and articulate responses. Individuals consuming narcotics and/or psychotropic medications were excluded. An earlier study, which explored hypnosis and its effectiveness showed a gradual decline in the level of hypnotic susceptibility after the age of twelve, with a stable age group of highly to moderately susceptible individuals between 21-32 years old (Morgan & Hilgard, 1973). Each participant was given a letter of invitation upon arrival outlining the general aims and process of the study and informed consent was obtained. For the participant information sheet and consent form, please refer to Appendices B and C, respectively.

Materials and Measures

There was a pre-assessment step in the pilot study, which involved an examination of participants' hypnotic susceptibility. The initial six participants of the pilot study received this assessment. The remaining three participants did not. The protocol used for this was the Stanford Scale of Hypnotic Susceptibility (SSHS:C) (Weitzenhoffer & Hilgard, 1962). The following items of this test were used; eye closure (not scored), hand lowering, moving hands apart, mosquito hallucination, arm rigidity, dream, age regression (school), arm immobilization, anosmia to ammonia (peppermint substitution is an alternative option), hallucinated voice,

negative visual hallucination, and post-hypnotic amnesia. The participant responses were interpreted and recorded, in accordance with the SHSS:C criteria. The summed scores correspond to the level of susceptibility to hypnotic suggestion with higher scores indicating greater susceptibility. The first six participants of the pilot study were guided through the SSHS:C. The scale is composed of twelve items that act as short hypnotic inductions. Scoring is based on whether the participant completes the suggested content for each item. Twelve is the maximum possible score and zero is the minimum score possible; each item on the scale accounts for one point. Responses were scored in accordance with the test criteria. A Breakdown of the SSHC:C can be found in Appendix E. Below, is an example of a SSHS:C item.

Example item from the SSHS:C:

Now take it easy and just let yourself relax. Keep looking at the target [i.e. pin on the wall] as steadily as you can, thinking only of it and my words. If your eyes drift away, don't let that bother you.... Just focus again on the target. Pay attention to how the target changes, how the shadows play around it, how it is sometimes fuzzy, sometimes clear. Whatever you see is all right. Just give way to whatever comes into your mind, but keep staring at the target a little longer. After a while, however, you will have stared long enough, and your eyes will feel very tired, and you will wish strongly that they were closed. Then they will close, as if by themselves. When this happens, just let it happen.

Following the pre-assessment for vulnerability the following questionnaires were administered which represented the dependent variable being assessed by the experiment.

Questionnaire Measure for Emotional Empathy (QMEE):

All participants were guided through an emotional empathy assessment measure through the application of the QMEE. All responses were scored in accordance with the test criteria and stored for a comparative analysis. The QMEE is based on a 4-point Likert scale (i.e. strongly agree, agree, disagree, and strongly disagree), which aims to measure the perceived emotional experience of others. There are a total of thirty-three items on the scale. Of these thirty-three scale items, seventeen items are reversed. One hundred and thirty-two is the highest possible score and negative one hundred and thirty-two is the minimum possible score. The QMEE is designed specifically to evaluate affective empathy rather than cognitive empathy as this was the purpose of the research. An illustration of the QMEE can be found in Appendix F (page 272) . For a description of the questionnaire, please refer to Appendix G. Below, is an example of a QMEE item.

Example item from the QMEE:

The people around me have a great influence on my moods.

Attributional Style Assessment Test - Version III then II (ASAT-III then ASAT-II):

The administration of the ASAT began with the first three participants using the ASAT-III version. This version is a dimensional assessment of self-attribution and measures changeability, locus, globality, stability, intentionality, and controllability through questions relating to reasons for success and failure. However, the questioning format of the ASAT-III posed a challenge for both the researchers and participants and was substituted with the ASAT-II instead, as discussed earlier on pages 81 and 82. This version II is composed of multiple-choice questions, which

correspond to the classification of reasons for successes and failures, relating to the following sub-categories: interpersonal failure, interpersonal success, non-interpersonal failure, and non-interpersonal success. The ASAT II version that was used in this study, incorporated only four items for each sub-category. In the questionnaire, each potential answer (a possible reason) is assigned to either strategy, effort or ability. It is a forced-choice assessment of self-attribution and measures strategy, ability and effort, through questions relating to reasons for success and failure. To avoid exhaustively questioning the participants (as experienced with the ASAT-III), only 16 of the 36 questions were used.

Example item from the ASAT-II:

Imagine yourself in each situation, and consider each possible reason for the situation or explanation that would most likely account for the outcome if it happened to you. There is no right or wrong answer, of course, so do not spend a lot of time making up your judgments. Simply choose the reason that would best explain the outcome if it actually happened to you...

You have just failed at coordinating an outing for a group of people you like very much. Which of the following three reasons best accounts for this outcome?

A. I am not very good at arranging social events.

B. I did not stress the importance of everyone pitching in.

C. I did not try hard enough to coordinate everyone involved.

Participants were given an opportunity to answer the hypothetical scenario questions in an open-ended manner, prior to being asked to select from the forced-choice answer options. Close attention was given to the initial (not forced choice) responses of participants, to uncover if they independently agree with one of the forced-choice options, naturally, without suggestion. In situations, where individuals' answers did not relate to any of the forced choice options, the choices were verbally communicated. If a participant was not able to decide between two or more options, they were asked to select the most relevant answer. All responses were scored using the test's original criteria and stored for analysis. The ASAT-II's strategy, ability and effort response associations correspond to the aspects involved with the causal inference, regarding the given situational result. The interpersonal dimension accounts for relational scenarios involving others or the potential influence of others. The non-interpersonal dimension accounts for personal scenarios. For an illustration of the applied ASAT-II, please refer to Appendix H (page 275). For further explanation of the items, please refer to Appendix I.

Positive and Negative Affect Schedule – Version I-PANAS-SF:

An additional third assessment measure for emotionality was added during the examination of the last three participants of the pilot study. It was observed that potentially measurable discrepancies in affect might exist between hypnotized and normal state participants. This was discussed in more detail on page 82. As a result, the PANAS-SF was introduced. The SF version of the PANAS questionnaire is a scale measure, which consists of twenty words that represent a number of feelings and emotions.

In accordance with the PANAS assessment method, each participant was asked to indicate to what extent they are experiencing a feeling or particular emotion associated with a given word at the present moment. The questionnaire can also be adapted to explore to what extent the participant has experienced or felt a particular emotion over the course of a different time frame (i.e. for one week). However, for the purpose of this study, which strived to assess the potential changes that occur during state-specific situations (i.e. the hypnotic state), an in the moment approach was applied. The PANAS is an appropriate measure to include in state specific hypnosis research due to its simplicity and present tense option. The scoring items are divided into two categories, exploring positive affect and negative affect. Both sub-scale scores, for each participant, were explored through a comparative analysis with the mean scores and standard deviations provided by the scale's criteria. Scores for each, positive affect and negative affect, can range between 10-50. A copy of the scale can be found in Appendix J (page 281).

Example items from the PANAS for Positive Affect and Negative Affect:

On a scale from 1 to 5, indicate to what extent you feel this way right now, that is, at the present moment...

Excited (Positive Affect)

Distressed (Negative Affect)

Omissions and Adjustments to the Assessment Process

Omission of the Stanford Scale of Hypnotic Susceptibility (Form C):

The results of this test indicated that all participants were moderately to highly susceptible to hypnotic induction. However, due to the negative feedback received from participants the

significance of the results were disregarded from the analysis. As discussed earlier on pages 79 and 81, one participant experienced a spontaneous regression to a traumatic childhood life event. To avoid participant discomfort or harm, after the sixth participant, the SSHS:C was omitted from the study.

Adjustment of the Attributional Style Assessment Test:

Initially, the third version of the Attributional Style Assessment Test (ASAT-III) was used. It was anticipated that the initial inclusion of the third version of the ASAT would assist with participant responding. This version offers individuals an opportunity to rate items on a numerical scale, much like the QMEE and PANAS, making statistical analyses easier. However, the questioning format and complex language of the ASAT-III posed a challenge for the researchers as well as participants. As a result, the ASAT-II was adopted, which, although using a non-numerical scale can convert responses to a numerical system for statistical analyses. This was more time consuming but participants were able to respond to the ASAT-II questionnaire items more promptly and with less uncertainty.

Introduction of the Positive and Negative Affect Schedule (PANAS):

This additional third assessment measure for emotionality was added during the examination of the last three participants of the pilot study. The insertion of the PANAS assessment tool was inspired by the initial six participants of the pilot study. After hypnotic induction, individuals expressed that their feelings in the hypnotic trance state were more positive compared to their normal state of awareness. Additionally, it was noted participants gave more positive explanations for their responses to the QMEE items. This inspired an investigation into whether

significant discrepancies in emotional state between hypnotized and normal state participants might exist.

Procedure

Part One of the research, which includes the pilot study, was conducted through a quantitative experiment that took place in a controlled observational setting with direct participant observation. The principal investigator, responsible for managing and navigating the research was the researcher.

Pre-Experiment:

A sixty-minute pre-experimental assessment was carried out. Prior to participant participation in the experimental conditions, the initial six participants were asked to partake in an assessment of their level of susceptibility to hypnotic suggestion using the Stanford Hypnotic Susceptibility Scale, Form C. All twelve items contained within the scale were methodically applied.

Experiment:

Participants were randomly assigned to one of three groups: the no treatment condition, the hypnotic condition and the progressive muscle relaxation condition. In the hypnotic condition, each participant underwent a hypnotic induction, which incorporated a dissociative induction script, and deepening techniques consisting of the 'favourite place of relaxation' deepener and a further countdown deepening procedure. Please see Appendix K for a sample of the hypnotic scripts. In the relaxation condition, participants were guided through a relaxing experience with the application of a progressive muscle relaxation (PMR) script. Please refer to Appendix L for a

copy of the PMR script. There was no script introduced to participants within the no treatment condition; individuals in this group were asked to partake in a regular cognitive task of their choice for the equivalent allotted time (i.e. reading a newspaper, magazine, etc.). Participants were then presented with the assessment measures for self-attribution (ASAT- III then II), emotional empathy (QMEE) and affect (PANAS) for the last three participants. Each participant was presented with the assessment measures in the same order. The experiment lasted approximately sixty minutes.

Post-Experiment:

A session for debriefing, consisting of a more detailed overview of the observations and an opportunity for any questions was implemented immediately after participation. All participants were additionally advised of their rights to communicate with the researcher and/or the supervisor and/or advisor, should they have any questions or concerns. Contact details for the researcher and the research supervisor were provided. Please refer to Appendix D for a copy of the participant debriefing form.

2.7 Pilot Study Results

Power Calculations

Power analyses were carried out after the pilot study to determine the minimum sample size required for detecting significant effects between the conditions for some of the variables under consideration. The power calculations were carried out online. The online form uses a SAS program that calculates the power or sample size needed to attain a given power for one effect in

a factorial ANOVA design. The program is based on specifying effect size in terms of the range of treatment means, and calculating the minimum power, or maximum required sample size. Please, refer to Appendix M for an example of the power analyses.

A sample size of 10 to 14 participants in each condition (30 to 42 participants in total) was found to be capable of demonstrating significant differences (between conditions) with regard to emotional empathy, positive affect, strategy attributions for interpersonal successes, ability attributions for interpersonal successes, effort attributions for interpersonal successes, ability attributions for interpersonal failures, effort attributions for interpersonal failures, strategy attributions for non-interpersonal failures, and ability attributions for non-interpersonal failures. Below, is a summary of the discovered sample size calculations for significant effects.

Table 2.7(1)*Summary of sample size calculations for significant effects (medium and higher)*

Assessment Measure			Sample Size
Emotional Empathy			$n > 10$
Self-Attribution	Interpersonal Success	Strategy Attribution	$n > 12$
		Ability Attribution	$n > 14$
		Effort Attribution	$n > 7$
	Interpersonal Failure	Strategy Attribution	$n > 35$
		Ability Attribution	$n > 10$
		Effort Attribution	$n > 6$
	Non-Interpersonal Success	Strategy Attribution	N/A
		Ability Attribution	$n > 40$
		Effort Attribution	$n > 14$
	Non-Interpersonal Failure	Strategy Attribution	$n > 12$
		Ability Attribution	$n > 9$
		Effort Attribution	$n > 60$
Affect	Positive		$n > 10$
	Negative		N/A

Pre-experiment

The following are the SSHS:C score results for the initial six pilot study participants. Each score is marked and scored out of twelve items. According to the test's scoring criteria, all of the participants are considered moderately to highly susceptible to hypnotic suggestion. Due to the

limited sample size of the pilot study, the focus was on observing participant individual scores, while comparing them to one another.

Table 2.7(2)

Pilot participant Stanford Scale of Hypnotic Susceptibility (Form C) scores

Participant ID	Condition	SSHS:C Score
Participant 01	Hypnosis Condition	7/12
Participant 02	No Treatment Condition	8/12
Participant 03	PMR Condition	6/12
Participant 04	Hypnosis Condition	7/12
Participant 05	No Treatment Condition	7/12
Participant 06	PMR Condition	6/12

Experiment

Use of descriptive statistical comparisons was avoided in the pilot study as this would not facilitate accurate comparisons due to the small and variable number of participants. The general trends observed in the participant scores are reviewed.

Emotional Empathy

In the table below, the QMEE scores for all nine pilot study participants are exhibited. An algebraic sum of all 33 responses from the scale was obtained for each participant.

Table 2.7(3)

Pilot participant QMEE scores

Participant ID	Condition	QMEE Score
Participant 01	Hypnosis Condition	53
Participant 04	Hypnosis Condition	66
Participant 07	Hypnosis Condition	71
Participant 03	PMR Condition	50
Participant 06	PMR Condition	31
Participant 09	PMR Condition	36
Participant 02	No Treatment Condition	40
Participant 05	No Treatment Condition	53
Participant 08	No Treatment Condition	55

Self-Attribution

Participant scores (for each categorical response) were calculated by algebraically computing the number of times each participant chose the corresponding answer. The table below provides an example of how the scores were calculated.

Table 2.7(4)

Example of the pilot score calculations for Self-Attribution

Participant	Type of Success or Failure (Scale Category)	Reason for Success for Failure (Scale Sub-category)	Number of times selected
Participant 07 (Hypnosis Condition)	Interpersonal Failure	Strategy	1
		Ability	1
		Effort	2
	Interpersonal Success	Strategy	3
		Ability	0
		Effort	1
	Non-interpersonal Failure	Strategy	2
		Ability	1
		Effort	1
	Non-interpersonal Success	Strategy	2
		Ability	0
		Effort	2

After computing the pilot participants' scores, the following tendencies were observed.

Attributions for Interpersonal Successes and Failures

Hypnotized participants associated interpersonal success scenarios more with strategy, and less with effort. Ability was not selected. They associated interpersonal failure scenarios more with both strategy and effort, and less with ability. The no treatment condition participants associated interpersonal success scenarios more with strategy, and less with ability and effort. They associated interpersonal failure scenarios more with effort, and less with strategy and ability. PMR participants associated interpersonal success scenarios more with both strategy and ability, and less with effort. They associated interpersonal failure scenarios more with both strategy and effort, and less with ability.

Attributions Non-Interpersonal Successes and Failures

Hypnotized participants associated non-interpersonal success scenarios more with both strategy and effort, and less with ability. They associated non-interpersonal failure scenarios more with effort, and less with both strategy and ability. The no treatment condition participants associated non-interpersonal success scenarios more with strategy and effort, and less with ability. They associated non-interpersonal failure scenarios more with effort and ability, and less with strategy. PMR participants associated non-interpersonal success scenarios more with both strategy and effort. Ability was not selected. They associated non-interpersonal failure scenarios more with both ability and effort, and less with strategy.

Positive and Negative Affect

As discussed, the PANAS was incorporated into the experimental procedure during the assessment of the last three participants. Below, is a summary of each participant's positive as well as negative affect scores.

Table 2.7(5)

Pilot participant PANAS scores for positive affect

Participant ID	Condition	PANAS Positive Affect Score
Participant 07	Hypnosis Condition	27
Participant 08	No Treatment Condition	29
Participant 09	PMR Condition	36

Table 2.7(6)

Pilot participant PANAS scores for negative affect

Participant ID	Condition	PANAS Negative Affect Score
Participant 07	Hypnosis Condition	10
Participant 08	No Treatment Condition	14
Participant 09	PMR Condition	10

2.8 Summary of the Pilot Study Outcomes

The main experimental study, which follows, emerged from the pilot study outcomes as substantial changes in the structure of the experimental design resulted from the implications that were observed during pilot testing. The lack of coherency of the ASAT-III resulted in being replaced by the ASAT-II. The negative feedback and associated ethical implications in using Stanford Scale of Hypnotic Susceptibility, Form C, led to the omission of the scale entirely. Participant descriptions of the hypnotic state facilitating changes in emotionality inspired the addition of the Positive and Negative Affect Schedule.

Power calculations predicted that a sample size of 10 to 14 participants in each experimental condition would exhibit significant results between the three conditions for emotional empathy, positive affect, strategy attributions for interpersonal successes, ability attributions for interpersonal successes, effort attributions for interpersonal successes, ability attributions for interpersonal failures, effort attributions for interpersonal failures, strategy attributions for non-interpersonal failures, and ability attributions for non-interpersonal failures.

Participant responses to the self-attribution measure exhibited variable results. Overall, hypnotized participants associated their reasons for all successes and failures most with strategy and effort, and least with ability. Participants in the no treatment group associated their responses (reasons for all successes and failures) most with strategy, then effort, and least with ability. Progressive muscle relaxation participants associated their responses (reasons for all successes and failures) most with strategy, then ability, and least with effort.

Regarding emotional empathy, participants in the hypnosis group exhibited higher QMEE Scores compared to the no treatment group and progressive muscle relaxation group . Participants in the no treatment group exhibited lower QMEE scores if compared to hypnotised participants but slightly higher scores when compared to the progressive muscle relaxation group participants.

For the PANAS measure, the hypnosis condition participant expressed approximately average (slightly lower) to the mean responses with regard to positive affect words, and substantially lower than the mean responses for negative affect words. The no treatment condition participant expressed average to the mean responses with regard to positive affect words, and average to the mean responses for negative affect words. The progressive muscle relaxation condition participant expressed moderately higher than the mean responses with regard to positive affect words, and substantially lower than the mean responses for negative affect words.

Chapter Three: The Quantitative Part of the Research (Part One)

This chapter explores the method and analytical position used in the Main Study of Part One. The observations are presented and discussed. This is followed by a discussion of validity and reliability. There is a reflection on the materials and measures. Ethical considerations are also reviewed. The chapter concludes with an overview of the research findings, which includes a reflection on Part One.

3.1 Introduction to the Main Study

This chapter reports the method and analytical position used in the evolved experimental structure. This is referred to as the main study of the quantitative part of the research or Part One. The main study was conducted through a quantitative experiment, which took place in a controlled observational setting with direct participant observation. The use of validated questionnaire measures, to determine potential associations between the variables under consideration, were incorporated. The principal investigator, responsible for managing and navigating the research during the main study was the researcher. The main study of Part One was built upon the methods and analytical tactics that developed from the pilot study outcomes, which were discussed in Chapter Two.

Previous research has identified that the thought processes can be altered through hypnotic induction and suggestion (e.g. Gravitz, 2011, Terhune & Kadosh, 2012, Cussen, 2015). The

overreaching consideration for the overall research was whether the hypnotic state can modify self-awareness and alter perspective (i.e. of life experiences and events). The main study's purpose was to examine the effects of the state of hypnosis on reasoning and perception, quantitatively, in order to gain novel knowledge regarding the state of hypnosis. Like the pilot study, the overall aim of the main study was to examine the effects of state specific hypnosis and *trance logic* on cognitive functioning in comparison with a) progressive muscle relaxation and b) no intervention.

Previous studies have explored the association between psychological well-being and attributional interpretation. For example, research has indicated that the tendency to observe negative events as arising from internal, stable, and global causes, and positive events as arising from external, unstable, and specific causes, is associated with higher rates of clinically assessed symptoms of depression (Fresco, Alloy & Reilly-Harrington, 2006, Sturman, Mongrain & Kohn, 2006). Causal attributions for life events have been shown to be involved in the process of recovery from depression (Firth-Cozens & Brewin, 2011). Alladin (2010) and Assen (2010) have emphasized the valuable role of hypnotherapy in the management of Major Depressive Disorder. Wagstaff and Holden (1996) assessed whether individuals who report experiences of being hypnotized are prone to attribution errors and found that there might be relationship between changes in attribution and hypnosis but suggested that more research is required. The lack of knowledge regarding the possible association(s) of the hypnotic state on attributional interpretation prompts the need for further research exploration.

Research on emotional intelligence, where the roles of empathy, attributional complexity, self-control levels, and responses towards interpersonal conflicts, has been carried out (Fitness &

Curtis, 2005). The research has shown that empathy and attribution are consequently related to an individual's capacity to be able to easily discriminate between emotions. Further research has indicated that individuals tend to use the same mechanisms for both producing and perceiving actions, and that such "shared representations" underlie social perception and empathy (Lawrence, Shaw, Giampietro, Surguladze, Brammer, & David, 2006, p. 1173). Matsuki (2002) identified an interaction between the role of empathy in hypnotherapy for the therapist as well as the patient. Hypnotic trance was found to facilitate the patient's problem-solving capacity, enable the development of empathic relations, and enhance the patient's voluntary activity, opening up greater possibilities for self-reform. Nevertheless, the need for further research exploration on the role of reasoning, emotion and empathy within the hypnotherapeutic context is emphasized.

Wickramasekera II (2015) has mentioned that an adaptive resonance between perceptual output and top-down expectancies, and connectionist learning algorithms is said to facilitate the empathic enactment of affect, cognition, body language, response expectancies, social roles, sensations, etc., which are presented during a hypnotic induction. Here, hypnotic phenomena are said to be characterised by their involvement with processes of empathy and the self, where the experience of hypnosis is embodied in a system of neural networks, which use empathy-related processes. Yapko (2010) has reviewed numerous research findings, which have explored the mechanisms encompassed in hypnosis, the aspects associated with unconscious psychological processes, information processing, cognitive and affective processes, and the nature of perception. The need for further exploration is mentioned due to the lack of knowledge in this area.

Previous hypnosis research has emphasized that cognitive, affective, behavioural, and physiological processes become modified and that the subjective experience of hypnotised individuals seem to be authentic and occurring involuntarily (Hauser, Hagl, Schmierer, & Hansen, 2016). This chapter explores how the hypnotic state affects reasoning and interpretation by focusing specifically on changes in empathy, self-attribution, and positive as well as negative affect. The results are reported and the chapter concludes with a discussion of the findings. Validity, reliability, reflexivity, and ethical considerations are also reviewed.

3.2 Method

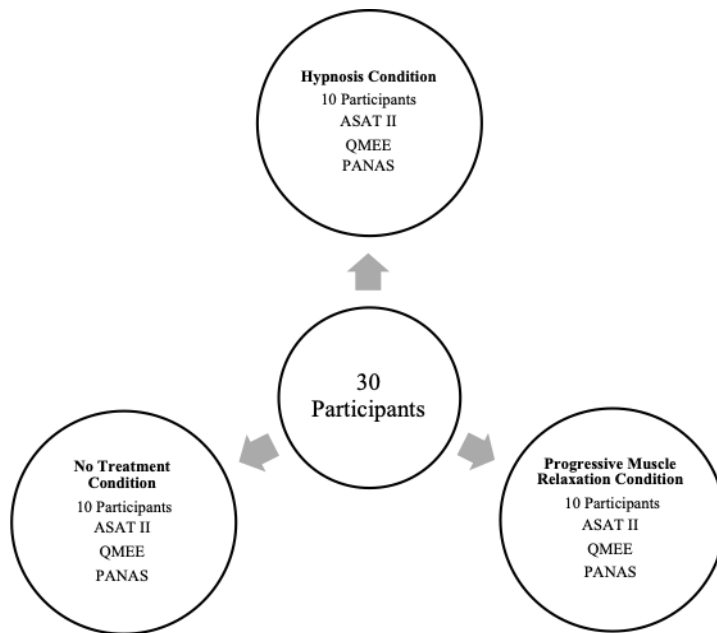
Following the Pilot Study's findings, a preliminary understanding regarding the quantitative questions were considered. The evolved main study assessed participant verbal responses during the hypnotic state via three cognitive variable measures (emotional empathy, self-attribution and affect, which includes positive and negative affect). The assessment results from the last three participants of the pilot were included in the main study. The primary researcher carried out the hypnotic inductions.

Design

An experimental between-participants design was employed, in which participants were assigned to one of three groups. The independent variable consisted of three levels: hypnosis, progressive muscle relaxation and no treatment (control condition). The dependent variables were self-attribution, emotional empathy, and positive and negative affect. Descriptive and inferential analyses were applied. The diagram below, illustrates the general structure of the experimental procedure.

Figure 3.2

Diagram of experimental procedure



Sampling and Participants

The main study was comprised of a sample size of thirty adult participants, including three individuals that were tested in the last portion of the pilot study. As mentioned in Chapter Two, the pilot was comprised of nine adult participants. The first six participants from the pilot did not receive the PANAS measure and as a result, were not included in the main study.

A convenience sample was obtained through a self-selection process. Participants willingly expressed their interest in participating in the study after learning about it from posters (please, see Appendix U). The main study was comprised of thirty adult participants with ten participants

in each testing condition. The table below illustrates the gender and age range for the main study participants.

Table 3.2

Main study participant gender and age range

Number of Participants	Gender	Age range
16	Female	25-55
14	Male	25-55

All of the participants were recruited via recruitment poster. Upon being contacted by potential participants (via email) about participation, there was no specific pre-planned sequence or criteria for determining in which condition participants would be examined. After agreeing upon a suitable time that works for both the participant and researcher, an examination room was arranged. When participants arrived they were allocated into either the hypnosis, no treatment or PMR conditions. The allocation of participants into conditions was based upon sequence. For example, the first participant was allocated into the hypnosis condition. The second, into the PMR condition. The third, into the no treatment condition, and so on. Moreover, into which condition a participant was allocated was dependent upon the sequence in which they arrived for testing. Allocation was effectively random in so far as it was not determined or stratified in anyway. As there are no researched parameters suggesting demographic variability of the

cognitive elements being measured, the random process of allocation to the groups was considered justified.

Those who were not allocated into the hypnosis condition were offered an opportunity to undergo hypnotic induction directly after the experiment assessment. A complementary hypnotic induction was offered to those who did not get an opportunity to experience hypnosis in the no treatment and PMR conditions. It was offered in an effort to minimise the possibility of participant disappointment, as participants might have anticipated and perhaps looked forward to potentially experiencing hypnosis, as this was indicated on the recruitment poster.

Participant Incentives:

As in the pilot, refreshments (i.e. beverages and light snacks) were available during the experiment. Participants had the option to request a uniquely tailored post-hypnotic suggestion or to explore a personal theme of interest, while in the hypnotic state. Participants were also able to receive a complimentary hypnotic induction recording on request after participating.

Participant Screening:

As in the pilot, the screening criteria maintained that candidates must not have auditory or speech impediments so that they would be able to understand the questions and articulate responses. Individuals consuming narcotics and/or psychotropic medications were excluded.

Materials and Measures

Questionnaire Measure for Emotional Empathy (QMEE) (Mehrabian & Epstein, 1972):

All participants were guided through an emotional empathy assessment measure through the application of the Questionnaire Measure for Emotional Empathy (QMEE). All responses were scored in accordance with the test criteria and stored for a comparative analysis.

The QMEE is based on a 4-point Likert scale (i.e. strongly agree, agree, disagree, and strongly disagree), which aims to measure the perceived emotional experience of others. The QMEE scores are based on numerical scale measured data and have been classified as continuous variables. There are a total of thirty-three items on the scale. Of these thirty-three scale items, seventeen items are reversed. Each of the participant's responses were calculated, considering the reversed questions, and the sums are considered in a comparative analysis between the conditions of hypnotised participants, PMR participants and those who did not receive treatment.

Attributional Style Assessment Test - Version II (ASAT-II) (Anderson, 1999):

All participants were guided through an attributional style assessment measure through the application of the Attributional Style Assessment Test (ASAT-II). The ASAT-II is composed of multiple-choice questions, which correspond to the classification of reasons for successes and failures, relating to the following sub-categories: interpersonal failure, interpersonal success, non-interpersonal failure, and non-interpersonal success. The ASAT-II that was used in this

study, incorporated only four items for each sub-category. In the questionnaire, each potential answer (a possible reason) is assigned to either strategy, effort or ability. It is a forced-choice assessment of self-attribution and measures strategy, ability and effort, through questions relating to reasons for success and failure. To avoid exhaustively questioning the participants (as experienced with the ASAT-III in the pilot), only sixteen questions were used (from the thirty-six offered).

All responses were scored using the test's original scoring criteria and stored for a comprehensive and comparative analysis. The ASAT-II's strategy, ability and effort response associations correspond to the aspects involved with the causal inference, regarding the given situational result. The Interpersonal dimension accounts for relational scenarios, involving others (or the potential influence of others). The non-interpersonal dimension accounts for personal scenarios.

Positive and Negative Affect Schedule – Version SF (I-PANAS-SF) (Watson, Clark & Tellegen, 1988):

All participants were guided through an assessment of positive and negative affect through the application of the Positive and Negative Affect Schedule (I-PANAS-SF). The PANAS questionnaire is a scale measure, which consists of twenty words that represent a number of feelings and emotions. In accordance with the PANAS assessment method, each participant was asked to indicate to what extent they are experiencing the given word (associated with a feeling

or particular emotion) at the present moment. As per the scoring criteria, the items are divided into two categories, exploring positive affect and negative affect. Both sub-scale scores were assessed during data analysis. Like the QMEE, the PANAS scores are based on numerical scale measured data and have been classified as continuous variables.

Procedure

Part One of the research was conducted through a quantitative experiment that took place in a controlled observational setting with direct participant observation of a convenience sample. The principal investigator, responsible for organising and navigating the research, as well as carrying out the hypnotic inductions, was the researcher.

Experiment:

After random assignment into either the no treatment (normal state) condition, the hypnotic condition or the PMR condition, participants underwent assessment. In the hypnotic condition, each participant underwent hypnotic induction, which incorporated a dissociative induction script, and deepening techniques, consisting of the favourite place of relaxation deepener and a further countdown deepening procedure. Please see Appendix K for an example of the hypnotic scripts. In the PMR condition, participants were guided through a relaxing experience with the application of a progressive muscle relaxation script. Please see Appendix L for a copy of the PMR script. There was no script introduced to participants in the no treatment (normal state) condition. Individuals in the no treatment condition were asked to partake in a normal cognitive task for the equivalent allotted time (i.e. read the newspaper or a magazine). All participants were then presented with the assessment measures for self-attribution (ASAT-II), emotional

empathy (QMEE) and affect (PANAS). The experiment lasted approximately sixty minutes in length.

Post-Experiment:

A session for debriefing, consisting of a more detailed overview of the observations and an opportunity for questions, was carried out immediately after testing. All of the participants were advised of their rights to communicate with the researcher and/or the supervisory team, should they have any questions or concerns. All of the necessary contact details were provided. Please, refer to Appendix D for a copy of the participant debriefing form.

3.3 Results

Descriptive and inferential statistical analyses were applied to analyse the data. Separate one-way ANOVAs were carried out for the QMEE and PANAS subscale scores. For the ASAT-II, initially, non-parametric analyses (Kruskal-Wallis and the Mann-Whitney tests for pairwise comparisons) were carried out for each dimension. However, the corrected final analysis for the ASAT II involved a MANOVA for each of the collapsed ASAT-II sub-scales. Significant differences were found in the selected sample, implying that a significant relationship exists.

Emotional Empathy

Below, descriptive statistics for the QMEE scores are displayed in Table 3.3(1), including confidence intervals for each condition.

Table 3.3(1)*Emotional empathy group means and standard deviations*

Condition/Group	<i>M</i>	<i>SD</i>	95% <i>CI</i>
Hypnosis	62.93	14.731	[57.659, 68.201]
No Treatment	28.31	32.582	[16.651, 39.969]
PMR	44.54	17.456	[38.294, 50.786]

Note. *M* and *SD* represent mean and standard deviation, respectively. *CI* represents the confidence interval.

The null hypothesis for normality is accepted for all conditions, considering the dependent variable QMEE (according to both the Kolmogorov-Smirnov and the Shapiro-Wilk tests). As exhibited in Table 4.2(2) (see Appendix R), there is a statistically significant difference between conditions ($F(2,27) = 5.679, p = .009$).

Levene's test for equality of variances was found to be violated for the current analysis. Because the significance value ($p = .005$) is less than an alpha level of .05, the null hypothesis, which states that there is no difference for the assumption of homogeneity, is rejected. There is a significant difference amongst the group variances. Below, the table 3.3(2) exhibits the derived effect sizes (Cohen's *d*) between conditions.

Because the assumption for homogeneity of variances is violated, the A Games-Howell post hoc test was used (see Table 4.2(3), Appendix R). The test revealed that participant QMEE scores

were statistically significantly higher for those in the hypnosis condition compared to those in the no treatment condition ($p = .024$). There was no statistically significant difference between those in the PMR and no treatment conditions ($p = .375$). Neither was there a statistically significant difference between those in the PMR and hypnosis conditions ($p = .051$).

Table 3.3(2)

Emotional empathy group comparison derived effect sizes (Cohen's d)

Condition (Group) vs. Condition (Group)	Effect Size (Cohen's d)
Hypnosis vs. No Treatment	1.368
Hypnosis vs. PMR	1.139
PMR vs. No Treatment	0.620

Self-Attribution

The ASAT-II scores were developed, based on counts of the participant responses for each corresponding category; discrete dependent variables. The descriptive statistics are shown below in Table 3.3(3), including confidence intervals for each condition and sub-scales.

Table 3.3(3)*Self-Attribution group means and standard deviations*

Condition/Group	Scenario Type	Attribution	<i>M</i>	<i>SD</i>	95% <i>CI</i>
Hypnosis	Failure	Strategy	3	.943	[2.663, 3.337]
		Ability	2	1.414	[1.494, 2.506]
		Effort	3	1.633	[2.416, 3.584]
	Success	Strategy	4.3	1.252	[3.852, 4.748]
		Ability	1.2	1.229	[.760, 1.640]
		Effort	2.5	1.179	[2.078, 2.922]
No Treatment	Failure	Strategy	2.4	1.578	[1.835, 2.965]
		Ability	1.5	1.434	[.987, 2.013]
		Effort	4.1	1.101	[3.706, 4.494]
	Success	Strategy	2.9	1.792	[2.259, 3.541]
		Ability	1.7	.949	[1.360, 2.040]
		Effort	3.4	1.506	[2.861, 3.939]
PMR	Failure	Strategy	3.1	.994	[2.744, 3.456]
		Ability	1.6	.996	[1.244, 1.956]
		Effort	3.3	.823	[3.005, 3.595]
	Success	Strategy	1.9	1.197	[1.472, 2.328]
		Ability	1.4	.843	[1.098, 1.702]
		Effort	4.7	1.767	[4.068, 5.332]

Note. *M* and *SD* represent mean and standard deviation, respectively. *CI* represents the confidence interval.

A MANOVA was conducted where the six sub-scale ASAT-II scores were included as dependent variables. The four multivariate tests agreed in rejecting the null hypothesis with *p*-values ranging from .007 to .026. Please, see below, Table 3.3(4) ASAT-II multivariate tests for an illustration.

Table 3.3(4)

ASAT II multivariate tests

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.977	253.286 ^b	4.000	24.000	.000
	Wilks' Lambda	.023	253.286 ^b	4.000	24.000	.000
	Hotelling's Trace	42.214	253.286 ^b	4.000	24.000	.000
Group	Roy's Largest Root	42.214	253.286 ^b	4.000	24.000	.000
	Pillai's Trace	.560	2.433	8.000	50.000	.026
	Wilks' Lambda	.499	2.497 ^b	8.000	48.000	.024
	Hotelling's Trace	.887	2.551	8.000	46.000	.022
	Roy's Largest Root	.724	4.526 ^c	4.000	25.000	.007

a. Design: Intercept + Group

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

The next steps involved 1) looking at the univariate ANOVAs to determine for which of the six self-attribution dimensions the differences are significant, and 2) for those where the univariate tests were significant, conducting post-hoc comparisons to determine exactly where the differences are.

In Appendix S, Table 4.2(7) titled ‘Test of Between-Subjects Effects’ reports individual F-tests for each of the six sub-scale ASAT-II scores. Differences between study conditions were found for Strategy attributions for Success scenarios ($F(2, 27)=7.020, p=.004$) and for Effort attributions for Success scenarios ($F(2,27)=5.415, p=.011$). Please note that these results are consistent with those obtained from the initial non-parametric Kruskal-Wallis test (see Appendix Q for reference).

In the post hoc tests exhibited in Appendix S, specifically the results corresponding to S-Strategy and S-Effort are of interest. Tukey HSD results from these comparisons show that there are statistically significant differences in S-Strategy between the Hypnosis and the PMR conditions (4.3 versus 1.9, $p=.003$). Additionally, there are also significant differences between the Hypnosis and the PMR conditions for S-Effort (2.5 versus 4.7, $p=.008$).

Appendix S provides an illustration of all the ASAT-II statistical analyses. These include Table 4.2(6) ASAT II multivariate tests, Table 4.2(7) ASAT II tests of between-subjects effects, Table 4.2(8) ASAT II estimated marginal means, Table 4.2(9) ASAT II multiple comparison post hoc tests, and Table 4.2(10) ASAT II multiple tests of normality.

Positive Affect

The following data exhibits a summary of the results for the Positive Affect Schedule of the PANAS, version SF. Each of the participant's positive affect responses have been totalled and the sums are considered in a comparative analysis between the conditions of hypnotised participants, PMR participants and those who did not receive treatment. The Positive Affect scores are based on numerical scale measured data and are continuous variables. Descriptive data for Positive Affect can be seen in Table 3.3(5) exhibited below, including confidence intervals for each condition.

Table 3.3(5)

Positive affect group means and standard deviations

Condition/Group	<i>M</i>	<i>SD</i>	95% <i>CI</i>
Hypnosis	35.21	6.161	[33.005, 37.415]
No Treatment	28.43	5.582	[26.433, 30.427]
PMR	38.62	5.502	[36.651, 40.589]

Note. *M* and *SD* represent mean and standard deviation, respectively. *CI* represents the confidence interval.

The null hypothesis for normality is accepted for all groups, considering the dependent variable Positive Affect (according to both the Kolmogorov-Smirnov and the Shapiro-Wilk tests, exhibited in Table 3.3 (6), Appendix T). There was a statistically significant difference between groups, ($F(2,27) = 8.143$, $p = .002$).

Levene's test for equality of variances was not found to be violated for the current analysis; the variances in the groups are homogeneous. Because the significance value ($p = .987$) is more than an alpha level of .05, the null hypothesis, which states that there is no difference for the assumption of homogeneity, is not rejected. There does not seem to be a significant difference amongst the group variances. Below, in Table 3.3(6), are the derived effect sizes (Cohen's d) between groups.

Because the assumption of equality of variances was not violated, a Tukey post hoc test was used and revealed that participant Positive Affect scores were statistically significantly higher for those in the hypnosis condition compared to those in the no treatment condition ($p = .035$). Also, a statistically significant difference was observed between those in the PMR (higher) and no treatment conditions ($p = .001$). There was no statistically significant difference observed between those in the PMR and hypnosis conditions ($p = .396$). Please, see Appendix T for an illustration.

Table 3.3(6)

Positive affect group comparison derived effect sizes (Cohen's d .)

Condition (Group) vs. Condition (Group)	Effect Size (Cohen's d)
Hypnosis vs. No Treatment	1.157
Hypnosis vs. PMR	0.582
PMR vs. No Treatment	1.840

Negative Affect

The following data exhibits a summary of the results for the Negative Affect Schedule of the PANAS, version SF. Each of the participant's Negative Affect responses were totalled and the sums were considered in a comparative analysis between the conditions of hypnotised participants, PMR participants and those who did not receive treatment. Descriptive data for Negative Affect can be seen in Table 3.3(7) exhibited below, including confidence intervals for each condition.

Table 3.3(7)

Negative affect group means and standard deviations

Condition/Group	<i>M</i>	<i>SD</i>	95% <i>CI</i>
Hypnosis	13.43	3.134	[12.309, 14.551]
No Treatment	12.01	2.404	[11.150, 12.870]
PMR	12.23	1.814	[11.581, 12.879]

Note. *M* and *SD* represent mean and standard deviation, respectively. *CI* represents the confidence interval.

The null hypothesis for normality is accepted for all groups, considering the dependent variable Negative Affect (according to both the Kolmogorov-Smirnov and the Shapiro-Wilk tests). As exhibited in Table 4.2(16) (see Appendix T), there is no statistically significant difference between conditions, as determined by a one-way ANOVA ($F(2,27) = .911$, $p = .414$).

Levene's test for equality of variances was not found to be violated for the current analysis; the variances in the groups are homogeneous. Because the significance value ($p = .310$) is more than an alpha level of .05, the null hypothesis, which states that there is no difference for the assumption of homogeneity, is not rejected. There does not seem to be a significant difference amongst the group variances. A Shapiro-Wilk test for normality was not carried out as Levene's test for equality of variances was not violated. Below, in Table 3.3(8) are the derived effect sizes (Cohen's d) between conditions.

Because the assumption of equality of variances was not violated, a Tukey post hoc test was used and revealed that participant Negative Affect scores were not statistically significantly higher or lower for those in the hypnosis condition compared to those in the no treatment condition ($p = .436$). Also, no statistically significant difference was observed between those in the PMR and no treatment conditions ($p = .983$). There was additionally no statistically significant difference observed between those in the PMR and hypnosis conditions ($p = .541$). Please, see Appendix T for an illustration.

Table 3.3(8)

Negative affect group comparison derived effect sizes (Cohen's d)

Condition (Group) vs. Condition (Group)	Effect Size (Cohen's d)
Hypnosis vs. No Treatment	0.501
Hypnosis vs. PMR	0.469
PMR vs. No Treatment	0.094

3.4 Rationale for the Applied Statistical Analyses

The complete results from the main study's experimental analyses are exhibited in Appendices Q, R, S, and T. The data from the analyses are presented through a display of descriptive and inferential statistical examinations. Calculations were applied to investigate and explain the potential effects of a condition (hypnosis, progressive muscle relaxation, or no treatment) on interpretative cognitive tendencies, associated with emotional empathy, self-attribution, positive affect, and negative affect.

The average scores for the measures (for each for each of the conditions) were computed. These include the overall sub-scale averages, comprising the QMEE, ASAT-II and both Positive and Negative Affect PANAS scales. The averages were then comparatively analysed, considering the participant conditions (i.e. hypnosis, PMR or no treatment). Effects sizes (Cohen's *d*) were also considered. Tests of Normality (Kolmogorov-Smirnov and the Shapiro-Wilk) were run to determine whether the sample data was taken from a normally distributed population. This was done because the inclusion of one-way ANOVAs requires normally distributed samples. Normality was not met for the ASAT-II sub-scales.

Initially, the Kruskal-Wallis test (a non-parametric test) was used to determine whether there are statistically significant differences between the groups for the six (collapsed) self-attribution sub-scales. Pairwise comparisons, incorporating the Mann-Whitney test were then conducted, to identify where the differences between the groups are. the Bonferroni correction was applied to account for the multiple comparisons in testing self-attribution; the adjusted alpha level was determined. This initial analysis can be found in Appendix Q.

The corrected analysis for the ASAT-II involved a multivariate ANOVA for the collapsed ASAT II sub-scales, as the scores are correlated. This was followed by post hoc comparisons. The advantage of using the MANOVA is that differences across the three study conditions can be assessed, while considering the six sub-scale ASAT-II scores as a whole. In addition, it is possible to obtain the univariate ANOVAs which will relay differences between the groups for each ASAT-II score, separately.

Separate one-way ANOVAs were carried out for the QMEE and PANAS subscales' scores, as they are not correlated. This was followed by post hoc comparisons (Games-Howell and Tukey HSD). Levene's test for equality of variances was also conducted to assess whether the samples have equal variances.

3.5 Rationale for the Materials and Measures Used

Questionnaire Measure for Emotional Empathy (QMEE):

For the purpose of the study, empathy was defined as the emotional response to one's own perception of the emotional experience of others. It was further defined as the affective state, which results from a process whereby an individual or a group of individuals has/have an impact on the emotional state(s) and possibly the behaviour(s) of another or a group. This process can develop on a conscious and/or unconscious level, resulting in the transmission of emotional experiences and behaviours.

The QMEE was included in this study to measure the level of the participants' emotional empathy experience whilst in the hypnotic state. The test is specifically designed to evaluate the affective empathic experiential component rather than cognitive empathic understanding. This was discussed in greater detail in Chapter Two. An alternative measure of emotional empathy is the Interpersonal Reactivity Index (IRI). Nevertheless, it also focuses on the exploration of cognitive empathy (as opposed to solely exploring affective empathy). The aims of this study are primarily concentrated on examining the potential effects of the hypnotic state on affective emotional empathic interpretation. Further research might benefit from a thorough exploration of cognitive empathy, with the inclusion of the IRI as an assessment tool.

Attributional Style Assessment Test - Version II (ASAT-II):

For the purpose of this study, attribution, more precisely self-attribution, was defined as the causal inference associated with a situational result; an explanation by indication of a cause. The ASAT-II's strategy, ability and effort response associations correspond to the aspects involved with the causal inference, regarding the given situational result. The interpersonal dimension accounts for relational scenarios, involving others (or the potential influence of others). The non-interpersonal dimension accounts for personal scenarios. The interpersonal and non-interpersonal dimensions were collapsed during data analysis. This is discussed further along, in the results section.

The ASAT-II was the most advantageous option for addressing the study's objectives. Unlike the Attributional Style Questionnaire (another viable option), the ASAT-II measure incorporates an even number of items, which comprise success and failure situations, while effectively mirroring

one another. Discrepancies in the participant response patterns are easily apparent because of this mirroring quality. In addition, considerations relating to the interpersonal and non-interpersonal divisions between the items are more defined, when compared to the affiliation versus achievement items on the Attributional Style Questionnaire (Fernandez-Ballesteros, 2002). The ASAT-II's even number of mirrored items and categorical dimensions, additionally facilitates modifications and adjustments.

Positive and Negative Affect Schedule – Version SF (PANAS-SF):

The introduction of the PANAS-SF assessment tool was inspired by the initial six participants of the pilot study after it was observed that measurable discrepancies between hypnotized versus normal state participants might exist. Differences with regard to emotionality were detected. For the purpose of the study, affect was defined as the experience of feeling or emotion.

The PANAS-SF version in particular, was selected because there was an interest in assessing state specific emotional changes. Unlike other scales (i.e. Differential Emotions Scale) the PANAS-SF enables an examination of current feelings. An alternative and extended option that would be more suitable in further research might involve the inclusion of PANAS-X, which is an expanded PANAS measure, containing a wider variety of items. Similarly, an additional measure that might be useful in addressing an extended exploration of affect is the Profile of Mood States Questionnaire-2, which contains 65 items, which assess seven mood state dimensions.

3.6 Validity and Reliability

Validity is considered to be a valuable component for adequate quantitative as well as qualitative research (Cohen et al., 2007). For quantitative methods, the accuracy of the used measures to assess what was intended, is key. Additionally, the research is expected to demonstrate that the design was rigorous with regard to avoiding bias. Reliability of quantitative investigations considers dependability, replicability, consistency, measures applied, and the sample(s) used (Cohen et al., 2007). The degree to which the tools used produce stable and consistent results, should always be deliberated in research. Below, were some considerations for the presented work.

Internal Validity

The quantitative method used was constructed as a randomized experimental design, possessing controlled assessment trials. The internal validity was strengthened due to the selection of this type of design. A causal link between the treatment groups and dependent variables was supported by the application of validated and reliable test measures. Nevertheless, a potential threat to the internal validity included a chance that external variables might affect the assessment and accuracy of the test results (i.e. outside noise or room temperature might have influenced responding).

External Validity

The level of external validity for this part of the study was threatened due to the self-selected participant convenience sample. The results are, therefore, non-generalizable and the external

validity is classified as low. Nevertheless, as previously stated, generalisability was not an aim of this study. Further testing, with a larger representative participant sample, might yield a higher external validity.

Reliability

The standardised design, including the methods involved in this quantitative investigation facilitated the reliability of the study. The applied measures have adequate internal consistencies and inter-rater reliabilities, as shown in previous research.

3.7 Ethical Considerations

Prior to commencing the research, the proposed work underwent a formal ethical approval procedure. The procedural requirements involved the submission of a research application, which included a description of the study, proposed conduct, and supportive documentation (i.e. copies of the questionnaire measures). After formal review, the research ethics committee approved the research proposal. The changes to the research structure, which took place after the pilot study, were communicated and approved by the ethics committee of Regent's University London. A copy of the ethics approval letter can be found in Appendix A.

The consent process ensured that the individuals participating in the experiment were voluntarily involved in the research, having full knowledge of any relevant risks and/or benefits. Participants were reminded of their rights to decline to participate or withdraw from the experiment at any point, should they wish to discontinue with testing. Any factors that might have influenced their

willingness to participate, including the potential side effects of hypnotic induction, possible discomfort, benefits, or any other side-effects, were communicated.

Participants were also reminded that the precise content as well as a detailed overview of their responses would be thoroughly discussed during the debriefing procedure. Respect for the confidentiality and privacy of each participant was openly acknowledged. Additionally, limits to confidentiality, including the possibility of data coding, sharing and documenting information, and when confidentiality must be disrupted, was reviewed. Contact details were provided to the participants should they have further questions. Contact details for counselling services were also provided in case of distress. Copies of the participant information sheet, consent form and debriefing form can be found in appendices B, C and D.

Standardization and objectivity with regard to the administration of the assessment measures, as well as the research setting during the experimental procedure, was considered to be an important aim. Consistency, with regard to the application of the hypnotic scripts and psychometric assessment tools was maintained.

3.8 Discussion

The quantitative research inquiry of Part One asked whether the hypnotic state affects cognition and reasoning. Specifically, it asked if the hypnotic state affects emotional empathic interpretation, self-attributional style, and positive affect as well as negative affect. The main

study of Part One has exhibited that differences between participants in the three conditions (hypnotic, PMR and no treatment) for emotional empathy, self-attribution, and positive affect exist. Part One has explored how the hypnotic state modifies self-awareness and perspective. It has effectively examined the effects of the state of hypnosis on reasoning and perception, quantitatively, with the aim of gaining novel knowledge regarding the cognitive changes that occur in the state of hypnosis.

The null hypothesis for normality was accepted for all groups, considering the questionnaire measure for emotional empathy participant scores. There is a statistically significant difference between groups, as determined by a one-way ANOVA. A Games-Howell post hoc test revealed that participant QMEE scores were statistically significantly higher for those in the hypnosis group compared to those in the no treatment group. There was no statistically significant difference between those in the PMR and no treatment groups. Neither was there a statistically significant difference between those in the PMR and hypnosis groups. The effect size (Cohen's d) for the potential difference between the hypnosis and no treatment groups is considered to be very large.

Research on emotional intelligence has confirmed that empathy is related to one's capacity to discriminate between emotions (Fitness & Curtis, 2005). Individuals tend to use the same mechanisms for both producing and perceiving actions – this is said to underlie social perception and empathy (Lawrence et al, 2006). Matsuki (2002) identified an interaction between empathy and hypnotherapy and hypnosis, where the hypnotic state was found to facilitate problem-solving, enable the development of empathic relations, and enhance voluntary activity, opening up greater possibilities for self-reform via therapy. The emotional empathy results from the main

study build on this association and offer new insights regarding the hypnotic state and its effect on emotional empathy. The results found support for the proposed hypothesis that participants in the hypnosis condition would have higher scores on the QMEE than those in the control conditions (progressive muscle relaxation and no intervention).

Due to the poor reliability of the ASAT-II, specifically with regard to the individual scales, the non-interpersonal success, non-interpersonal failure, interpersonal success, and interpersonal failure questions were collapsed to form either success or failure scenarios. Nevertheless, normality was not met for the collapsed self-attribution categories. For each of the categories, there was at least one group where the normality assumption was rejected (according to both the Kolmogorov-Smirnov and the Shapiro-Wilk tests). As a result, a non-parametric analysis was initially used. A Kruskal-Wallis H test showed that there is a statistically significant difference for strategy attributions for success scenarios between the groups. A Kruskal-Wallis H test also showed that there is a statistically significant difference for effort attributions for success scenarios between the groups.

Because, the Kruskal-Wallis test illustrates whether there are differences between the three groups but not where the differences are, pairwise comparisons, incorporating the Mann-Whitney test were conducted, to identify which groups are statistically different from each other, in terms of success-strategy and success-effort. There were significant differences in strategy attributions for success scenarios between the hypnosis and progressive muscle relaxation conditions. In particular, the hypnosis group has a greater score compared to the progressive muscle relaxation group. Significant differences were also found for effort attributions for success scenarios, where the hypnosis group had a significantly lower score compared to the

progressive muscle relaxation group. After applying the Bonferroni correction, the groups differ significantly for strategy and effort attributions for success scenarios. The effect size (Cohen's d) for the potential difference for strategy attributions relating to success scenarios, between the hypnosis and progressive muscle relaxation groups is considered to be very large. The effect size (Cohen's d) for the potential difference for effort attributions relating to success scenarios, between the hypnosis and progressive muscle relaxation groups is also considered to be very large.

After the initial thesis examination, the examination committee suggested that the ASAT-II data be re-analysed via parametric testing. After looking at the data more closely, it was discovered that the skewness of the scores is not extraordinarily high. Their values are between 0 and 0.3, except for S-effort that has a skewness of .487 (but even this value is not considered very high). An attempt was made to transform the data via log transformation for the S-Strategy scores but this made the distribution even more skewed but towards the left (negative skewness). After consulting with a statistics professional, who acted as a mentor through the quantitative part of the research, it was learnt that these types of transformations work better for highly skewed data, which is not the case for the presented data. As a result, the decision to run a multivariate ANOVA, even though most of the sub-scale scores were not normally distributed, was made. Notably, the normality tests under Shapiro-Wilks are not rejected for S-Strategy and S-Effort. These are the two variables for which significant differences were initially seen. Both the initial non-parametric analysis and the new parametric analysis yielded similar results.

The four multivariate tests agreed in rejecting the null hypothesis. Therefore, it was concluded that there are statistically significant differences in self-attribution between the study groups or conditions. Differences between the groups were found for Strategy attributions for Success scenarios (S-Strategy) and for Effort attributions for Success scenarios (S-Effort). It is evident that these results are consistent with those obtained from the non-parametric test Kruskal-Wallis. Tukey HSD results from these comparisons show that there are statistically significant differences in S-Strategy between the Hypnosis and the PMR conditions. Additionally, there are also significant differences between the Hypnosis and the PMR condition for S-Effort.

Previous studies have explored the association between psychological well-being, depression and attributional interpretation (Fresco, Alloy & Reilly-Harrington, 2006, Sturman, Mongrain & Kohn, 2006). Changes in causal attributions have been shown to be involved in the process of recovery from depression (Firth-Cozens & Brewin, 2011). Alladin (2010) and Assen (2010) have proposed that hypnosis may have a valuable role to play in the management of Major Depressive Disorder. Wagstaff and Holden (1996) assessed whether individuals who report experiences of being hypnotized are prone to attribution errors and found that there might be a significant relationship between changes in attribution and hypnosis. The self-attribution style findings from the main study provide some novel parameters regarding attributional changes that occur in the hypnotic state, which can facilitate further research in this area. The results found support for the proposed hypothesis that participants in the hypnosis condition would exhibit differences in self-attributional style when compared to those in a control condition (progressive muscle relaxation). Nevertheless, the results did not find support for the proposed hypothesis that participants in the hypnosis condition would exhibit differences in self-attributional style when compared to those in the no treatment control condition/group.

The null hypothesis for normality was accepted for all groups, considering positive affect. There is a statistically significant difference between groups, as determined by a one-way ANOVA. A Tukey post hoc test revealed that participant positive affect scores were statistically significantly higher for those in the hypnosis group (higher) compared to those in the no treatment group (lower). Also, a statistically significant difference was observed between those in the PMR group (higher) and no treatment group (lower). There was no statistically significant difference observed between those in the PMR and hypnosis groups. The effect size (Cohen's *d*) for the potential difference between the hypnosis and no treatment conditions is considered to be very large. The effect size (Cohen's *d*) for the potential difference between the progressive muscle relaxation and no treatment conditions is also considered to be very large. There were no observed significant differences between the conditions/groups for negative affect. As a result, further analysis did not take place.

Yapko (2010) has reviewed numerous research findings, which have explored the mechanisms involved in hypnosis, the aspects associated with unconscious psychological processes, information processing, cognitive and affective processes, and the nature of perception in general. Wickramasekera II (2015) proposed that an adaptive resonance between perceptual output and top-down expectancies, and connectionist learning algorithms are said to facilitate the empathic enactment of affect, cognition, body language, response expectancies, social roles, sensations, etc., which are presented during a hypnotic induction. However, the need for further research exploration was emphasized due to the lack of knowledge in this area. The positive affect results from the main study provide new knowledge regarding the hypnotic state and its effect on affect. The results found support for the proposed hypothesis that participants in the hypnosis condition would have higher scores on the positive items on the Positive and Negative

Affects Schedule than those in the control conditions (progressive muscle relaxation and no intervention). However, the results did not find support for the hypothesis that participants in the hypnosis condition would have lower scores on the negative items on the Positive and Negative Affects Schedule than those in the control conditions (progressive muscle relaxation and no intervention).

Throughout the entirety of this research, reference to a state theory of hypnosis was maintained, where the hypnotic state is viewed as a distinct altered state of awareness. This position asserts that responses to suggestive hypnotic content result from a different reasoning style, when compared to the normal state of awareness. Earlier research has identified that the thought processes can be altered through hypnotic induction and suggestion (e.g. Gravitz, 2011, Terhune & Kadosh, 2012, Cussen, 2015). Previous hypnosis research has emphasized that cognitive, behavioural, and physiological processes become modified and that the subjective experience of hypnotised individuals seem to be authentic and occurring involuntarily (Hauser, Hagl, Schmierer, & Hansen, 2016). Part One has provided some novel information regarding the impact of the hypnotic state on cognitive functioning by exploring its effects on key measurable cognitive variables. It contributes to knowledge about the implications for empathy, self-attribution, positive affect, and negative affect by experimentally comparing the effect on these variables, while comparing against two other conditions (PMR and no treatment). It also contributes to knowledge regarding the effects of state specific hypnosis and *trance logic* on cognitive functioning. Part One's aim was to provide insights regarding the effects of hypnosis for use during psychotherapeutic intervention, which might facilitate advances in Psychotherapy. Affording a deeper understanding of how hypnotised individuals interpret, respond to

associations, and empathically reflect during the hypnotised state might also contribute to theoretical developments in hypnosis.

Reflection on Part One

The pilot study had a valuable impact on the formation of a viable approach to research testing during the hypnotic state. Part One sought to explore the impact of hypnosis on cognition through examining participant verbal responses during the hypnotic state. This was challenging because the majority of research in this field has not attempted to measure participants' verbal responses during the hypnotic state. The pilot study provided an opportunity for meaningful reflection with regard to the overall quantitative research approach and procedure. It may be useful for research in this field, which intends to apply novel assessment tools during the hypnotic state, to include pilot testing.

Also, it may be ethically valuable to use pilot testing as a preliminary measure when observing state specific hypnotic responding. This might provide researchers with an opportunity to observe potentially undesirable response patterns (i.e. spontaneous regression). It seems necessary to practise caution as there is still a lack of clarity, regarding the potential side effects of the hypnotic state, which may pose limitations for ethical practise. An important benefit of the pilot study was its success in identifying a number of significant ambiguities with regard to the initially planned research process. A number of adjustments were made as a result. The pre-experiment in particular, which included the application of the Stanford Scale of Hypnotic

Susceptibility (Form C) was removed from the study because it revealed the possibility of encountering serious ethical issues, specifically because of the regressive item on the scale.

Aside from the value in conducting pilot testing, I found myself deeply worried about the nature of the participant selection and sampling throughout Part One. I was particularly concerned about the fact that I was working with a convenience sample. The nature of the convenience sample, of course, limits the study by weakening its external validity and increasing the risk of research bias. Additionally, the results cannot be generalised. When working with hypnosis research participants, it is ethically correct to assess only those participants that agree to participate in the study. Of course, this applies to all research. It is only logical to assume that those who agree to participate possess some interest in the hypnotic experience and a desire to experience some sort of hypnotic effect. I feared that the sample would possess a significant sampling bias and that this would limit the research. Generalisability of the results was out of the question and as a result, the external validity of the study is low.

Nevertheless, irrespective of the fact that convenience sampling has limitations, the use of this approach provided insightful information relevant to the research aims. The internal validity was strengthened by the use of validated questionnaire measures. Reliability was strengthened by the standardised design of the experiment. The aim of the research was to observe possible trends and potential discrepancies between conditions. The sample did exhibit some insightful information, regarding state specific cognitive tendencies. The convenience sample, as a result, still provided significant insights and new indications for further research.

Chapter Four: The Qualitative Part of the Research (Part Two)

This chapter explores the research method and analytical position used in Part Two of the research. The research design, sampling, interview process, and the process of analysis are presented, and ethics, validity and reliability are considered. An analysis of the qualitative data is presented and the group experiential and personal experiential themes are reviewed. The chapter concludes with a discussion of the findings and a reflection on the analytic journey and the use of IPA.

4.1 Introduction

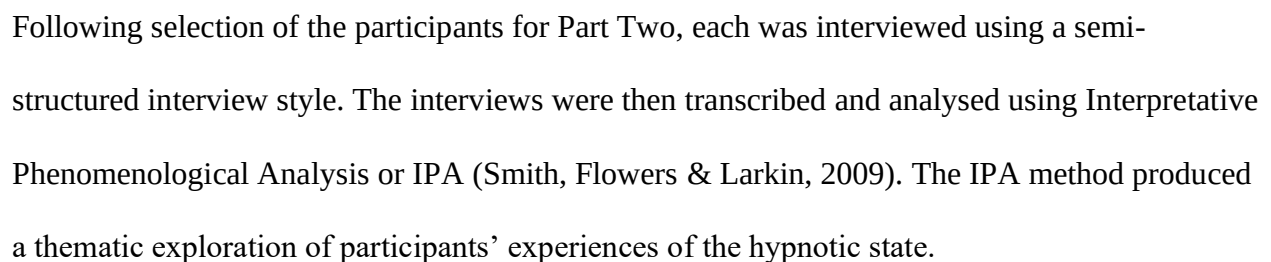
A qualitative approach was used as Part Two of the research using interpretative phenomenological analysis to study five of the Part One hypnotised participants' lived experiences of the hypnotic state. The semi-structured interviews, undertaken by myself as the primary researcher, explored the participants' experiences of hypnosis and their expectations, feelings and understanding of hypnotic induction. The participants were asked to describe attributes of this distinct experiential state. The specific research question in this stage was: How did participants understand and experience the hypnotic state and its effect on their cognition. The aim of this part of the research was to bring insight into the participants' experience of hypnotic induction with the objective of adding meaning to the quantitative results from Part One of the research.

As discussed in Chapters One and Two, the perspective taken of hypnosis in this thesis is based on the theory that the hypnotic state is a specific state of cognitive awareness that possesses discrepant psychological characteristics (Hasegawa & Jamieson, 2002). This reflects the critical realist position that such a state exists and that we can learn more about it through research, the building of theory and by updating our understanding of the phenomenon. This chapter describes the research method and analytical approach applied in this qualitative part of the study (Part Two). This is followed with an exploration of the qualitative data in which the experience of the participants is presented in the form of group experiential and personal experiential themes supported by descriptive narrative. An analysis of participants' perceptions supported by verbatim excerpts from the interviews is presented. The chapter concludes with a discussion of the findings.

Overview of the Research Design

Figure 4.2 depicts the research design employed in this study, from the quantitative part through to the qualitative part. As shown, five participants were selected from the hypnosis group of the experimental study in Part One to participate in the qualitative study, Part Two.

Research design evolution: participants from Part One to Part Two



Participants were purposefully selected from the hypnosis group of the main experiment in Part One. Deliberate or purposive sampling was adopted to facilitate the study's Part Two objective

of exploring the hypnotic experience. All of the participants who took part in the hypnosis group during Part One were invited for interviews. Only five responded to the invitation and agreed to take part and the interviews were scheduled as early as logistically possible. The care taken in Part One to standardise the sample meant that it was possible to consider the participants' experiences homogenous in the sense that they represented the experience of hypnosis rather than being representative of a homogenous demographic or population. However, it was anticipated that each participant would have a personal, and perhaps particular, understanding and experience of the hypnotic state itself. There was a research interest in whether these experiences had any common or particularly discrepant features, and whether these features would qualify or challenge the findings of the quantitative analysis. The participant details are outlined further along. Pseudonyms have been given to each of the participants to protect identity.

Smith et al. (1998) assert, 'there is no right answer to the question of sample size' (p.51) and this part of the research did not aim to represent the perspective of any given population but to gain 'a detailed account of individual experience' (p.51). Smith et al. argue that a reasonable sample size for an IPA is between three and six participants in order not to be overwhelmed with data. Initially, the goal was to interview six participants but ultimately the sample consisted of five participants due to time and scheduling constraints. It was determined that a sample of five participants would provide sufficient meaningful material within the IPA and add meaning to the statistical data gathered from Part One. The factors determining the sample size involved the pragmatics of conducting the interviews and the hypnotic group's availability and agreement to take part in the interview process.

Prior to conducting Part One, it was not determined which participants would be invited for interviews in Part Two, as this might have influenced the way participants responded to the Part One questionnaires. As the primary aim was to add qualifying experiential data to the statistical analysis, it was unnecessary to gather experiential data from a broader demographic or large experienced sample. Below, are some participant details along with their pseudonyms.

Participant age and whether the participants had previous experience with hypnosis was noted, although there were no pre-set criteria for these characteristics and they are included here for the purpose of description.

Table 4.1(1)

Interview participant details

Name (Pseudonym)	Age Range	Previous Hypnosis Experience
Jenny - Participant 1 from Part One	30-40	No
Mary - Participant 4 from Part One	50-60	Yes
Tabitha - Participant 16 from Part One	30-40	No
Ian - Participant 19 from Part One	25-35	Yes
Anne - Participant 22 from Part One	25-35	No

The Interview Process

The interview questions were conducted in an open-ended manner and as Smith et al. (2009) recommend, ‘the most important thing at the beginning of the interview [was] to establish a rapport with the participants’ (p.64). To a great extent this had been achieved during Part One of the research. The aim of the interview questions was to encourage independent description of participants’ experiences. The semi-structured interview guide consisted of eight questions (please, refer to Appendix N). It was anticipated that participants might need some encouragement in expressing the details of their hypnotic experiences and a number of prompts or invitations to aid this were prepared. These functioned as description expanding tools. The prompts allowed the interviews to be conducted in a flexible manner, even though the same interview questions were presented to each participant. The interviews took place in a variety of quiet and comfortable settings where privacy could be maintained.

Open-ended and semi-structured interviewing creates valuable opportunities for researchers to understand the details of a contextual experience (McLeod, 2011). Semi-structured interviews also facilitate participants’ subjective interpretations of events and experiences and allows for the collection of rich data. Such interviews are part of an active inquisitive process that aims to gain deep meaning from participants. They provide the added benefit gained from the engagement and active listening between the interviewee and interviewer (Kvale & Brinkmann, 2009). Semi-structured interviews enabled the collection of rich data and interpretations regarding the hypnotic state and resulted in the development of meaningful knowledge that added interesting qualification to the statistical analysis gained from Part One of the research.

Each interview lasted approximately thirty minutes, although one hour was allowed. On reflection, ordering the interview questions differently might have prompted a more thorough discussion. I sensed that some of the questions were confusing for the participants which seemed to be more associated with difficulty in describing the hypnotic state than not understanding the questions. My personal feelings also occasionally interfered as I caught myself struggling to conduct the interviews without mentioning my own hypnotic experience. I caught myself wanting to engage in discussion with some participants because their perspectives did not align with my own and it was challenging to maintain a neutral position. With others, I was excited by their responses, which perfectly aligned with my own thoughts and beliefs about hypnosis. Self-reflection allowed me to maintain a neutral stance throughout the interview and analysis processes.

Transcription of the Interviews:

The interviews were digitally recorded and then transferred to a computer and stored in secure files. Immediately after transporting the files to the computer, the recordings were deleted from the recording device to maintain anonymity and confidentiality. The recordings were stored as numbered files in the chronological order that the interviews had taken place. Only I had access to the computer and files both of which were password protected.

The interviews were transcribed by an individual recommended by the research supervisor following completion of all the interviews. The transcriber did not have access to the participants' details or the study's aims. Due to time constraints, using a transcriber allowed

more time for a thorough pre-analysis of the voice recordings. I listened to each of the recordings numerous times to the point that I could practically recall them verbatim. This was valuable as it gave me the opportunity to accurately analyse the tones and variations in voice during each of the participant's responses to the questions. During the interviews I also took notes on the participants' responses. In these notes, I considered participants' tone of voice, pauses and body language. I also took notes on my own feelings and thoughts during the interview process so that I could later reflect on these and their impact on the research analysis.

After receiving the transcribed interviews, I listened to the recordings again several times while reading through the written content so that I could make notes or add important details. I was able to reflect more on the possible discrepancies between what was said (words and phrases), and participants' associated intonations, which I had already considered during the time of the actual interviews. Most participants were able to provide quite specific descriptions of their hypnotic experiences, such as it being pleasant, but in some cases seemed hesitant or unable to precisely label their experience. I offered to provide interview participants a copy of their interview transcripts to provide full transparency and acknowledge the value of their participation. However, none of the participants requested copies.

The Process of Analysis

Smith et al. (2009) assert that 'existing literature on analysis in IPA has not prescribed a single 'method' for working with data' (p.79). The initial stage usually begins with close reading of the transcripts several times (Pietkiewicz & Smith, 2014). The method adopted began prior to

receiving the transcribed interviews in so far as I listened to each of the recordings numerous times to become familiar with the linguistic styles of the participants. I also referred to the notes I had taken during the interviews in an effort to re-live the interview experience and recall the atmosphere. After receiving the transcriptions, I listened again to the recordings whilst reading the transcripts, making any corrections and adding notes. I took notes of my observations and reflected on the interview process after listening to each interview. I paid attention to what was discussed, what language was used such as repetition, metaphors and pauses, and the context, such as sounds and room temperature, which could have influenced the way participants responded. I was especially reflexive during the analysis considering the potential impact of personal characteristics, such as gender, age and possible cultural influences (such as English as a second language), and how these might have impacted the interviews and the rapport with the participants. Moreover, I considered how these could have impacted the way participants described their experiences of being hypnotised. With one participant, Ian, I noticed that he struggled to describe his experience in a way that diminished his perceived role of being in active control. I suspected this stemmed from a psychological need and was apparent in his reluctance to assume a passive role in the hypnotic process. I wondered if my gender (female) influenced Ian's hesitancy to submit to guidance under hypnosis during the Part One experiment.

Next, I began a line-by-line analysis of each transcript identifying emergent themes as they appeared. To help this, I arranged the transcribed data on my wall using post-it notes so that I could later move them around if needed. The analysis was initially done by hand. I went back and forth re-listening to the recordings, while reading the transcripts, adjusting the notes and emergent themes. I immersed myself in the participants' accounts and their experiences.

I started with an initial analysis of content, which was followed by interpretation and labeling into themes and a general overview. This process of labeling led to the development of concepts, which later developed into higher-order themes. During this process, I noted semantic, illustrative and conceptual attributes, and gave attention to the use of metaphor, verbal corrections, pauses, and contradictions. Descriptive labeling helped begin identify words and phrases that stood out in the text. The frequency, connotation, and perceived importance to the participant and/or myself was considered. I also engaged in linguistic labeling, or “linguistic comments” as described by Smith et al. (2009). Here, I included a deeper examination of previously highlighted sections in the texts. I also noted the frequency of the repeated words and phrases. I focused on specific word choices and questioned the possible levels of meaning that they might have reflected. Conceptual labeling followed. Here, I moved away from explicit descriptions and began to engage in a more conceptual style of interpretation. This prompted deeper meaning of the hypnotic experience to develop, as it allowed me to grasp the intrinsic nature of the participants’ accounts. Please, see the table below for an example of the theme development process.

Table 4.1(2)*The theme development process*

Quote from Transcript	Initial Labeling	Emergent Personal Experiential Theme	Group Experiential Theme
<i>“But I think that like there was a first impulse of emotion and then you can kinda like try and analyse it before... taking that further... Yeah it’s definitely different. It’s er more... impulsive? If that’s the right word? Like you kinda, you don’t really think about your actions or emotions before... You just kind of you, you feel you just feel, you go through feelings and instead of like instead of questioning why you feel that way...”</i>	Impulse of emotion (Recognition of emotions - Descriptive). Analysing it (Changes in thought process - Conceptual). Don’t think about things (Involuntary responding - Descriptive). You just feel - its impulsive (Impulsivity - Linguistic).	Involuntary Reactions	Spontaneity and Feeling Free

In addition to my analysis notes, I again consulted the notes that I made during the interviews.

From these I was able to build and engage with a silent internal discussion about what the hypnotic experience was like for these participants. I started to pull together themes that I considered represented the participants’ understanding of the hypnotic state. I sought to uncover relationships between the themes so that I could cluster them into more encompassing groups. I

looked for connections between the emergent themes, grouping them in accordance with conceptual similarities, while giving each cluster a descriptive label (Pietkiewicz & Smith, 2014). Some themes were discarded, others were re-named or re-evaluated entirely. Please, see the table below for an example of how the themes were clustered.

Table 4.1(3)

How the themes were clustered

Quotes from Transcripts	Initial Labeling	Related Concepts	Emergent Personal Experiential Theme	Group Experiential Theme
<i>“But I think that like there was a first impulse of emotion and then you can kinda like try and analyse it before... taking that further... Yeah it’s definitely different. It’s er more... impulsive? If that’s the right word? Like you kinda, you don’t really think about your actions or emotions before... You just kind of you, you feel you just feel, you go</i>	Recognition of emotions (Descriptive). Changes in thought process (Conceptual). Involuntary responding (Descriptive). Impulsivity (Linguistic).	Changes in thought process. Involuntary reaction. Impulsive.	Involuntary Reactions (Previously called Impulsive)	Spontaneity and Feeling Free

through feelings and instead of like instead of questioning why you feel that way... ”				
“ ... In the normal waking, waking state, it's more of um, ok you're listening for either the alarm or the birds or something to that would basically say ok, others are awake or um you know is it really still the middle of the night or you're, you're looking at is it bright enough out er against your eyes, or against your eyelids I should say... When you're hypnotised you don't have that It's just, at least for me, it was more like pondering ok what's coming next you know, what pleasantries am I going to sort of see or feel um, it was more me trying to be in	Element of surprise (Descriptive). Changes in awareness (Conceptual). Not knowing what is going to happened next (Descriptive). Openness to experience (Conceptual).	Changes in awareness. Not knowing what is going to happened next. Openness to experience.	Accepting Whatever Comes Up (Previously part of the Thinking Differently Personal Experiential Theme, which was re-structured to be less broad).	Spontaneity and Feeling Free

<i>tune with what's going on around me as opposed to the time to get up or you know...</i>				
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Finally, group experiential themes and personal experiential themes emerged from the collection of data and notes that had developed. This process took some time and involved an iterative process, involving a repeated review of the interviews until a structure of personal experiential and group experiential themes developed. The extraction of verbatim quotations from the transcripts, followed. I highlighted the quotes and exported them into separate documents, which were arranged in accordance with the group experiential themes and personal experiential themes (see Appendix O for an illustration of the themed quotes). My goal was to accurately describe and interpret the participants' experiences, whilst bracketing my theoretical position and personal view that specific cognitive changes occur in what is a specific hypnotic state of awareness. This does not mean that I disregarded my psychological understanding of what they had experienced or the way they described it. I remained cognisant and careful with regard to the verbatim I chose and the interpretations I made to avoid moulding the material into supporting or contradicting any particular theoretical bias I hold.

Writing up the analysis involved presenting verbatim examples from accounts of the interviewees' experiences. By incorporating interviewees' own words to present the themes, I relay the pertinence of my interpretations and give voice to the interviewees' unique perspectives of the hypnotic state. Pietkiewicz and Smith (2014) have stressed that descriptive accounts

engage numerous levels of data interpretation. I found this to be the case as I continuously shifted from low-level interpretation to more psychological interpretation throughout the analysis. I considered some use of psychological concepts appropriate as the research overall is founded in psychology and is aimed at a psychological and psychotherapy audience (Storey 2007).

4.2 Ethical Considerations

The ethical considerations remained consistent throughout the entire study and these are discussed in detail in Chapter Two. A summary of the main ethical imperatives for the qualitative Part Two of the research is outlined below.

The consent process from the first part of the study ensured participants' involvement was voluntary and that participants were fully aware of any relevant risks and/or benefits. Each participant was provided a document that outlined the general purpose of the research, expected duration and the procedures involved. Consent was confirmed, again, prior to interviewing in Part Two. Each participant was reminded of their rights to decline participation or withdraw from the study at any point should they wish to discontinue with interviewing. Factors that may have influenced participants' willingness to participate, including possibly undesirable questions, discomfort, or any other considerations, were discussed. Not all of those invited for interviews ended up participating, primarily because of interview scheduling factors and the need to complete the research within a reasonable time frame. The participants who agreed to the interview did not express unwillingness to continue at any stage of the interview process.

Respect for the confidentiality and privacy of each participant was maintained. This was discussed with each participant in Part One of the study and again prior to the Part Two interviews. The limits to confidentiality, including sharing interview content and personal details, were also reviewed again before the interviews. Contact details were provided should any questions or concerns arise after the interview. Objectivity, consistency and a non-biased attitude was prioritised during the interview process. In addition to keeping notes of the process, I regularly discussed my progress and the interview process with the director of studies and research supervisor. Any questions or concerns that I had were thoroughly discussed and resolved. For example, when I encountered some contradictions between the Part One results for empathy and the Part Two descriptions of participants' empathy questionnaire responses, the supervisory team suggested some ways in which I could appropriately address these discrepancies in the discussion.

4.3 Reflection and Reflexivity on Part Two

Participant Selection:

Part One of the research was composed of a sample size of thirty adult participants with ten participants in each of the three experiment groups. In Part Two, which followed Part One, five of the ten hypnosis group participants were interviewed. Initially, all ten participants were invited for interviews. However, three participants did not respond and I was unable to arrange suitable times for interviews with another two participants. At the start of the whole research project I planned to recruit a larger sample of individuals for Part One which, in turn, aimed to allow a larger sample for Part Two. However, time restrictions and scheduling difficulties

ultimately resulted in a convenience sample of thirty participants in Part One that was obtained through a self-selection process (as discussed in Chapter Three). I acknowledge that those participating might therefore have been favourable to the effects of hypnosis which might have affected both the statistical data and the subsequent IPA. For example, a previous positive experience of hypnosis might have encouraged greater engagement in the interview process. A negative experience could have discouraged engagement. I do not think it possible to totally eradicate such bias in qualitative work. However, steps were taken to minimise such bias by taking notes during and after each interview.

As Smith et al. (2009) suggest, a purposive sample can be considered ‘in terms of theoretical transferability rather than empirical generalisability’ (p.51). An aim of Part Two was to bring a qualitative perspective to the statistical data from Part One and add to the current knowledge in the field. The analysis in Part Two provides a deeper exploration and description of the participants’ experiences within the context of the Part One experiment and the entire research design. In view of this limited context, generalisability was not a significant concern compared to the aims of adding experiential qualification to the theoretical knowledge being added by Part One and that extant in the field. The findings of Part Two provide a deep and clear commentary of the participants’ experience from which other researchers and practitioners can project their work, and which can be related to the literature in the field.

Data Management:

I organised the transcribed data and used hard paper copies in addition to computer typed and audio files which I kept backed up on an external hard drive for safekeeping. Creating hard copy

physical binders made it easier to compare the transcripts and facilitated feelings of being in control of the information accumulated. I was able to arrange and rearrange the papers as needed. As a result, I did not struggle with organising the transcriptions. I believe that having simultaneous physical and audio access to the interviews facilitated the analysis.

The Interview Approach:

The approach used was to keep the interview questions open-ended whilst maintaining a level of structure that kept the whole interview within the bounds of the subject area. By approaching each interview using the ‘rule of epoche’ (Spinelli 2005, p.20), I minimised the influence I had on participants’ responses. I maintained a clear and steady tone of voice and avoided inadvertent disclosure of my own biases and knowledge of the Part One results. Self-reflection and on-going reflexivity played an important role here.

The interviews asked about the individuals’ understandings of hypnosis, their general expectations, and any feelings and thoughts that stood out during the procedure. During the later stages of the analysis, I considered if any depictions of their experiences referenced empathy, affect and attribution discrepancies. Although, this was a research interest and objective, I paid attention not to communicate or impose my own theoretical views and expectations into participants’ understanding of their personal hypnotic experiences. However, the interview questions may have affected how participants responded, which is always a danger of semi-structured interviewing. Maintaining awareness of potentially biased verbal and non-verbal insinuations was the most difficult task during the interview process.

Analysis and Interpretation of Participant Accounts:

As recommended by Storey (2007), I began the analysis ‘with an iterative process of reading and re-reading a transcript with a view to getting an overall “feel” for the interview’ (p.53). My analysis started with the first interviewee’s transcript. I began by making notes of the participant’s responses that I thought reflected valuable information relevant to my research aims. I repeated this with every transcript to establish a baseline for comparison upon completion of the interpretative analysis. This allowed me to orient myself with respect to the general direction of the study. In other words, it allowed for self-reflection on my interpretations of participants’ responses as well as consideration regarding their answers to the actual questions. This was an iterative process where I would re-visit the questions, interpret participant responses, reflect on those interpretations to rule out potential biases, and circle back to the research objectives. By the end of this process I developed a sound understanding of participants’ experiences. This facilitated the data analysis and the consolidation of emergent themes.

After re-reading the transcribed narratives several time, as Storey (2007, p.55) suggests, I found that general themes and ideas began to organically emerge from participants’ accounts of their experience. Using the notes I made from this intensive reading I began to develop more consolidated themes. Remaining impartial was challenging at times because I was aware that the results from the Part One of the research showed significant differences between the groups/conditions. Nevertheless, I made sure to refrain from imposing my views and associations about participants’ responses even when they seemed inconsistent with the statistical findings from Part One. A cycle of reflection and comparative analysis of the themes

from the different transcripts allowed greater consolidation of themes and the development of theme clusters. However, I found this stage of the analysis particularly complex as my knowledge of the various theories of hypnosis and the results from Part One of the research was inevitably having some effect on my analytical conclusions. This resulted in an interesting internal dialogue and self-reflective process about how to interpret and connect some of the apparent contradictions. Smith, Flowers and Larkin (2009) suggest that such ‘dialogue’ (p.79) is not an unusual stage in the IPA process and Storey (2007) also argued for the appropriate use of ‘concepts derived from psychological theory’ (p56) when undertaking psychological research of the kind described here. This was a debate I took to my director of studies and research supervisor. Both advised sticking firstly to IPA’s phenomenological principles as the main consideration was to add experiential and subjective qualification to the statistical finding of Part One. Nevertheless, there is also consideration and acknowledgement that this research was taking place within the broad theoretical framework of cognitive psychology (as cognitive discrepancy was being measured in Part One) and also with some deference to the psychoanalytic concepts of the unconscious and psychodynamically structured self.

Throughout the analytical process, I kept myself up to date with relevant literature regarding IPA developments in research. The Birkbeck IPA website provided useful references and updates. I also found Mike Larkin’s IPA YouTube channel to be very valuable as it provided some short and to the point recordings relevant to my research. These resources paired with my supervisors’ valuable input served as guidance and a compass. It allowed for academic concepts and corresponding study findings to be further clarified and/or supported. As the personal

experiential themes and group experiential themes were developed, I supported these with concrete examples, participant interpretations and key words and phrases.

4.4 Validity & Reliability

Validity is an essential component for good qualitative research and is supported by the maintenance of honesty, richness and scope of the information presented by participants, the level of triangulation, and general objectivity of the investigator(s) (Cohen et al., 2007). Lincoln and Guba (1985) suggest four criteria in their test for trustworthiness of qualitative research, which are credibility, dependability, confirmability and transferability. Yardley (2000) also presents four criteria in the assessment of the validity of qualitative research – sensitivity to context, commitment and rigour, coherence and transparency, and impact and importance. Both sets of criteria were considered in Part Two of the research.

Lincoln and Guba's (1985) concept of credibility concerns whether research material, in this case the interviews and transcription, has been accurately reported and interpreted. Through purposive sampling in Part One participants ensured homogeneity of the experience and using myself as the single interviewer provided a level of consistency and accuracy with the in-depth explorations into the hypnotic experience. This also helped provide a high level of accuracy when checking the transcriptions. To support dependability, participant interview responses were recorded so that the participants' accounts could be transcribed accurately. The settings for the interviews also brought minimal distractions so that fewer variables could influence the accounts and subsequent analysis as well as providing sensitivity to context. (Yardley, 2000). I was

closely involved in administering the experiment in Part One of the research and conducted the interviews in Part Two. Additionally, I had prior personal experience of being hypnotised.

Yardley's (2000) principle of sensitivity to context also addresses the analysis and interpretation and asks whether it is sensitive to context and circumstances of the gathered data. It considers the researcher's involvement and engagement with the data and participants. To address this aspect, I reviewed relevant research literature (MacLeod, 2011; Modlin, 2012; Navaneedhan, 2012) and empirical data to grasp how the hypnotic experience could impact an individual. I also recalled my own experience of being hypnotised to understand how participants might feel during and after hypnotic induction. I considered ethical issues and how the setting could impact participants' perspectives on the experience. I acknowledged and assessed the possible impact of bias through reflection. No information was undisclosed, irrespective of the participants' presumed support or lack of support for the hypotheses or expectations. I addressed these points primarily through reflexivity and supervision. The concept of reflexivity is not a distinct part of Yardley's four principles but it is nonetheless considered to be an important component of examining the quality of qualitative research. It concerns whether the researcher adequately reflected on personal perspective and if considerations were made regarding the motives that formed the research process. In this study, considerations regarding my personal motives and research expectations facilitated reflection on the interview process and analysis. Supervision facilitated the resolution of concerns through professional guidance. For example, the supervisory team made valuable recommendations during theme development on how to approach the discrepant findings that were encountered.

Lincoln and Guba's (1985) concept of confirmability of the interpretative analysis was considered throughout the research. In both Part One and Part Two, a high level of attentiveness was shown to all participants to achieve congruence and consistency during the assessments (Part One) and interviewing (Part Two). Considerable effort went into ensuring each of the participants remained comfortable throughout so as not to influence the experimental outcomes in Part One. This consideration was carried over into Part Two in the care taken over the participant invitations, the interview process, and in the subsequent analysis of the material. The analysis of the information gathered through the interviews was made possible by their concise transcriptions. A rigorous analysis, including labeling/coding, followed. Rich descriptions of participant accounts, from verbatim quoting, facilitated the development of themes based on accurate data.

Yardley's (2000) commitment and rigour criterion also suggests prolonged engagement with the study. It builds on Lincoln and Guba's (1985) concept of confirmability by adding competence and skill regarding the methods used. Rigour addresses the completeness of the data collected, and how thorough of an analysis is conducted. This does not particularly refer to the sample size but to the quality of the data and analysis and whether this is rich enough to constitute an adequate interpretative analysis. Rigour also addresses whether the interpretation is complete, while considering different levels of analysis. To address these principles, I immersed myself in an in-depth engagement with the topic of hypnosis, more precisely the experience of being hypnotised. In addition to receiving professional training in hypnotherapy to help carry out my PhD research, I actively engaged with the literature and research relevant to and about hypnotic phenomena. I did this by thoroughly familiarizing myself with research literature, engaging in

online hypnosis forums, and by attending and presenting my work at psychology conferences where hypnosis was explored. Nevertheless, to assure methodological competence and adequate depth/breadth of analysis, supervision provided the best guidance.

Rich descriptions support transferability (Lincoln & Guba, 1985) of the findings to other research and potentially to clinical practice. The findings confirm, for example, that cognitive changes occur in the hypnotic state as found in Part One of this research and are consistent with the tenets of hypnotherapy discussed in the literature review. Theoretical validity, where the research questions and findings are congruent with theoretical underpinnings, was evident in the participant accounts and the final analysis.

Yardley's (2000) criterion of coherence and transparency adds to Lincoln and Guba's (1985) concept of transferability. Coherence and transparency refer to the clarity and cogency of the study and the analysis's rhetorical power and how well the descriptions are argued. Coherence asks whether there is adequate understanding of the information gathered throughout the research as evidenced by the interview questions, philosophical perspective, method and approach to the analysis. Reflexivity assisted clarity and power of the descriptions although I did encounter some challenges with the data presentation. I found it challenging to determine how much analysis is enough. I was concerned that too much analysis could result in over exaggeration of a concept. Supervision and engagement with the various IPA websites helped to resolve these conflicts. Yardley (2017) argues that transparency is achieved by detailing the data collection process. I met this by presenting verbatim excerpts of the texts so that the reader can assess the material and acknowledge the patterns presented in the analysis. Additionally, I have

provided fully the details regarding how participants were recruited, interviewed, and what tests were administered in Part One of the research.

Yardley's final principle of impact and importance concerns whether the research is important and has practical and/or theoretical value. My aim was to provide novel parameters for further research and to assist with practical applications. This part of the research (Part Two) explores the ways in which individuals experience the hypnotic state and qualifies the quantitative data gained in Part One about the impact on an individual's affect and cognition. This is useful to both clinicians and academics as the knowledge gained prompts developments in therapeutic practice and theory and I address the theoretical and practical implications of this study in the final chapter of this thesis.

4.5 The Findings from the IPA: Group Experiential Themes and Personal Experiential Themes

This section presents the qualitative data with a presentation of the group experiential and personal experiential themes, supported by analysis of the participants' perceptions and verbatim excerpts from the transcribed interviews. Such perceptions concerned the effects of hypnosis on reasoning, affect and levels of awareness compared to the normal state of everyday experience. These questions underpinned and comprised the qualitative inquiry. They are addressed in the following themes and explored further in the discussion section at the end of this chapter.

Group Experiential Themes (GETs) and Personal Experiential Themes (PETs)

The table below presents the group experiential and personal experiential themes that developed from analysis of the qualitative interviews. The four group experiential themes developed capture participants' lived experiences of the hypnotic state, as being a *Pleasant and happy place*, experiencing *Spontaneity and feeling free*, *Not what I expected* and an *Expanded perspective*. Within the group experiential themes, twelve personal experiential themes were identified, which represented aspects of the group experiential themes and shared aspects of participants' experiences.

Table 4.5

The lived experience of the hypnotic state: Group experiential and personal experiential themes

Group Experiential Themes (GETs)	Personal Experiential Themes (PETs)
(1) A Pleasant and Happy Place	• A Positive Experience • Relaxing and Peaceful
(2) Spontaneity and Feeling Free	• Unexpected Vivid Imagery • Involuntary Reactions • Accepting Whatever Comes Up
(3) Not What I Expected	• Like a Different Dimension • Sleep but Not • Anticipated Something Else
(4) Expanded Perspective	• More Level-Headed Interpretation • Less Extreme Self-Judgement • Ambivalent Pragmatism (Agree and Disagree) • Ambiguous Locus of Control (Going with the Flow)

The interview participants' accounts have been consolidated into the GETs and PETs presented and explored in detail below. Verbatim examples from the transcribed interviews have been selected and the corresponding participant pseudonyms are indicated after each verbatim illustration of the themes. Overall, the experience was one of being quite different from normal consciousness and of being something extra to ordinary awareness. Many participants expressed that they felt hesitancy and seemed uncertain about how to accurately describe their attitudes towards the hypnotic state and their hypnotic experiences. They seemed to find it challenging to adequately describe and define the state of hypnosis and its parameters. An interpretative analysis of the themes is presented below, where the details of the findings are described. Please, refer to Appendix P to view a copy of a transcribed interview. To see sections (the first two pages) of each transcribed interview containing line numbers, please refer to Appendix V.

Group Experiential Theme One: A Pleasant and Happy Place

The first GET represents the participants' overall pleasant feelings associated with the hypnotic experience with many experiential positive qualities. This GET is the most encompassing theme of the four and I have taken its title from Anne's experience of being hypnotised. She described the hypnotic state as a 'happy place.' Participant accounts show that the hypnotic state was generally pleasant, peaceful and positive, which allowed them to relax and enjoy the experience. This theme is illustrated in detail through two PETs: *A Positive Experience* and *Relaxing and Peaceful*.

Personal Experiential Theme One: A Positive Experience

Each of the interview participants expressed that their hypnotic experience was overall pleasant as it provided a sense of general wellbeing. Contrasts and comparisons were made between a normal state of awareness and the hypnotic state, which portrayed desirable feelings of contentment that were experienced. It potentially provided participants with an opportunity for temporary relief from conscious concerns. Furthermore, their accounts indicated that hypnosis might have contributed to psychological welfare and even a sense of enlightenment. It seems to have promoted a pleasant mental environment where participants could unwind and let go of worries.

“...it felt very pleasant...just the actual sense of peacefulness...” - Mary, 30-56

Mary felt tranquil and ‘at peace’ during her hypnotic experience, while using long pauses and what seemed like some hesitancy as she recalled how she felt in the hypnotic state. Her hesitancy paired with a positive attitude might reflect a desire to understand and describe her experience accurately as she struggled to interpret her feelings. Nonetheless, her confident expression suggests that she was likely able to recall and perhaps relive the experience in some detail. Mary’s overall positive and ‘very pleasant’ stance suggests that reminiscing on her hypnotic experience brought feelings of enjoyment, which she appreciated.

“It felt like a relief, like I felt relief and I think it was overall positive but I think in the moment, it felt overwhelming...” - Jenny, 23-24

Jenny expressed that in addition to gaining an ‘overall positive’ experience, the hypnotic state provided her with a sense of ease. She seemed to emphasize its positive value in providing her with feelings of ‘relief’ through repetition, as though she was trying to convince herself or the interviewer that the experience indeed provided her with a sense of emotional freedom. Similar to Mary, Jenny also revealed that she was able to recall and perhaps to some extent relive the feelings she experienced stating that ‘in the moment’ she felt overwhelmed by the positive and seemingly liberating emotions that she experienced.

“... I really enjoyed it. It was nice (laughs)... ” - Anne, 2-3

“It was a positive experience... Yeah it was great, it was very like... safe feeling when like you, you described for me to go into my happy place (laughs)... ” - Anne, 15-18

“It felt nice to kind of like have somebody lead you in to maybe emotional wells that you didn’t really explore before, it’d be kinda cool to like just open that up a little bit... It was fun in a way, it was like very therapeutic... I feel better about it than when I woke up today...”

- Anne, 232-241

Similar to Mary and Jenny, Anne seems to have enjoyed being hypnotised, perhaps with some surprise as she laughed about it being ‘nice.’ Her positive feelings about it seem to have grown from the moment she woke up that day, eventually coming to the conclusion that it was a ‘positive experience’ and that what she found especially ‘safe’ was having someone lead her into previously unexplored ‘emotional wells.’ She found it ‘fun in a way’ and ‘very therapeutic,’

suggesting ‘it’d be kinda cool’ to delve deeper into these unexplored areas. However, these conditional expressions infer that going deeper into these wells, although courageous and therapeutic, might not be all that enjoyable and that a safe guide who could bring her back to a ‘happy place’ is important.

“... It felt nice to go with the flow versus trying to challenge a specific event, uh a specific I guess direction...” - Ian, 108-109

“It was extremely pleasant experience, it was really good...” - Ian, 284

Ian seemed to emphasise how he felt about the experience with the expression ‘extremely pleasant’ and expressed how good it felt ‘to go with the flow’ implying that he felt free to let his thoughts run openly in any direction. He stressed the positive impact of hypnosis facilitating a psychological space that allowed him to accept his thoughts and feelings as they were, free from the challenge of events that he was accustomed to in a normal state of awareness. He seemed to place value on how ‘really good’ the experience was for him, possibly because he could temporarily put analytical processes on pause, promoting feelings and thoughts from a different perspective.

“I don’t know. I was just very like... kind of like enlightening and like... I don’t know it was just very interesting (laughs)...” - Tabitha, 2-4

“... I kind of felt like scared and then like it was just was a flash or something... The first feeling was like negative but then it was positive...” - Tabitha, 35-38

“ It felt like I was very like light and like not so like weighed down it was very... I don't know...”
- Tabitha, 82-83

Tabitha, described some initial anxiety about the experience which seemed suddenly vanquished at one point by some kind of enlightened awareness that left her with what seemed to be a visceral feeling of being weightless that she could not explain. She described an initial feeling of fear, which subsided in a ‘flash’ and evolved into a positive and ‘very interesting’ feeling. Similar to Mary, Tabitha seems to have experienced some uncertainty and hesitancy during her experience. This was paired with some curiosity and possibly a lack of understanding about how and why she felt the way she did under hypnosis. While Tabitha found the experience ‘very interesting’ her laughter seems to suggest it left her somewhat confused.

Personal Experiential Theme Two: Relaxing and Peaceful

Participants placed an emphasis on their experiences being serene and calming and all, at some point, used the word ‘relaxing’ as a way to describe the hypnotic state. This seemed to be not only a psychological experience but also a physical sensation of being free from tension and more able to peacefully connect with things.

“... it's [hypnosis] a relaxing feeling where um my body kind of wind[ed] down almost...”
- Jenny, 2-3

Jenny explained how her physical body relaxed and wound down during her hypnotic experience. She seemed to describe the state as a specific ‘relaxing feeling’ or frame of mind rather than a therapeutic platform or tool from which relaxation might occur. It was as though Jenny attributed human qualities or characteristics to her hypnotic experience.

“... the relaxation and you like as if, if you were just floating... so for me it was uh more of a relaxation but also being able to tune in as a... to my environment...” - Mary, 7-23

Mary added that in addition to ‘the relaxation’ experienced, the physical sensations she felt resembled ‘floating.’ After some pausing and what seemed like deep reflection on her experience, Mary added that even though she felt less grounded, psychologically she remained ‘tuned into her environment.’ She seemed to emphasise this last point as though she expected to feel less psychologically aware during hypnosis, and the level of cognizance she experienced caused some surprise.

“... It was a very relaxing experience...” - Anne, 2

“It was very peaceful. So er it was nice to just be able to kind of relax and yeah...”

- Anne, 23-24

Anne also seemed to think her hypnotic experience was relaxing, placing emphasis on it feeling ‘very peaceful.’ This suggests she might have felt a peace of mind, free from anxiety and day to day stress, accompanied perhaps by a degree of gratitude as the experience gave her a ‘nice’

opportunity ‘to just be able to kind of relax.’ She seems to place particular value on the calm and tranquility the experience brought that was somehow ‘enabled’ by the hypnotic state.

Group Experiential Theme Two: Spontaneity and Feeling Free

This theme is based on the participants’ sense of control and related emergent imagery during the hypnotic state. They describe experiencing a sense of spontaneity and impulsivity whilst hypnotised. Participants seemed to naturally draw comparisons with a normal state of awareness as they recalled their experiences of being hypnotised. They described spontaneously emerging imagery and how they felt somewhat out of control and confused by the inexplicable and strange nature of the images when this happened. They expressed having less control over emotions and thoughts and were more spontaneous and impulsive when hypnotised. This GET is illuminated by three PETs: *Unexpected Vivid Imagery*, *Involuntary Reactions* and *Accepting Whatever Comes Up*.

Personal Experiential Theme One: Unexpected Vivid Imagery

The spontaneous emergence of vivid imagery was mentioned by all the participants. They emphasised a qualitative difference between the kind of imagery experienced when hypnotised from that of common everyday imagination. It seems that, for each of the participants, this unique quality of hypnotic imagery engendered a profound sense of interest, while at the same time causing feelings of perplexity due to the seemingly random images that came up.

“... It’s like my thoughts wind down and um then I start like visualise, like visualising, I don’t know, images come up depending on like what is being asked or what I’m feeling so it’s um an interesting experience... I had an involuntary visible response... It’s not like I’m reading a book where I’m reading words and then images appear just naturally so it’s like a different experience... Yeah I felt um like I think at first I think I felt like when I got hypnotised I felt like a little confused as I felt the images coming up like why did I see like my grandma or my mum like I wasn’t thinking about them really and um I wasn’t sure like the purpose of it appearing... I felt really like a little bit confused and like concerned you know as to why I was emotional, cos I felt emotional.” - Jenny, 3-13

Jenny described the imagery as being involuntary and different from that of her normal state such as when ‘reading a book.’ It seems that hypnosis facilitated her to experience unique visualisations that she could not explain but which sparked fascination and surprise. She emphasized that what she saw was ‘a different experience’ from conscious imagery and found this alarming because she could not control what emerged. She was not able to understand why certain images appeared and explained that this lack of understanding left her ‘confused and concerned’ about what purpose the emergence of such imagery has – as though they might contain some deep secret meaning that needed to be revealed or she needed to understand about herself. Her puzzled yet curious position seems to have resulted specifically from the unexpected emotional reactions she experienced in response to the random imagery she experienced.

“...went down this ladder and we pictured going down and further and further. If I sort of start thinking about it I actually feel as if I would be doing it now if I were basically you know close my eyes and sort of go through that...” - Mary, 14-17

Mary described the unique vivid imagery she experienced and emphasised that the details were still accessible in her normal state of awareness. She was adamant about emphasizing that she is still able to recall precisely what she saw and how she felt during her hypnotic experience ‘as if [she] would be doing it now.’ The imagery seems to have been embedded in her memory to the point that she could recall specific details with ease. She describes imagery of going down a ladder as though she was descending deeper and deeper into some unknown domain. She seemed to clearly recall the feelings associated with the imagery and suggests, like Jenny, that the imagery has some level of curiosity and anxiety associated with it. Also, perhaps generally, the distinctive nature of hypnotic imagery somehow facilitated such precise recollection of what Mary saw and the emotions she experienced.

“... I saw myself in like a blue and white polka dot dress, in like fields and then, and then I was like floating. I saw like beautiful colours and like above, kind of like a skyline or something like clouds but they were just like colours like... marbley colours and stuff...” - Tabitha, 7-9

“It was like something... like out of a movie or something, like just like the images like but with feeling...” - Tabitha, 85-86

“When I saw imagery of that woman I thought like super like shocked for a second so I think it [emotional response] would kind of like be like amplified [in a hypnotic state].”

- Tabitha, 174-176

“[It was] not [like seeing] you with my, like eyeballs but like imagery in my head...”

- Tabitha, 153

Similar to Jenny and Mary, Tabitha provided a vivid depiction of the imagery that she experienced and emphasized that it was not like her regular conscious imagery but was accompanied by associated ‘feelings.’ These feelings were ‘amplified’ compared to feelings experienced in a normal state of awareness, and this seemed shocking and unexpected. It seems that both the imagery and the emotions involved caused some surprise for Tabitha. She emphasized that the imagery was not the same as seeing something with ‘eyeballs’ but also relayed intense emotions. As she describes it – ‘like out of a movie’ but one in which the viewer seems involved and deeply emotionally drawn into. She used the word ‘like’ very often perhaps indicating her inability to be certain that her description fully reflects the intensity of her actual hypnotic experience. The apparent challenge associated with interpreting what is felt and seen during the hypnotic state might also influence this presumed sense of hesitancy or uncertainty.

“... the imagery that was present er was based on my standards so therefore when like unexpected um elements appeared such as you know like the the screen, the staircase and um other things that we may not necessarily be there especially based on a certain person’s you know preferences um but those was a bit strange I guess.” - Ian, 31-34

Ian also distinguished between the imagery experienced during hypnosis and imagery he experiences in a non-hypnotic state. Whilst acknowledging these as subjectively generated, he brings attention to how ‘strange’ this difference seemed to him and seemed to stem from the unexpected nature of the images and ‘elements’ involved. Even though the imagery was ‘based on [his] standards,’ he emphasized that they were unforeseen to some extent. Unlike some other interview participants, Ian did not show uncertainty when recalling the imagery he experienced. Instead, he seemed more accepting of their level of randomness, while explaining that they must be based on personal psychological factors and ‘preferences.’ He concluded that hypnotic imagery in general might develop and emerge from individual imaginations, irrespective of the unexpected nature of the images.

“There were like sounds of like, when I was picturing the river, and there was like the river sounds, and there were birds and um, and um, like the trees, like rustling, not so much with the cabin one [reference to a specific imagined scene] which was weird, but I think that like... yeah the best one was the forest [reference to another specific imagined scene]...” - Anne, 44-46

Anne described a number of different visual and aural scenes of being outside in natural surroundings near rivers, trees and birds. For her, the imagery seemed unexpected and ‘weird’ but she seemed to enjoy the engaging sensory experience. She emphasized how specific and detailed the images were, involving auditory sensations such as the ‘rustling’ of trees in a forest. Anne seemed to place value in hypnosis’s capability to offer such lucid and impressive images as if she could sense a deep connection with her primal nature. Similar to Tabitha, she also used the

word 'like' often during the discussion of her experience. This tendency might suggest the difficulty in understanding and expressing the hypnotic experience and the depth of psychological meaning it might represent.

Personal Experiential Theme Two: Involuntary Reactions

Increased involuntariness emerged as a significant feeling in the hypnotic state and was described by all of the participants as quite different from the normal state of consciousness. The topic of involuntariness was one of the most prominent PETs in terms of verbal emphasis during the interview analysis. Participants seemed to express the involuntary and immediate nature of their responses with emotions, feelings of openness, of being overwhelmed, impulsive and the mind running faster.

“I was tearing too for no reason and I’m not an emotional like person like a sad or a crier to begin with so I felt really like a little bit confused and like concerned you know as to why I was emotional, cos I felt emotional...” - Jenny, 11-13

“It’s different, like I feel like my waking state um... I’m really adapting good at shutting things out and shutting situations and emotions out... [in hypnosis I felt] different types of um overwhelming senses of emotions in that sense like I felt like I had no control... I think in my normal waking state yeah I’m very good at just being voluntarily controlling my output. Like at first of course if when something happens like a crisis or acute incident happens I feel the emotions involuntarily. But then after that I’m able to really shut the, shut the box and move on

and not have a visible emotional response but I think in that state I had a vis I had an involuntary visible response.” - Jenny, 31-67

“...feels like things just flowing and coming at me and I just have to... I feel like in the hypnotised state... I don't have time or I'm not in that capacity to have a cost benefit analysis...”
- Jenny, 97-138

Jenny talked about her emotional reactions being uncontrollable with no time to conduct a ‘cost benefit analysis’ of the emotional resource used. She also mentioned that there was an ‘involuntary visible response,’ which I interpreted to be involuntary visual imagery. It seems she did not understand the reasoning for her emotions and this caused some worry. She suggested that normally, she is good at adapting to situations and ‘shutting things out’ but in the hypnotic state she lacked ‘voluntary control.’ The experience seemed to have left her feeling ‘confused and concerned,’ as expressed a number of times during the interview. It seems the unforeseeable feelings and reactions that the hypnotic state evoked contributed to a sense of anxiety for Jenny. She compared herself in a normal conscious state versus the hypnotic state and explained that she would have reacted differently in a normal state of awareness, where she would have more control over her emotions and cognitive analysis. She seemed surprised that in the hypnotic state she had less control over her emotional expression and started ‘tearing for no reason’ during the interview. Her inability to make sense of why this happened suggests that in a normal state of awareness, her regular logic could not understand the emotional process underpinning her hypnotic perceptions. Perhaps, Jenny did not have the cognitive capacity to understand the reasons for her hypnotic emotional response whilst in a normal state of awareness.

“If I in my normal state, if I sort of close my eyes, I’m sort of waiting to um... hear what’s around me or see what’s around me...” - Mary, 101-102

“Under hypnosis it was it was, I would just be just be open to allow that in and sort of experience and then sort of have a judgement on it or you know...” - Mary, 215-217

Mary expressed that during her hypnotic experience she felt increasingly ‘open to allow’ her feelings and thoughts, and that this came before any judgements she made. She seemed to exhibit some hesitancy when reflecting on and expressing how being hypnotised made her feel. Nevertheless, she made a clear distinction between the hypnotic state and a normal state of awareness and explained that in her normal state she would probably judge herself first and then analyse her attitude afterwards. The tentative language she used to describe how she would feel ‘under hypnosis’ which were accompanied by long pauses and repetition, revealed that she might be struggling to describe her hypnotic state of mind with any certainty. This seems to relate to Jenny’s inability to make sense of her involuntary emotional reactions under hypnosis and could suggest that conscious logic differs from hypnotic logic, posing interpretative challenges.

“These pictures were just like coming to my mind... it was kind of like an overwhelming feeling...” - Tabitha, 16-23

“I’m more... apprehensive in like real life than like when I was like in that state I was less apprehensive...” - Tabitha, 164-165

“I wonder why those images like came to me and stuff. I don’t know, it’s just interesting...”

- Tabitha, 222-223

Tabitha described how the vivid experience she had during hypnosis seemed to be just as involuntary as the associated emotional response, where images and feelings just seemed to pop up. Random ‘pictures’ came out of seemingly nowhere and she did not seem to understand why those particular images appeared. However, it sounded like she did not find this to be a negative experience. Instead, Tabitha emphasized that her experience was intriguing and ‘overwhelming’ in a positive way. This might have been because the involuntary quality she experienced was unfamiliar and not usually experienced in a normal state of awareness. She seemed as if she was actually fascinated by this unique quality to bring up unexpected imagery. She also revealed how the hypnotic state caused her to be ‘less apprehensive’ and she seemed to appreciate this as it allowed her to have such an ‘interesting experience.’

“Uh I feel like my ... hypnotised self would be somewhat more frank and less calculating in specific circumstances...” - Ian, 168-169

“... When hypnotised you... I don’t know if your mind is running faster or if you’re just disregarding sort of a bunch of peripheral uh information that is not necessarily relevant so you are able to assess the situation a bit more calmly...” - Ian, 233-235

Ian added that the mind seems to operate much faster in the hypnotic state by disregarding unnecessary information and this resulted in a sense of calmness. He seemed to apply regular

logic to understand why hypnosis might have caused him to experience sudden unexpected imagery and pondered whether ‘peripheral information’ might be disregarded during hypnosis to assist cognitive analysis. He also wondered if hypnosis would allow him to be ‘more frank and less calculating’ as a result of this presumed removal of unnecessary outlying information. However, he also seemed uncertain about his logical assumptions of how hypnosis impacts thinking and reasoning.

“But I think that like there was a first impulse of emotion and then you can kinda like try and analyse it before... taking that further...” - Anne, 12-13

“Yeah it’s definitely different. It’s er more... impulsive? If that’s the right word? Like you kinda, you don’t really think about your actions or emotions before... You just kind of you, you feel you just feel, you go through feelings and instead of like instead of questioning why you feel that way... I had some anxiety... Where I’m like, do I really feel like that? I don’t know if I feel like that (laughs)... I guess somebody would ask me a question and then [in a non-hypnotic state], I think that it would be different because I would have more... it wouldn’t be as impulsive...”

- Anne, 61-88

“More impulsive when you’re, you have kind of more like clear mind in a, mmm it, it sounds weird but you, you don’t really think about too much when, when you’re asked a question when you’re like in that state. You’re like oh yeah that sounds about right, um, unlike when you’re awake you’re kind of like just overanalysing what to do (laughs) all the time (laughs)...”

- Anne, 173-177

Anne felt that in the hypnotic state the initial ‘impulse of emotion’ differed from the reaction experienced in a normal state of awareness. She questioned whether ‘impulsive’ was the correct word to use to describe how she reacted in the hypnotic state, hesitantly concluding that the mind seemed clearer and less cluttered and able to think without ‘overanalysing.’ During the normal state of awareness, she felt that her operating mode would be more thought through and ‘wouldn’t be as impulsive’ as in the hypnotic state. She seemed quite certain of the perceived differences in reasoning and responding styles, considering a hypothetical scenario of someone asking her a question to make her point. Anne’s discussion of the thoughts and feelings she experienced during hypnosis revealed that they seemed very immediate, with little time for pre-analysis as in a normal state of awareness. She emphasized that this sense of immediacy seemed specifically relevant to the expression of emotions. It seems that this uninhibited tendency caused Anne some anxiety, and her inability to understand her own feelings and reactions seems to have caused some concern. Perhaps, this was due to the unfamiliar sensation of heightened involuntariness, resulting in doubt about personal feelings. This lack of understanding might have come from the perceived inability to think normally when questioned during hypnosis.

Personal Experiential Theme Three: Accepting Whatever Comes Up

Self-acceptance of thoughts, feelings and sensations that emerged was described by participants. This seems to be related to their expressed tendency for heightened involuntariness compared to their normal state of awareness. Participants seemed to have a heightened sense of feeling free and able to cope with whatever feelings or situation might come next, and of not having to think about the advantages and disadvantages of things.

“When something happens, I deal with it like in that day then I move on like, and I try not to like go back in to that box but I think in this situation it was overwhelming for me because it really tapped into these feelings that I don’t like to access, consciously...”

- Jenny, 26-29

“... In my normal waking state, that’s the way I operate like I think of like pros and cons and I think about the situation...” - Jenny, 140-141

Jenny overtly described how cognitive analysis during her normal state is usually facilitated by considerations of the pros and cons of a situation, whereas, in hypnosis, she seemed ‘overwhelmed’ as feelings she preferred not to access were evoked and readily accepted. She was adamant that in a normal state of awareness she is prone to contemplation before making a decision or engaging in a particular behaviour, and highlighted that during her hypnotic experience a flood of emotions accessed parts of herself that she usually chooses to hide. Jenny seems to imply that control over thoughts and emotions was diminished, causing her some concern as it was an unfamiliar and perhaps uncomfortable experience.

“... In the normal waking, waking state, it’s more of um, ok you’re listening for either the alarm or the birds or something to that would basically say ok, others are awake or um you know is it really still the middle of the night or you’re, you’re looking at is it bright enough out er against your eyes, or against your eyelids I should say... When you’re hypnotised you don’t have that It’s just, at least for me, it was more like pondering ok what’s coming next you know, what

pleasantries am I going to sort of see or feel um, it was more me trying to be in tune with what's going on around me as opposed to the time to get up or you know...” - Mary, 78-85

Mary's experience was quite similar to Jenny's as she too implied that in a normal state analysis of a situation usually occurs, whereas when hypnotised there seems to be acceptance of situations or feelings as they arise. Mary experienced a sense of not knowing 'what's coming next' during the hypnotic state, in which she seemed to have difficulty staying 'in tune with what's going on around' her. It seems she enjoyed this feeling of the unknown as the imagery and associated feelings pleasantly surprised her. Mary's description of the uncontrolled imagery and emotions suggests she experienced some level of dissociation, where there is separation of some aspects of cognitive functioning (i.e. interpretation) from conscious awareness and control.

“... [In a normal state of awareness] a lot of things act (sighs) rather predictably ... You can usually think them through and you can think through multiple possibilities and um you can actually account for let's say the major um scenarios that could occur so you can be prepared...” - Ian, 66-69

When comparing the hypnotic state to a normal state of awareness, Ian expressed that normally a pre-analysis would allow him to explore his options and better prepare for situations. He seemed uninterested when expressing the everyday predictability of life, referring to the foreseeable and anticipated events that occur on a daily basis. His ability to examine situations and forecast outcomes facilitates preparation and gives time to think things through and account for outcomes, whereas under hypnosis he felt this would be missing. His sigh might represent his

being fed up of the everyday and suggests something of the value he placed on the element of surprise and unpredictability, he experienced under hypnosis.

“... your brain is, you know, taking you to and like, what your um... what images that come up with and how you feel about it and just like it’s very, very freeing in a way. Instead of feeling like when you’re awake like you like you have to feel. Ok you’re going somewhere and you have to feel happy about it or anything. You’re just very like, very Zen (laughs).” - Anne, 113-116

Similar to Mary, Anne also implied that she experienced some level of dissociation during her hypnotic experience, where her ‘brain’ seemed to take her on a seemingly random yet pleasant journey. For Anne the mind was in charge of some sort of freeing experience, where the images that came up were not pre-planned. She emphasized that the experience felt very ‘zen’ and calming, implying that whatever came up was not negative. Anne’s hypnotic experience seemed to be very positive, even therapeutic to some extent. The sense of a lack of control might have given her an opportunity to let go of boundaries and to feel important suppressed emotions. Like Ian, Anne also seemed to suggest that constant awareness and control during a normal state of awareness is not always desirable and that hypnosis seemed to offer a welcome break from this.

Group Experiential Theme Three: Not What I Expected

The third GET describes participants’ contrary expectations of their experience of the hypnotic state. They recalled their experience of being hypnotised and attempted to make sense of it in relation to what they expected prior to being hypnotised. They expressed surprise with regard to

what they saw and felt, and described the hypnotic state as very different from a normal state of awareness. Some felt an unexpected sense of separation from the body or of being in a dream state. Others were apprehensive of what to expect, fearing it might be unpleasant or bring up unwelcome feelings and memories, or induce strange behaviours at the command of the hypnotist. This theme is described through three PETs: *Like a Different Dimension*, *Sleep but Not* and *Anticipated Something Else*.

Personal Experiential Theme One: Like a Different Dimension

Participants described the hypnotic experience as similar to being in a different or parallel dimension of reality. The experience seems to be one of being detached from everyday reality yet in a pleasant, unthreatening way. The sense of detachment hints at some level of dissociation where the conscious mind becomes separated, although not totally disconnected, from everyday physical sensations, thoughts and feelings.

“... It was amazing that er, your whole body felt very um... separated from the mind...”

- Mary, 4-5

“I felt like as if I was in water floating, without any apparatus... and being able to just... exist within this...” - Mary, 40-43

“Under the hypnotic state you feel like as if you’re floating so like it’s not like as if you’re right down to earth it’s, it’s like a different dimension...” - Mary, 104-105

Mary described experiencing an unusual sense of psychological separateness from her body and emphasized how the experience felt as if her physical bodily sense was ‘separated from the mind’ and described it as an ‘amazing’ bodily feeling of ‘floating.’ She was eager to express how her body seemed to be dissociated from her whilst also feeling strangely and pleasantly present with just having time to ‘exist.’ She explained how it was not comparable to any other experience and referred to it ‘like a different dimension.’ Mary seemed to feel relieved by the experience, as if it exposed her to some level of freedom that she benefited from in some way. It seems that the physical and mental sensations she experienced were not ones she had ever experienced in a normal conscious state.

“... It almost felt like a dream state...” - Tabitha, 58

“... yeah just like... I was like not on earth or something (laughs) like you know, like seeing physical, like being physically aware of like things and their feeling? I don’t know, something like that...” - Tabitha, 133-135

Tabitha portrayed a similar experience to Mary maintaining that the hypnotic state feels like something out of the ordinary and non-earthly like. She described it as being something like a dream state, although it seemed that Tabitha did not have anything else to compare the hypnotic state to. She experienced what seemed like an out of the body experience where she felt absent from planet earth. She explained that although she felt separated from herself in some way, she remained physically aware of her body and thoughts; remaining aware of her emotions, but perhaps from a different perspective. She seemed uncertain about how to describe her experience

with the expression ‘something like that,’ suggesting it was something she had never previously encountered. It seems that during the hypnotic state she remained physically and mentally aware and present even though psychologically the experience seemed dissociative and dream-like.

“... You’re looking at this from a third person perspective, it wasn’t so much, the feeling was ok cool we’re playing a video game kinda scenario...” - Ian, 92-93

“You may feel the emotion itself but it’s not going to be as extrovertly expressed as it would be in your conscious state...” - Ian, 237-238

Ian expressed that during his hypnotic induction he felt like more of an onlooker or bystander rather than a fully engaged participant of the experience. He describes how hypnosis seemed to induce a kind of dissociative state where the mind facilitates a detached perspective similar to ‘playing a video game’; experiencing sensations as if a ‘third person’ might be looking in from the outside. It seems Ian experienced and analysed emotions from a different perspective in the hypnotic state emphasizing how emotions are experienced differently, perhaps more subtly and nuanced, compared to conscious emotional expression being ‘extrovertly expressed.’ Like Mary and Tabitha, Ian’s experience suggests that a sense of dissociation and other-worldliness characterised their experience of being hypnotised.

Personal Experiential Theme Two: Sleep but Not

When participants were asked to recall what they expected to experience prior to being hypnotised some participants expressed that they anticipated hypnosis to resemble a sleep state

in which they would be ‘knocked out’ and possibly under the inducer’s total control, and without any recollection of events. This seems to have been an image gained from seeing TV performances and many seemed surprised that after experiencing the hypnotic state, they found it to be quite different from sleep.

“ ... I was expecting what is on TV of like you’re getting very sleepy and like a little pendulum and um, I don’t know, the hyp-hypnosis person asking me to do, like bark like a dog or stuff like that...” - Jenny, 150-152

Jenny seemed to expect being treated like a participant in a hypnotist’s show in which a sleep-like state would be induced and then she would be asked to undertake random bizarre behaviours. She blamed these expectations on the influence of television programs, which portray stage performance hypnotists and are not representative of clinical hypnosis. It seems she expected to become ‘very sleepy’ and lose touch with reality.. Stage hypnosis generally relies on theatrical displays and tactics to draw attention from an audience (Lynn, Myer & Mackillop, 2000) and differs significantly from current psychotherapeutic applications. However, Jenny seemed to engage what I sensed to be a little bit of humour in sharing that she expected to be asleep and might end up ‘bark[ing] like a dog’ or otherwise under the control of the hypnotist. This might suggest that although initially anxious about what might happen, subsequently she realised how absurd and inaccurate her expectations of hypnosis were.

“ ... I was expecting, like needing to be completely like knocked out or something and like not remember or recall anything, so that was definitely different...” - Anne, 154-155

It seems that Anne anticipated amnesia and a sense of unconsciousness from hypnotic induction and did not expect to remember anything upon waking. Her actual experience caught her by surprise in that it was ‘definitely different’ from her expectation of being ‘knocked out.’ Like Jenny, the influence of stage hypnosis had an impact on Anne’s experiential expectations. Stage hypnosis as portrayed throughout the years has given the impression that hypnotic induction causes an individual to lose cognitive ability, and memory of events upon waking (Lynn, Myer & Mackillop, 2000). It is also possible that the novelty of the hypnotic experience, a feeling of being something similar to but different from sleep, might have contributed to this incongruity between expectation and reality.

“... It is very difficult to tell that you are hypnotised throughout the process basically, ‘cos from an insider’s perspective, it looks more just like something along the lines of you... falling asleep I guess, almost and then trying to stay awake...” - Ian, 2-4

“[I was] expecting a lot more of... I guess external control so to speak... And a much deeper level of um... a dive in a sense that I was thinking um some procedure were to take place where I am totally under, uh and I may or may not remember...” - Ian, 148-153

“I like lucid dreaming... somewhat actually, I feel [that it is a] similar experience to... being in a hypnotic state... In the hypnosis, you’re sorta asleep but sorta not and that dissonance of the brain is feeling... tiring...” - Ian, 268-276

Another comparison of the hypnotic state and sleep was explored by Ian. He found it confusing to be aware of being hypnotised and compared it to the sensation of ‘falling asleep’ while ‘trying to stay awake.’ This seems to describe hypnagogia or the transitional state of consciousness between wakefulness and sleep (Mavromatis, 1983). He also compared his experience to lucid dreaming, where ‘you’re sorta asleep but sorta not’ and recalled feeling ‘tired’ from the ‘dissonant’ sensation of what seems like this hypnagogic state. Ian seemed surprised by his experience explaining that he expected to feel significantly less in control. He assumed that he would be ‘totally under’ or unconscious during the induction, having no recollection about the details of his experience upon waking. Overall, he seems to have expected a more profound and intense experience expecting to have a complete loss of cognitive control. As with Jenny and Anne, the influence of the preconceived notion of being put to sleep via hypnosis (as in stage hypnosis) might have influenced Ian’s understanding of the hypnotic process. Perhaps, he too expected it to be more overpowering and perhaps even theatrical due to media misrepresentation over the years.

Personal Experiential Theme Three: Anticipated Something Else

This PET compares and contrasts participants’ initial expectations of hypnosis and their actual lived experiences. Participants specifically indicated that their experiences were incongruent with their expectations and prior understandings of being in a hypnotic state. They agreed that their experiences altered their perceptions of the cognitive qualities of hypnosis. There was a sense in which they felt unable to control the emotions that arose yet were able to remain calm, in a pleasant place where they could contemplate the feelings being evoked.

“ It felt like yeah like as I said where I’m reading a book or you know watching tv it’s like it’s, it’s really like direct so there is like direct, like response, like ok so I see, like a I see, like a beautiful drawing so it’s like my emotional response is directly related to that but when I got hypnotised, I yeah, I felt like things were out of my control like and it was subconscious.”

- Jenny, 15-19

“... I wasn’t expecting to think about emotions or have um personal imagery appear or feel like I was out of, not in control of my emotions so I didn’t expect that at all...” - Jenny, 152-153

Jenny did not expect to have such a personalised experience of being out of control of her emotions or her responses. Nor did she anticipate to have such personal imagery appear, seemingly spontaneously, and emphasized that she ‘didn’t expect that at all.’ From the tone of her voice and expression, it seems she was rather surprised by this quality of hypnosis. She recalled her normal state such as when ‘watching tv’ or ‘reading a book’ to explain how cognisant she usually feels, and that under hypnosis she felt less in charge of her emotional responses which she associated with the subconscious. She suggested that the subconscious mind navigates and controls the hypnotic experience. Jenny seems to have considered how cognition impacts emotional response in a normal state of awareness, but how in the hypnotic state her cognitive processes seemed less in control. She seemed to have thought about her reactions under hypnosis, characterising them as distinctly subconscious, and decided that cognitive analysis during hypnosis differs greatly from that of normal conscious analysis.

“... I was expecting to maybe see my grandma but um... that didn't happen but um generally speaking, I think it was better than what I expected... I didn't think that it was going to be as... pleasant and... er relaxing. But most of all I think I found... it um cured something within me.”

- Mary, 159-168

Mary expressed that her hypnotic experience was not as ethereal as she expected. She felt it was very different from what she anticipated, concluding that it was actually ‘better than expected.’ It seems she might have wanted to see particular personal imagery and seemed a little disappointed that this did not happen. Nonetheless, this did not seem to impact her experience in a negative way and she seemed pleasantly surprised by the imagery she saw although it was not what she anticipated and perhaps desired. She was surprised at the experience being so ‘relaxing’ and therapeutic and considered it beneficial in some way and that it ‘cured something within [her].’

“[I was expecting]... to be in like a very calm state and to... just... I don't know, be like led in to like my like subconscious, without like thinking about something so like deeply...”

- Tabitha, 139-140

Tabitha expected to be led passively during her hypnotic induction and not to have to think deeply about things with the hypnotist playing a much more leading role. She expected some ‘calm state’ of relaxation and to be led in a way without control over what happened. She seemed surprised by her actual experience of being able to think about things clearly, as she anticipated playing a less active role with less ability to ‘think about something so... deeply.’

Similar to Jenny, Tabitha seems to have attributed this to the experience of ‘subconscious’ control, under which she felt she was able to both feel and think more clearly and feely.

“... You’re thinking oh, I’m going to snap my fingers and I’m going to be programmed to do X...” - Ian, 12-13

“... this was a lot more mild and tame than what I was expecting it to be.” - Ian, 153

Ian expressed that he expected to experience some sort of psychological ‘programming’ during his hypnotic induction. It seems he thought that he would, like Tabitha, feel less in control of the experience, and would be more of an object under control rather than an actively engaged partaker. He concluded that for him hypnosis was ‘more mild and tame’ than anticipated as though he expected it to evoke something in him, or about him, that might be wild or uncontrollable. His expression suggests he might have been somewhat displeased and disappointed that hypnosis turned out to be less eventful than what he wanted or expected.

Group Experiential Theme Four: Expanded Perspective

The fourth GET is derived from participants’ recollections of a tendency for changes in reasoning and self-judgement to occur. It represents their accounts of cognitive shifts and associated altered perspectives occurring during the hypnotic state. They agreed that the hypnotic state significantly affected their thinking and affect but also expressed some confusion and ambiguity when describing these effects and exactly who or what part of them was in control. In

recalling their experience they struggled to provide concise and consistent explanations of their expanded cognitive faculty compared to their everyday capacity. The participants' experience is summarised in four PETs: *More Level-headed Interpretation*, *Less Extreme Self-judgement*, *Ambivalent Pragmatism (Agree and Disagree)*, and *Ambiguous Locus of Control (Going with the Flow)*.

Personal Experiential Theme One: More Level-headed Interpretation

Participants described feeling level-headed and calm while in the hypnotic state. When asked under hypnosis during the experiment to recall previously experienced life situations of success and failure, participants, during the interview, recalled being able to bring a more balanced understanding of such situations whilst hypnotised. Such balance meant that their feelings, for example of anger, sadness or guilt, seemed less extreme and for which they seemed more internally supportive and empathic.

“... [In a hypnotic state] *I would be calm about it* [reference to the past failure]... *I think I would know... that wasn't even in line, that that task wasn't ever in my skill set or even my interests... Whereas, in my waking state, I would probably be upset or sad...* [In a hypnotic state] *I think it would be just like a sign in the right direction for me...*” - Jenny, 173-187

When recalling an unpleasant failure life situation, Jenny expressed that in the hypnotic state she would likely experience a more ‘calm’ reaction. She seemed rather certain that she would be more content and perhaps even at peace with the circumstances associated with the failure and the final outcome altogether. She gave multiple reasons of how she might consider issues

differently in a hypnotic state about what contributed to the failure. Interestingly, she seemed to present each of these reasons in a positive way. She implied that hypnosis would impact her interpretative style and shift her viewpoint and that this might result in a cognitive reframing of the failure situation, and in turn facilitate its acceptance. Jenny seemed to believe that the hypnotic state would facilitate a more neutral or even positive perspective of the failure and possibly alleviate feelings of sadness. For some reason she did not go into much detail regarding her normal state reaction to the failure scenario and instead, emphasized that she thought the hypnotic state would promote welcome feelings of gratitude providing ‘a sign in the right direction for [her].’ Jenny seemed to prefer her hypothesized hypnotic reaction over a normal state reaction, as if hypnosis would shield her from the experience of getting ‘upset.’

“... [In a hypnotic state] *I don't know* [reference to a failure], *it depends... I would say I'd be a lot less emotional about it actually... I would be basically trying to spread the guilt so to speak um to try to make myself feel better (sniggers)...* [In a hypnotic state] *More calm* [reference to a success]... *Just like with the failure you're a lot more emotionally involved with it when you're conscious, uh, versus, where in hypnosis I found that you make slightly more weighted decisions so to speak... In hypnosis, I would probably attribute it to... a bit of luck and extreme preparation... and planning...*” - Ian, 183-249

“... *hypnotically you, because your feelings are more intrinsic... you're more along the lines of, you're more level headed in terms of what you attribute to it... because your emotions are more internalised, your brain is able to process it better, [this] is what I feel...*” - Ian, 258-261

Ian built on Jenny's perspective of how the hypnotic state might impact his reaction to a perceived failure and expressed that he would likely become 'less emotional' about it. Ian seemed to view his potential hypnotic reaction rather lightheartedly, while sniggering as though he was nonchalant about 'spread[ing] the guilt so to speak,' seemingly referring to a perceived ability to make balanced judgements in hypnosis. When recalling a life event where he succeeded, Ian similarly expressed that he would likely be 'more calm' about it in hypnosis. He proposed that in a normal state of awareness you are 'more emotionally involved' and considered his hypnotic self to be more emotionally stable, bringing 'more weighed decisions.' He seemed quite certain of these attributes of hypnosis, clearly describing how and why they would impact his reaction. Ian gave some possible factors he might consider in a hypnotic state for his reactions to the recalled success. For him, these factors seemed to include external and internal influences such as 'luck' and 'planning.' However, it seemed he considered reactions and emotions to be somehow contained internally under hypnosis which in turn helped promote a 'level headed' perspective of the triggering scenario. Rather confidently, he proposed that the 'brain is able to process [information] better' in the hypnotic state and speculated about how this might account for a more balanced interpretative style.

"... Under hypnosis, I wouldn't be as hesitant [reference to the failure] so I most probably would be able to problem solve much easier... It would just be a greater experience to sorta say ok this happened and I would try to figure out how it actually succeeded..." - Mary, 225-238

Referring to a previously experienced failure in life, Mary expressed that the hypnotic state would assist with a less hesitant standpoint, which would allow her to 'problem solve much

easier.’ It seemed she viewed the impact of hypnosis on the interpretation of the failure in a positive way. She implied that her understanding of the reasons for failure would shift from a negative view to a more constructive view, suggesting that the hypnotic state is capable of impacting analysis and could be characterized by less hesitation and more initiative to problem solve. She described this as a kind of higher order of experience that would allow her to acknowledge an incident of failure and how it might be reframed as a success in some way. Mary seemed to think that the hypnotic state would equip her with the capacity to reframe thoughts to become less negative. This perceived interpretative reframing seemed to be inspired by a sense of acceptance and the desire to uncover how the failure could have been redeemed or reframed as success.

“... [In a hypnotic state concerning a failure] *I’d... take it as a life experience...*”

- Anne, 185-186

“[In a hypnotic state concerning a success] *I’d just be like very proud of myself I think. It’d be... [because] I worked hard for it [reference to the success]... in a more like peaceful mind, but I think yeah, I think I’d still be very proud of myself...*” - Anne, 215-219

Anne seemed to suggest that the hypnotic state would make her feel more accepting towards a previously experienced life failure. Rather like Mary, she would consider reframing the failure as a ‘life experience’ rather than something negative, insinuating that her reaction would be less forgiving and more critical of failure in a non-hypnotic state. It seemed as though she believed the hypnotic state would reframe her interpretation to facilitate feelings of acceptance and

appreciation rather than disappointment and negative self-reflection. When recalling a success, Anne seemed certain she would attribute it to ‘working hard for it’ in hypnosis, and experience a sense of intrinsic pride. Nonetheless, she emphasized that it would be interpreted from a less emotive and more ‘peaceful’ perspective. It seems she thought hypnosis would allow her to assess situations from a more balanced emotional standpoint with pleasant reflection, and less dramatic expression of her emotions.

Personal Experiential Theme Two: Less Extreme Self-judgement

Strongly associated with the previous PET this theme represents a more specific change in self-perception and attribution that manifests in participants experiencing less extreme self-judgement when in the hypnotic state, compared to their normal state of awareness. When asked to recall in the hypnotic state about situations of success and failure evoked by the questionnaire, participants seemed to think that a less punishing self-assessment attitude was experienced compared to how they felt they would react in their normal state of awareness. In general, participants described what seemed to be a stronger internal locus of control and a less critical view of themselves and how this was mediated by hypnosis.

“... [In a non-hypnotic state] *I would probably be upset or sad because it* [reference to a past failure] *represents like a failure on a, like a status level, like oh I failed, like my family going to judge me and stuff like that... I attribute it to myself not working hard enough...* [In a hypnotic state] *I would be calm about it* [reference to the past failure] *because I think I would know that maybe that wasn't for me...*” - Jenny, 175-179

Jenny mentioned that in a non-hypnotic state feelings of sadness and distress would normally result from failure because it would bring a sense of disappointment and shame with implications for her 'status.' This was associated with fear of family disapproval and external judgement along with self-blaming. She seemed to strongly feel that she would normally attribute failure to personal factors such as 'not working hard enough.' In the hypnotic state she thought she would be more at peace and accepting of the failure, implying a more open-minded psychological position with less severe self-attribution of blame. When describing her likely hypnotic reaction, it seemed Jenny preferred this attitude to what she felt was her conscious interpretative style. It was as though she thought it would provide relief from the negative feelings evoked by failure in her normal state of awareness.

“... [In a non-hypnotic state] *It was [due to] fear... It was my fear of uh failure* [reference to the failure]... *under hypnosis I wouldn't be as hesitant* [reference to the failure] *so I most probably would be able to problem solve much easier...*” - Mary, 225-229

When asked about her attributional style, Mary recalled a specific life event and described a perceived failure that was caused by 'fear of uh failure,' and assumed that under hypnosis she would be less diffident and probably more productive rather than self-limiting and overly critical. This seems to imply that she thinks hypnosis does not simply facilitate a laissez faire attitude to life situations but instead promotes a sense of control and a more positive attitude to life. Like Jenny, Mary seemed to favour this perceived analytical style of hypnosis and felt it would engender a more positive attitude and maybe even a more beneficial outcome in situations that otherwise might be considered failure.

“ [In a non-hypnotic state] *Um... I messed up* [reference to a failure] *uh, messed up big and there was a number of factors that contributed to it... the things that I would attribute to my success* [would be] *vastly different. Because conscientiously I would be saying yes! Finally the hard work I put in paid off...* [In a non-hypnotic state] *I did as expected because of, technically my achievements* [reference to a success]... *I did contribute to a major portion of that so...* ”

- Ian, 200-256

When recalling a failure, Ian acknowledged, using a non-hypnotic perspective, the impact of several factors that contributed to why he ‘messed up big’ and emphasized his personal role in the negative outcome. He seemed to apply the same stance with regard to a recalled success scenario suggesting a strong self-attributional tendency during a normal state of awareness. However, without overtly expressing it he implied that in the hypnotic state he would likely be less self-accusatory about the failure and that a less extreme reaction would facilitate greater understanding of what a failure or success is attributed to. He showed some uncertainty during his explanation, struggling to provide a clear-cut response with incomplete phrases and long pauses.

“[In a hypnotic state] *I’d feel more positive about it* [reference to the failure].... *instead of I don’t know, kicking myself and like putting myself down...* [In a non-hypnotic state] *I think it would be like that I didn’t try enough, hard enough, or I didn’t put enough effort in because if I did, then um, there would be better results from it* [reference to the failure]... ” - Anne, 185-194

Anne responded with certainty when recalling, using the hypnotic state perspective, a life failure which she blamed on not trying ‘hard enough,’ and a success that resulted from ‘working really

hard for it.’ When recalling the failure, she said it arose from lack of ‘effort’ but believed that during a hypnotic state she would interpret it more positively and reframe it as a useful ‘life experience’ as mentioned in the previous PET. She seemed quite pleased with the perceived hypnotic capacity to minimise negativity and self-blame, neutralising the non-hypnotic tendency she described as ‘kicking [herself] and like putting [herself] down.’ As for success, she seemed to believe that under hypnosis she would still be as proud of herself as she would be in a non-hypnotic state, attributing it to hard work. However, she explained that this pride would be accompanied by a sense of peacefulness. It was as though Anne considered acceptance to be a distinguishable asset of hypnosis, which she seemingly thought facilitates perceptual reframing of an experience in a less self-judgemental way.

Personal Experiential Theme Three: Ambivalent Pragmatism (Agree and Disagree)

When comparing to their normal state of awareness, participants expressed ambiguity and seemed unable to give definitive views concerning their answers to questions asked during hypnosis, especially with respect to questions about empathy. They preferred to describe their responses as pragmatic asserting that their response to events would depend on circumstances, the particular situation presented, and would be evidence based. This position did not seem much different from that of their normal state although there seemed to be some uncertainty as to whether they would reach the same conclusion in each state.

“... I think that [for] the animal one [reference to a questionnaire response] probably, [I] would be more empathetic towards that one, um, but the other responses I agree with so... I’m

pragmatic... about it now. I can think about it; the different alternatives [reference to QMEE questions]... ” - Jenny, 118-138

For example, Jenny said that she now both agreed and disagreed with her responses under hypnosis, suggesting that some of her responses would remain unchanged, while others might be different. She seemed uncertain about her explanation, ultimately clarifying that she is ‘pragmatic... about it now’ and ‘can think about... the different alternatives,’ perhaps attempting to confirm the accuracy of her interpretation. She did not indicate the reason for her current ambivalence but said that in retrospect she had not conclusively reconsidered the responses she gave whilst hypnotised. It seemed as though she experienced some self-doubt during her reflection, expressing that she would probably be more empathic for one of the questionnaire issues quickly adding that her other responses would likely remain the same. It was almost as if she was second-guessing herself, describing her experience again whilst in a normal state of awareness.

“... My answer to that [QMEE] question would probably be a bit more situational... It would be... very heavily situation based and like the person who’s doing it, uh basically, their track record so to speak...” - Ian, 137-143

Ian explained that the selection of a response, regarding a previously answered QMEE question, would be heavily based on the pragmatics of the situation posed by the question. He seemed quite certain that his non-hypnotic responses would require more of an analytical approach and would consider a variety of influencing factors such as context and the capability of individuals

concerned, as they would be ‘more situational.’ This implied that during the hypnotic state, he felt less analytical although, he did not really answer the interview question, speculating that his response would depend on the situation, which would require more detailed clarification and evidence. His ambivalence is suggested in that he seemed unable to be clear how his propensity to analyse would or would not be affected by his normal or hypnotic state.

“... It would depend [reference to answering QMEE questions similarly or differently]... I think that like a lot of it would, like the conclusion, would be drawn from like how I would feel, like sometimes I like going to events and just being by myself and yeah enjoying the people around me... I mean you think about it more when like when you stated the [QMEE] question through um being hypnotised I was like oh well if he is lonely then yeah I do feel stuff.” - Anne, 131-150

Anne also seemed ambivalent by indicating that her responses would depend on the feelings and external influences raised by the topic at hand. As with Jenny, Anne showed some uncertainty through the language she used to justify her responses. She did not precisely confirm that her responses would differ in a normal state of awareness, but like Ian expressed that how she responds would be dependent on a range of considerations. She seemed to believe however that the hypnotic state allowed her to ‘think about it more,’ but did not go into further detail or explain how.

Personal Experiential Theme Four: Ambiguous Locus of Control (Going with the Flow)

This PET highlights the inconsistent perception participants had of their sense of control during the hypnotic state. All of the participants expressed vagueness with regard to their understanding of who or what, or what part of them was in control of what they were experiencing.

“... I felt like things were out of my control...” - Jenny, 18

“I feel like my waking state um... I’m really adapting good at shutting things out and shutting situations and emotions out, if somethings happening at home I can go to work and look perfectly fine and operate fine...” - Jenny, 47-49

“I think me [I was in control] but I think maybe like on a deeper level like me but underneath the... underneath the um, conscious [me] like the subconscious [me] that I don’t like to like evoke until, because, because it’s like too much (laughs)... initially I make decisions based on just my pragmatic self ...” - Jenny, 155-166

Jenny felt the experience was ‘out of [her] control’ but then clarified that she remained in control at some ‘deeper level.’ Initially, she described feeling out of control with confidence but then quickly changed her mind, as though she engaged in some form of an internal argument, struggling to understand how she actually felt. Ultimately, and in what seemed like an attempt to logically describe what she meant, and perhaps in an attempt to ease her own confusion to some extent, she split herself into conscious and subconscious selves. She went on to clarify that

hypnosis engaged her subconscious which she normally preferred not to evoke perhaps because it seems to raise uncontrollable feelings ‘too much’ to bear. She insinuated that her subconscious self is more open and unrestricted and differs significantly from her conscious and more ‘pragmatic self,’ which usually facilitates defensive adaptations such as denial and shutting things and feelings out of her mind. She seemed confused by these different aspects of herself and her inability to explain what aspect of her was actually in control of her experience.

“You were the conveyer of questions but I think it’s my interpretation... In my specific case, whenever a life er... reaction comes, I’m usually, I usually hold myself back without really er in order to say no I can’t go past this point. Under hypnosis, I most probably would be willing to or take that into um, I would be able to allow that to happen... without having hesitation...”

- Mary, 195-213

Mary believed that although the researcher was in control of the questions how she understood and responded to them was still within her control. However, she seemed uncertain whether her perceived lack of control was actually from a personal choice to submit, concluding that under hypnosis she would ‘most probably’ allow feelings and thoughts to be expressed. Her use of long pauses and uncertain language suggests some ambiguity about the effects of hypnosis. Like Jenny, she used a normal state of awareness for reference, explaining that in this state she is usually able to contain her feelings and attitude so that they do not become unbearable or ‘go past this point.’ When considering hypnosis, she seemed to imply that she ‘would be [more] willing’ to allow certain situations and the expression of emotions ‘without having hesitation.’

In what seemed to be internal dialogue, Mary attempted to understand who or what aspect of her was in control by comparing how she felt normally to when hypnotised.

“... It was like not in my control so it was kinda like a dream imagery that just like, would just like come to me all of a sudden like without thinking about it...” - Tabitha, 58-60

“I don’t know... I don’t know. No one [was in control]... Uh, well you definitely like kept like the control like where my mind was going or like but like it you didn’t control like what I saw...”

- Tabitha, 144-147

Tabitha stated that her experience was ‘like not in [her] control’ but the language she used implied she felt some uncertainty about her experience. She considered hypnotic imagery to be similar to but not quite like the images she experiences in dreams without drawing direct parallels. She seemed to struggle to interpret what she felt and saw, as if she was trying to relive her experience to better understand and explain it. She recalled that spontaneous images and feelings seemed to arise ‘all of a sudden like without thinking about it.’ Her confusion was further indicated by many pauses and repetitive expressions such as ‘I don’t know... I don’t know...’ when trying to determine who or what was in control of the experience. She ultimately concluded that perhaps ‘no one’ was in control and then tried to clarify this in an effort to make sense of its absurdity. She concluded that the hypnotist definitely kept control of the direction of the hypnosis process, but did not control what feelings were evoked or what images appeared within the process.

“If anything, hypnotism helps me control my emotions rather than the other way around...”

- Ian, 17-18

“... Your feelings that you’re experiencing um are vastly controlled by the scene itself... I wasn’t the one who [was] controlling the entire path and... I guess, I was going with the flow a lot more...” - Ian, 95-107

“You’re sort of in control but you’re only in control of the character and not so much the scene and that’s why it was kinda an interesting experience...” - Ian, 160-161

Ian felt that maybe the hypnotic imagery itself possessed the control, while he was simply a character within it that has, to some extent, control of the personal experience. Indeed, he seemed to think that hypnosis might, at least for him, actually facilitate emotional control. However, he seems to contradict himself when he said emotions ‘are vastly controlled by the scene.’ I wondered if he was attempting to differentiate between levels and types of emotions or was just trying to convince himself when he said, ‘if anything, hypnotism help[ed] [him] control [his] emotions rather than the other way around.’ This differentiation was further explained by the analogy of ‘going with the flow’ along a path that he did not control. He seemed to feel ‘sort of in control’ of himself but as a dissociated ‘character’ in a scene that he had less control over. His interpretation and description seemed ambiguous with an apparent reluctance to let go of control and he seemed quite confident about his experience concluding with what seemed like contentment that ‘it was kinda an interesting experience.’

“... It was cool to like have somebody kind of like lead you to thoughts and I guess emotions...”

- Anne, 5-6

“I just went along for the ride (laughs)...” - Anne, 69-70

“I think I was [in control]? Yeah... [because] I was, you, you were like guiding me but like I was choosing where to go, I guess...” - Anne, 160-161

Anne expressed that it was interesting and seemingly enjoyable to ‘have somebody kind of like lead you to thoughts and... emotions.’ It seems that although she felt in control of the experience she accepted also that she was being guided and ‘just went along for the ride.’ She laughed at her description hinting perhaps at some level of denial of the loss of control during the experiment. She concluded that she was in fact in control, but with some hesitant self-talk that ‘yeah... [because] I was [in control], you, you were like guiding me but like I was choosing where to go, I guess...’ As with the other participants there seems to be an internal dialogue about who, or what part of them, was in control during the hypnotic sessions. Anne’s descriptions and understanding presented overt ambiguity, which she seemed to be aware of and possibly perplexed by.

4.6 Discussion

The aim of Part Two was to describe the participants’ lived experience of being hypnotised and explore their understanding of the hypnotic state. Five participants of the hypnosis group in Part

One were invited for interviews in which a number of topics relevant to the aims of the research were investigated. These topics reflect the research questions presented in chapter one and are explored in detail below.

Research has contributed to a deeper understanding of the efficacy of hypnosis in the management of varying clinical conditions (Elkins et al., 2015). Many of the research inquiries compare the clinical efficacy of current hypnotic techniques and similar approaches such as relaxation and meditation procedures. Part Two offers insight into what contributes to this efficacy by exploring and analysing the subjective experience of the hypnotic state and presenting participant accounts of that experience.

The Experience of being Hypnotised

The first group experiential theme that developed revolves around general feelings associated with the hypnotic experience. Participants indicated that the experience was overall positive and all of the participants described it using positive expressions such as pleasant, happy and relaxing although one participant expressed some uncertainty, describing it as scary. Overall, participants seemed to present some confusion and ambiguity around understanding and describing their hypnotic experience. Even though the hypnotic experience was positive for the participants, they found it difficult to describe how it impacted them cognitively and emotionally. However, when participants were asked if they would undergo hypnotic induction again, each answered that they would.

In a relevant study, Alladin (2010) explored the effectiveness of hypnotherapy in the management of Major Depressive Disorder (MDD). It was concluded that hypnotherapy can enhance the improvement of the psychological state, while preventing the occurrence of relapse. Hypnotherapy sessions for individuals with MDD are said to specifically focus on inducing a pleasant relaxation response, producing somatosensory alterations, while working on strengthening the ego, expanding awareness and demonstrating the power of the mind. It is evident that the use of the relaxing quality of the hypnotic state seems to facilitate desired therapeutic change.

Perceptions, Imagery, Emotions and Control

The second group experiential theme addressed participants' psychological perceptions, specifically regarding imagery, emotions and control. Participants recalled feeling free with elements of spontaneity compared to their normal state of awareness. Participants provided rich descriptions of what they saw and how they felt, while circling back to the concept of control. Each participant expressed that during hypnosis they witnessed unique and vivid imagery that was unexpected. This was compared to a normal state of awareness as a distinguishing facet, where hypnotic imagery was described as being more lucid and concrete compared to the imagery of normal imagination.

Appel (2014, pp. 208-220) has discussed the therapeutic system of psycho-synthesis and how it effectively integrates principles of hypnosis, proposing a "transpersonal model for hypnotically mediated psychotherapy." The approach uses various techniques that specifically involve active

hypnotic imagery. Numerous therapeutic components are integrated, including intrapersonal, interpersonal, and transpersonal facets, into an underlying psychodynamic approach to treatment. Here, active hypnotic imagery acts as a therapeutic vehicle to transport these components during hypnotherapy. The valuable role of hypnotic imagery is described as being active in that it works directly to modify and shape cognition during hypnotic induction. Here, hypnotic imagery is considered to be qualitatively different from the imagery experienced in a normal state of awareness.

Participants expressed that during hypnosis they felt some ambiguity regarding their reactions and level of control, about which they felt some uncertainty and confusion compared to a normal state of awareness. This might be because they were not asked about their experience immediately following the hypnosis experiment. However, previous research (Navaneedhan, 2012) suggests that hypnosis has the capacity to moderate the psychic structure and relationship of the id, ego and super-ego, and by doing so allows a more reflective exploration of conscious and unconscious elements, which could influence an individual's rational/irrational impulses.

This capacity to moderate psychic structure was evident in the themes of 'accepting whatever comes up' and 'less extreme self-judgement' where greater acceptance and tolerance of any thoughts, feelings and sensations was experienced by participants under hypnosis. They described that in a normal state of awareness a pre-analysis of a situation would be usual, whereas when hypnotised they described what to them seemed like a greater willingness to accept situations, events or personal failures as they present themselves. This perceived tendency is also closely associated with the personal experiential theme of involuntary reactions and all these connections point to the potential benefits of hypnosis in the therapeutic setting.

The Hypnotic State, the Normal State, and Expectations

The group experiential theme ‘Not what I expected’ compares perceptions of what was expected and not expected of the hypnotic state. All the participants concluded that it was not what was expected. They indicated that thinking was altered compared to a normal state of awareness and felt the experience was like being in a different psychic dimension of reality. They described feelings of unusual psychological separation, something out of the ordinary, as if something happens in the hypnotic state that allows aspects of the self to dissociate while, at the same time, remain mentally and physically present. As a result, emotions, self-attribution, and mood seem to be experienced differently in the hypnotic state compared to a normal state of awareness.

This mild degree of dissociation might have its clinical application in the treatment of traumatic memories. Gravitz (2011) explores the possibility of memory reconstruction through hypnosis as a treatment for grief. Here, unwanted and intrusive memories are approached with the aim of reconstruction rather than a direct attempt to merely diminish the memory’s impact. To explore this option, a dynamic clinical strategy in which the imagery generation of pleasant memories was incorporated into a present frame of reference during hypnotic induction. The aim was to reframe the grief association, which was systemically reliant on the maladaptive memory. The approach was deemed highly successful, being rapidly effective in reframing memory, and maintaining the reformatted memory up to four months post-treatment. The presented study supports the potential for hypnotic dissociation to modify emotional expression and perception of trauma events. The capacity for a positive therapeutic impact through psychological intervention is evident for deeply rooted perceptual constructs, such as intrusive memories (Gravitz, 2011).

Comparisons with sleep were reported by many participants. They were expecting hypnosis to resemble the sleep state but went on to describe the hypnotic experience as dissociative but not quite the same as sleep. One participant expressed that the feeling of dissonance was somewhat tiring. Many revealed that they expected to experience some amnesia and even unconsciousness but instead likened it to feeling as if they were about to fall asleep and made associations to lucid dreaming. Participants indicated that their hypnotic experiences were incongruent with their expectations and understanding of being in a hypnotic state, and that they did not expect to feel, as they did, emotionally out of control or to have spontaneous imagery appear. One participant said that they expected a sense of passivity but instead surprisingly deep thoughts came to mind. Freud asserted the idea that thoughts and behaviours are influenced and expressed as a result of unconscious conflicts not readily available to consciousness. In his early thinking Freud considered hypnosis a possible pathway that illuminates the unconscious meaning behind thoughts and behaviours (Hammond, 2013). Participants' experiences of incongruity regarding their expectations seems to be associated with this tendency for hypnosis's ability to illuminate unconscious meaning behind thoughts and behaviours.

Hypnotic Reactions and Self-awareness

The fourth and final group experiential theme revolves around participant recollections of a tendency for changes in perspective and reasoning during the hypnotic state. Participants experienced cognitive shifts associated with altered understanding while hypnotised, which

expanded their perspectives. Most struggled to provide concise and consistent explication of their reactions and level of awareness whilst in the hypnotic state. Participants described feeling more level-headed and calm when in the hypnotic state. When asked to recall previously experienced situations of success and failure, participants stated that they thought a more balanced understanding would arise in the hypnotised state. One participant expressed that a calmer perspective would result in the acceptance of a failure, where in a normal state of awareness such a failure would spark feelings of sadness and shame. Others added that in the hypnotic state less emotion would be involved in analysing a situation and as a result, their ability to make level-headed judgements would be heightened. This seems closely associated with the theme ‘Accepting whatever comes up’ as some level of cognitive reframing seems to be possible under hypnosis.

All the participants reported experiencing less extreme views in the hypnotic state compared to the normal state. When asked to recall previously experienced situations of success and failure, participants thought that a more extreme self-judgement approach would arise in a normal state of awareness. When considering attributional style, in a normal state of awareness participants expressed a more dichotomous approach with something being strictly good or strictly bad when assessing a recalled failure or success. Numerous studies have explored the association between psychological well-being and such attributional interpretation. Research indicates that the tendency to observe negative events as arising from internal, stable, and global causes, and positive events as arising from external, unstable, and specific causes, is associated with higher rates of clinically assessed symptoms of depression (Fresco, Alloy & Reilly-Harrington, 2006; Sturman, Mongrain & Kohn, 2006). Firth-Cozens & Brewin (2011) investigated the causal attributions for life events involved in the process of recovery from depression and found a

positive relationship between changes in attribution and change in depressive symptoms, with significant correlation occurring on all the measurable attribution dimensions. The subjective experiences explored in this presented study indicate that the hypnotic state has the capacity to alter the locus of control and reframe causal attributions which, in light of the research quoted above, may prove useful as a psychotherapeutic intervention.

While analysing participants' accounts about the hypnotic state it was evident that participants had difficulty providing definitive descriptions of their experience, especially relative to their normal state of awareness. When asked to recall previous response to the empathy questionnaire items in Part One a number of participants gave ambiguous and uncertain descriptions of their experience and determined their responses to be pragmatic according to the situation faced. I concluded that their responses were ambiguous and called their experience 'ambivalent pragmatism.' I think that participants struggled with this question because they did not understand exactly why they answered the way they did when hypnotised, bringing a sense of discrepancy. This, like the earlier discussed incongruity regarding expectations might be associated with the theme 'ambiguous locus of control' and the participants' uncertainty of where their locus of control under hypnosis was situated. This parallels Freud's approach to understanding thoughts and behaviours as being under the control of unconscious forces that are not evident during conscious awareness (Hammond, 2013). Participants' struggles to be definitive about this aspect of their hypnotic experiences possibly resulted from hypnosis' supposed links to the unconscious. Upon being interviewed in a conscious state participants' ambivalence and ambiguity might have resulted from the inability to reconcile conscious (normal state) and unconscious (hypnotic state) functioning.

The inability to reconcile who or what had control of cognitive function during the hypnotic state was also revealed by participants. All expressed some ambiguity regarding who was in control with many concluding that they just ‘went with the flow.’ Participants said, although they felt the experience was not controlled, control was still present on some level. One suggested the perceived lack of control was a subjective choice to relinquish it, whilst another dubiously concluded that perhaps nobody was in control. This exemplified the group’s ambiguity particularly demonstrated by Ian’s frustration with not being able to clearly understand who was in control of the hypnotic process or the experience *per se*. This ambiguity was examined by Mohl, (2013) who found that hypnotic responsiveness was shown to be higher, both objectively and subjectively, when hypnotic suggestions were given by a therapist rather than through self-hypnosis. Both the qualitative and quantitative analyses in Mohl’s research showed that suggestion was more effective when administered by a therapist rather than by self-hypnosis. Interestingly, Mohl’s study also found that individuals tended to underrate their capacity to be hypnotized until they actually experienced hypnosis. This might explain my participants’ ambivalence and ambiguity in their perceptions of the locus of control. Perhaps, participants were reluctant to accept their capacity to be hypnotised and admit who they really felt was in control of the experience.

A Reflexive Discussion about IPA

Amadeo Giorgi (2006) has suggested that phenomenology, properly understood, is a philosophy where psychology is viewed as a natural science. In order to develop philosophical phenomenological insights that may be useful for science, the insights must first be translated accurately. If they are not translated accurately, they are only assumptions. Psychologists who

undertake phenomenological research strive to extend the understanding of natural science beyond its boundaries (Giorgi, 2006). The rise of qualitative research has encouraged proliferation of methodologies. The result is that no definitive methodology clearly outlines what is correct or incorrect, adequate or inadequate in terms of data interpretation, for example. An interpretative view naturally suggests that different individuals may attach different meanings to the same phenomenon. Giorgi (2006) claims that the researcher and the participant have different perspectives and that as a result, participants themselves are not necessarily in a position to judge whether an analysis is correct or incorrect.

Adequate interpretation in IPA is described by Smith (2011) as the ability to make sense of the information gained from interviewing. Accurate meaning must be gained and translated carefully from what the interviewee has said. Smith (2011) has emphasized the importance of transparency and the need for evidence which finds support for the analysis. “Predominantly, what lets a paper down is the poor evidence base (Smith, 2011, p. 17).” With this in mind, re-iteration does not imply mere description. Descriptive phenomenology reveals essence and the essential structure of any phenomenon under investigation (Morrow, Rodriguez & King, 2015). However, without the inclusion of accurate description in an interpretative analysis, the phenomenon being explored strays from what it is to something else (i.e. what it is not). Similarly, interpretation does not necessarily mean something more than a meaningful extension of description. There seems to be a fine line between adequate interpretation and exhaustive evaluation which could result in inaccurate assumptions, and as a result limit the validity and reliability of a work, as implied by Giorgi (2006).

Throughout the IPA analysis in Part Two, I avoided presenting interpretations which I considered to be too creative. My goal was to provide interpretations which included descriptions that extended beyond re-iteration of participant experiences. Finding this balance between mere re-iteration and over-interpretation, although challenging, provided the analysis with transparency and accurate interpretations of participant experiences of the hypnotic state.

In this study the development of the specific research questions for each part were partly driven by the desire to explore significant and specific cognitive shifts during the hypnotic state that could be useful for psychotherapeutic applications. The aims of the entire research were to explore the state specific affective and cognitive changes arising from hypnosis, to determine how *trance logic* might affect awareness and interpretation, and to uncover ways to employ this knowledge in psychotherapy. The quantitative inquiry assessed how the state of hypnosis objectively affects cognition and reasoning, while the qualitative inquiry explored how previously hypnotised individuals understand and explain their hypnotic experience and the hypnotic state. In the following chapter, the unified research objective, which was built on addressing the combined inquiries, is discussed in detail. The compatible and discrepant findings of the quantitative and qualitative queries are also considered.

Chapter Five: Relevance of the Combined Research Findings

In this final chapter conclusions are drawn from the findings of Part One and Part Two of the research. The first half of the chapter integrates and discusses the quantitative and qualitative findings and considers both the compatible and discrepant findings, and other considerations are also discussed. In the second half of the chapter, implications for psychology and psychotherapy are discussed. The study's limitations are outlined followed by the researcher's final reflections. Finally, recommendations for further research are made and an overall conclusion is drawn.

5.1 Findings Summary

This thesis has investigated the impact of the hypnotic state on cognitive functioning by exploring its effects on key measurable cognitive variables. It contributes to knowledge about the implications for empathy, attribution and affect by experimentally comparing the effect on these variables. The research has also explored the lived experience associated with the hypnotic state by interviewing research participants from the hypnosis group where attention was given to if and how variations in the above mental processes were experienced and understood. Finally, this thesis has addressed how hypnosis is capable of changing an individual's understanding of life events and experiences with an increased level of interpersonal and intrapersonal insight. As a mixed methods study, the research questions were also driven by the desire to find practical applications that might be useful in psychotherapy.

Part One Findings

The pilot study of Part One had a valuable impact on the formation of a viable approach to research testing of the effects of the hypnotic state. Part One sought to explore the impact of hypnosis on cognition through analysing participants' verbal responses to a range of validated statistical psychological tests used during the hypnotic state. This was challenging because most research in this field has not attempted to measure the effects of the hypnotic state in this way. The pilot study provided an opportunity for meaningful reflection on the proposed quantitative research approach and procedure. Ethically, it is valuable to use pilot testing as a preliminary measure when undertaking research using hypnotised individuals as it provides researchers with an opportunity to observe potentially undesirable response patterns such as the spontaneous regression that occurred in this study. It seems necessary to practise caution as there is still a lack of clarity regarding the potential side effects of the hypnotic state, which may pose limitations for ethical practise.

The quantitative research inquiry of Part One asked whether the hypnotic state affects cognition and reasoning, specifically, emotional empathic interpretation, self-attributional style, and positive affect as well as negative affect. This study determined that significant differences did exist between participants in the three condition groups of hypnotic, PMR and no treatment for these cognitive parameters. It has effectively examined the effects of the state of hypnosis on reasoning and perception, quantitatively.

Part One has provided some novel information about the impact of the hypnotic state on cognitive functioning and contributes to knowledge about the implications for empathy, self-attribution, positive affect, and negative affect by experimentally comparing the effect on these variables, while comparing against two other conditions (PMR and no treatment). Part One's aim was to provide insight regarding the effects of hypnosis for psychotherapeutic intervention, which might facilitate advances in psychotherapy.

There is a statistically significant difference between groups for emotional empathy, where QMEE scores were statistically significantly higher for those in the hypnosis group compared to those in the no treatment group. The results offer new insights regarding the hypnotic state and its effect on emotional empathy and have found support for the proposed hypothesis that participants in the hypnosis condition would have higher scores on the QMEE than those in the control conditions (progressive muscle relaxation and no intervention).

There are statistically significant differences in self-attribution between the study conditions. Differences between the conditions were found for strategy attributions for success scenarios and for effort attributions for success scenarios of the ASAT-II. Condition comparisons have exhibited that there are statistically significant differences in strategy attributions for success scenarios between the Hypnosis and the PMR conditions. Additionally, there are also significant differences between the Hypnosis and the PMR conditions for effort attributions for success scenarios. These self-attribution style findings from the study of Part One provide some novel parameters regarding attributional changes that occur in the hypnotic state, which can facilitate further research in this area. The results have found support for the proposed hypothesis that

participants in the hypnosis condition would exhibit differences in self-attributional style when compared to those in a control condition (progressive muscle relaxation). Differences in self-attributional style between the hypnosis and no treatment conditions was not observed.

There is a statistically significant difference between conditions for positive affect, where participant scores were statistically significantly higher for those in the hypnosis condition compared to those in the no treatment condition. Also, a statistically significant difference was observed between those in the PMR (higher) and no treatment groups. There were no observed significant differences between the conditions for negative affect. The positive affect results from the main study provide new knowledge regarding the hypnotic state and its effect on affect. The results have found support for the proposed hypothesis that participants in the hypnosis condition would have higher scores on the positive items of the Positive and Negative Affect Schedule than those in the control conditions (progressive muscle relaxation and no intervention). However, the results did not find support for the hypothesis that participants in the hypnosis condition would have lower scores on the negative items of the Positive and Negative Affects Schedule than those in the control conditions (progressive muscle relaxation and no intervention).

Part Two Findings

The aim of Part Two was to explore how participants after being hypnotised understood and evaluated their experience of the hypnotic state. An IPA supported shifts in reasoning, awareness, and insight, which took place in the hypnotic state. The first group experiential theme

(GET) that developed (A Pleasant and Happy Place) represents the participants' overall pleasant feelings associated with the hypnotic experience. It presents participants' descriptions of the experiential positive qualities associated with the hypnotic state. Participant accounts indicate that the hypnotic state was generally very pleasant, peaceful and positive, which allowed them to relax and enjoy the experience.

The second GET that developed (Spontaneity and Feeling Free) is based on the participants' perceptions regarding control and imagery during the hypnotic state. It represents participants experiencing a sense of spontaneity during hypnosis and describes how it was perceived at that time. Participants seemed to naturally draw comparisons between a normal state of awareness and the hypnotic state. They described what they saw through hypnotic imagery and how they felt in terms of control. They expressed that during the hypnotic state they had less control over emotions and thoughts and were spontaneous in their responses.

The third GET (Not What I Expected) describes the participants' experiences were not what they expected of the hypnotic state to be. They attempted to make sense of how they understood and analysed the imagery they experienced and felt in the hypnotic state, while reflecting on what they expected prior to the experience. Participants experienced a level of surprise with what they saw and felt while in the hypnotic state and that what was experienced was not anticipated.

The fourth GET (Expanded Perspective) is derived from participants' tendency for changes in reasoning to occur. It represents their accounts of cognitive shifts associated with altered perspectives, of events or life situations, occurring during the hypnotic state. Participants agreed

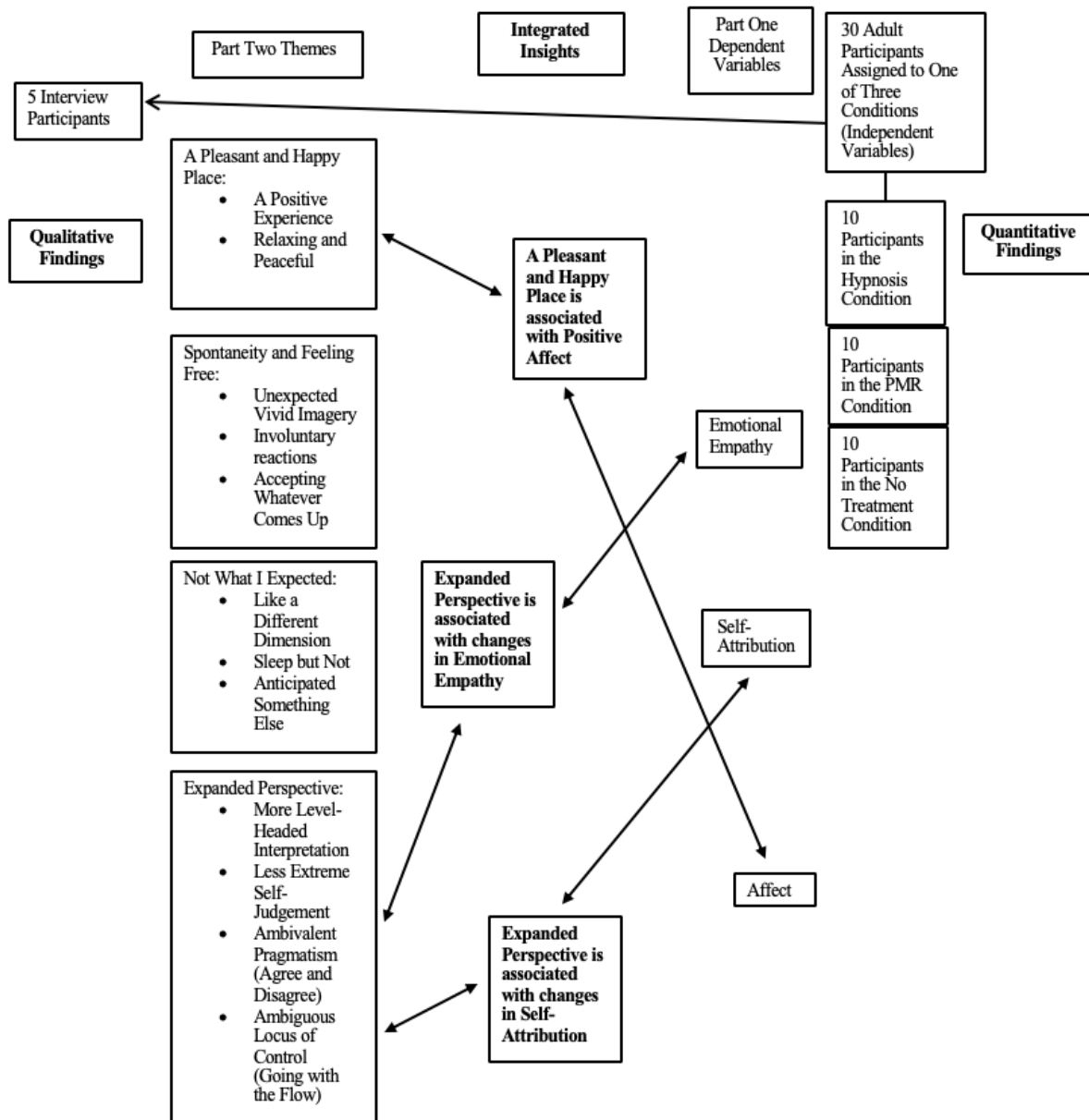
that the hypnotic state significantly affected their thinking and feelings but also expressed ambiguity when describing these effects. They struggled to provide concise and consistent explanations regarding their reasoning faculty whilst hypnotised compared to their everyday reasoning capacity.

5.2 Combined Overview of Part One and Part Two of the Research

Below, is a diagram outlining the quantitative and qualitative findings, and the insights that were discovered through a unified analysis of the mixed research methods data. A discussion about the overlapping compatible and divergent findings, follows.

Figure 5.2(1)

Integrated insights from the quantitative and qualitative inquiries

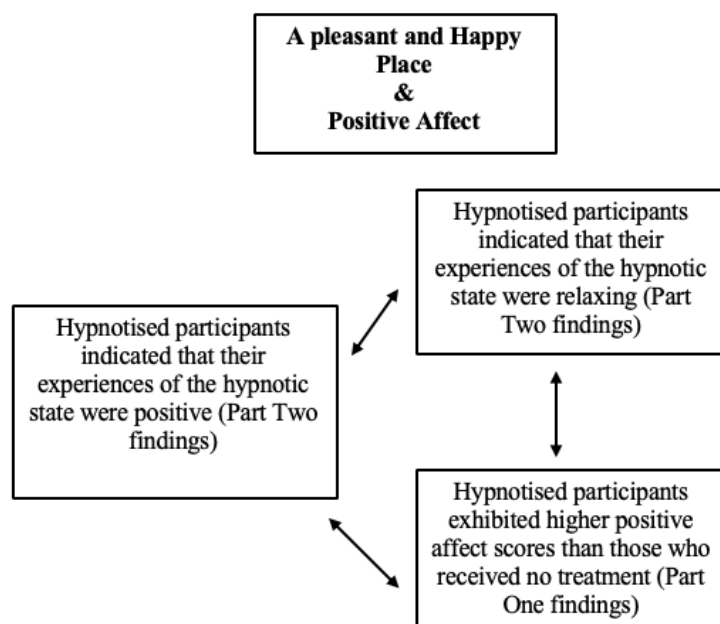


Compatible Findings

The figure below illustrates the compatible findings that were observed in the quantitative and qualitative analyses. Part One found that positive affect is heightened in the hypnotic state and this tendency is supported by what participant said they experienced in the Part Two qualitative study which describes feeling pleasant, peaceful and accepting.

Figure 5.2(2)

Compatible quantitative and qualitative findings

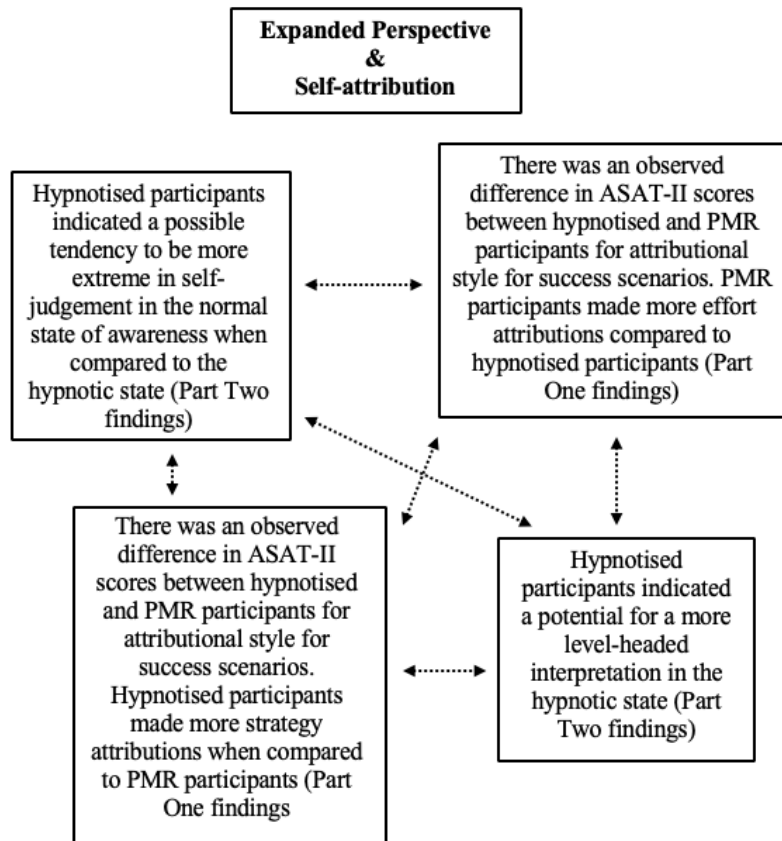


Possibly Related Findings

The illustration below depicts tentatively related findings, which were observed in the combined analyses. The words tentatively and possibly are used to describe the findings because clear connections were not made as the qualitative findings are by their nature too comprehensive to correlate with specific tendencies measured in Part One (i.e. heightened strategy attributions for success scenarios). Also, the quantitative results indicated that a significant difference between conditions is present only between the progressive muscle relaxation and hypnotised conditions. No significant differences were observed between the no treatment and hypnosis conditions. However, participants in Part Two overtly communicated that differences in thinking and reasoning between the hypnotic state and a normal state of awareness does exist. Moreover, the Part Two results indicate that interpretation regarding attributing factors (i.e. what caused a recalled success) are different in the hypnotic state and this tentatively indicates that attributional style is altered by the hypnotic state. Further research on this subject might provide valuable insights.

Figure 5.2(3)

Possibly related quantitative and qualitative findings



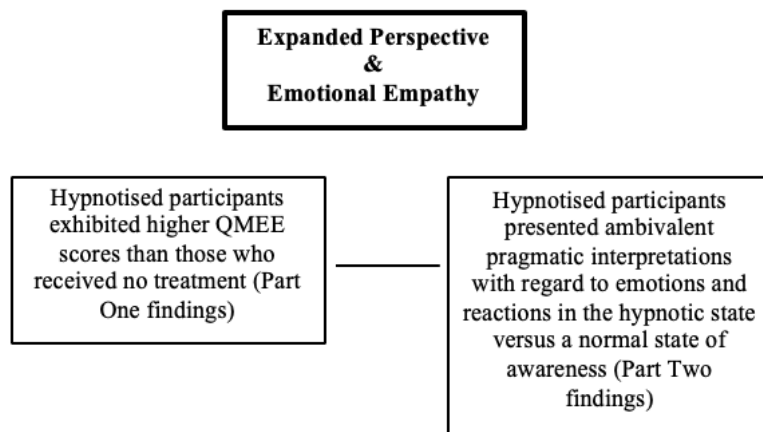
Discrepant Findings and Other Observations

Below, is a diagram of the discrepant or conflicting findings, which were found in the quantitative and qualitative analyses of Parts One and Two. The quantitative analysis found that emotional empathy is heightened in the hypnotic state. However, this tendency was not explicitly

noticed by the interviewed participants who seemed unable to affirm or reject it. Instead, they came across as ambivalent asserting that they perceived their approach to be pragmatic regarding their QMEE responses when hypnotised. Further research on this topic is needed to bring clarification for this apparent contradiction.

Figure 5.2(4)

Conflicting quantitative and qualitative observations



Other significant observations which did not present compatible, possible or discrepant associations are discussed below. They are equally valuable and have provided useful information about changes that occur in the hypnotic state. They are divided into two categories - Hypnotic State Characteristics and Cognitive Changes in the Hypnotic State. Further research on these findings is recommended.

Hypnotic State Characteristics:

The following observations developed in Part Two. Participants indicated that their experiences of the hypnotic state were like a different dimension (GET Not What I Expected). They also revealed that they experienced unexpected vivid imagery while in the hypnotic state (GET Spontaneity and Feeling Free), which was unlike normal imagery such as when reading a book. Participants also stated that they expected hypnosis to resemble sleep and clarified that the hypnotic state was like sleep but not (GET Not What I Expected). In general, interview participants expressed that they anticipated the hypnotic state to be something other than what they actually experienced (GET Not What I Expected). These findings require further research to learn more about the expected and unexpected characteristics of the hypnotic trance.

Cognitive Changes in the Hypnotic State:

Participants indicated that many of their reactions in the hypnotic state seemed involuntary and impulsive compared to a normal state of awareness (GET Spontaneity and Feeling Free). They also expressed a capacity to accept ‘whatever came up’ and experienced more open and accepting thought processing (GET Spontaneity and Feeling Free). With this, and perhaps because of this, participants expressed ambiguity regarding their locus of control and whether it was some part of themselves, the researcher, or other ethereal dimension of awareness (GETs Expanded Perspective and Not What I Expected). These findings indicate that cognitive changes occur in the hypnotic state which would benefit from further quantitative and qualitative research investigation.

5.3 Combined Interpretation and Relevance of the Findings

As a unified study, the development of the research questions for each part was inspired by the desire to explore significant hypnotic state shifts that might provide insights for psychotherapeutic applications and contribute to theory in the field. The aims of the combined research explored the state specific cognitive effects of hypnosis to determine how *trance logic* affects awareness and interpretation. The quantitative inquiry measured if the hypnotic state affects cognition and reasoning, while the qualitative inquiry explored how the hypnotic state is understood, interpreted and explained.

The combined inquiries provide some information about what attributes might characterise *trance logic* and the hypnotic state. The findings affirm that *trance logic* can be characterised by higher emotional empathy (compared to normal state of awareness), higher positive affect (compared to normal state of awareness), a higher tendency for strategy attributions for success scenarios (compared to progressive muscle relaxation), and a lower tendency for effort attributions for success scenarios (compared to progressive muscle relaxation). The qualitative part of the study added depth and nuance to these observed effects and tendencies by exploring the experiential qualities of the hypnotic state.

Research developments that have explored hypnosis have predominantly focused on cognitive behavioural effects (Lynn & Green, 2011). An emphasis has been placed on the potentially underrated value of the psychodynamic tenets within the hypnotherapeutic and general psychotherapeutic spheres. It seems that even though the discrepant socio-cognitive and dissociative theories of hypnosis continue to coexist, the attainment of a balanced understanding of the hypnotic state is necessary. Gruzelier (2000) has referred to hypnosis as an “altered state

of brain functional organization,” which involves connections between brain regions that are uniquely initiated by hypnotic intervention. He emphasises the need for research to approach this phenomenon through a multi-dimensional lens. The presented study adopted a mixed methods multi-dimensional approach to provide valuable insights about the hypnotic state.

The impact of hypnosis on attention has been investigated (MacLeod, 2011), finding that during the hypnotic state the capacity for reasoning and perception are significantly altered, when compared to the normal state of conscious awareness. This thesis and research is able to confirm and contribute to these investigations. Additionally, the concept of an authentic and involuntary experience during hypnotic induction, as discussed by Hauser, Hagl, Schmierer, & Hansen (2016), draws parallels with the current qualitative findings, which indicate the presence of spontaneous reactions, changes in thinking, and greater tolerance of ambivalent feelings. In a related study, Navaneethan (2012) explored the idea of changes in rational/irrational impulses during the hypnotic state through an examination of alterations in the components of psychic structure he refers to as the internal drive (ID), Ego and Super-Ego.

Empathy is considered a component of the interpersonal dimension and has been associated with the function of mirror neurons (Simpkins & Simpkins, 2012; Antonelli & Luchetti, 2010). These authors suggested that understanding origins of empathy is key to building a new paradigm for understanding the cognitive effects of the hypnotic state. The current research findings about emotional empathy provide insight into the shifts in empathic perception in the hypnotic state.

Alladin (2010), has emphasised the value of hypnotherapy for individuals with MDD. He posits that the relaxation response that is associated with the hypnotic state helps produce changes in

somatosensory perception. The presented quantitative and qualitative findings support this assumption. The heightened experience of positive affect found in Part One and the relaxation in the hypnotic state, described in Part Two, indicates these changes are significant and might explain the positive impact of hypnosis on MDD patients. Abramowitz and Bonne (2013) have outlined several clinical reports discussing the use of hypnotherapy in the effective management of PTSD. The researchers attribute hypnotherapy's exclusion from the therapeutic treatment for PTSD being due to the lack of evidence from controlled clinical trials. This lack of empirical clinical research seems to be evident across a range of psychological conditions and the need for further research is clear.

The current study incorporated the progressive muscle relaxation condition with the aim of comparing this to the hypnotic state. The quantitative findings from Part One have shown that there are significant differences between the conditions (independent variables) for some of the attributes measured (dependent variables). Dickson-Spillmann, Haug, and Schaub (2013) conducted a randomized clinical trial comparing the efficacy of a single session of hypnosis to group relaxation on smoking cessation. In summary, after a six-month follow-up period, there was little significant difference in the smoking cessation rate between the hypnosis and relaxation groups. However, the study showed that the individuals in the hypnosis group who abstained, experienced fewer withdrawal symptoms than those in the relaxation group. Similarly, Fox et al. (2015) have shown that both mindfulness and hypnosis have the capacity to change thoughts, feelings and behaviours by modifying attention, absorption, memory, imagination, and expectancy. They further emphasized the effectiveness of hypnosis and meditation practices in increasing cognitive-emotional flexibility. The findings presented in this thesis show that

differences between these states exist. However, the findings also suggest that it is necessary to continue research to better understand these differences and the potential similarities. Therefore, the finding from the presented research may serve as novel parameters for expansion and further study.

This work did not identify a statistical link between susceptibility to hypnotic suggestion and the propensity for participants to respond to the Part One tests, although the Part Two theme of ‘Not what was expected’ suggests that participants may have been more susceptible than they initially thought. Other research (Mohl, 2013) has found that individuals tend to underrate their capacity to be hypnotized until they actually experience the hypnotic state. In another study, participants of high and low hypnotic susceptibility were assessed on a temporal order judgment task (Naish, 2010). Brain asymmetry was found amongst hypnotically susceptible individuals and a difference in brain function was observed between people of low and high susceptibility. Therefore, it is possible that the impact of susceptibility to hypnotic suggestion influenced participant responses and perceptions in the current study. Extension of this research to include appropriate hypnotisability testing may help to determine if, and to what extent the cognitive changes found in this study are a function of hypnotisability.

The presented work builds on knowledge about processes that appear attributed to the hypnotic state. In doing so a better understanding of what aspects account for its effectiveness in psychotherapy can develop. The knowledge gained from this study has provided new insights that provide clarifications and hopefully prompt further research.

5.4 Implications for Psychology, Psychotherapy and Research

This mixed methods research has explored cognitive functioning during the hypnotic state and uncovered attributes that characterise *trance logic*. A quantitative examination and qualitative exploration found that state specific hypnotic effects exist and that they have an impact on perception and interpretation. The state specific theoretical stance addressed hypnosis as a particular altered state of consciousness with potentially measurable attributes. The research approach was inspired by previous research that aimed to develop a balanced understanding of the hypnotic process. This was contrary to a large portion of research in this field which concentrated on non-state effects following or as a result of hypnotic interventions. The aim of the study was to contribute to psychotherapeutic applications and the field of psychology, and in the following section I discuss whether and how this was achieved.

Considerations for Psychology and Psychotherapy

The findings from Part One are important in determining the perceptual changes that take place in the hypnotic state. From a therapeutic viewpoint, the findings provide valuable knowledge about the effects of hypnosis for psychotherapy. These effects are relevant for cognitive restructuring and subsequent behavioural change. Furthermore, hypnotherapeutic techniques focusing on empathic enhancement, for example, can be developed for patients exhibiting antisocial personality traits, where impairment of interpersonal functioning is present. Further research will be needed to investigate these possibilities for clinical practice; nevertheless, new knowledge about this brings hypnosis closer to positively impacting therapeutic outcomes for a wide range of mental conditions.

The current research builds on previous studies, which explored the impact of hypnosis on attention. Previous findings have shown that during the hypnotic state, reasoning and perception are altered. This thesis provides additional and novel insights about the characteristics of *trance logic* with respect to reasoning and perception. The themes that emerged have provided valuable information about the participants' perceived levels of awareness, analytical capacities and reasoning styles. This knowledge has potential for application in the therapeutic setting, for example, in the management of maladaptive cognitive and/or behavioural patterns.

Valuable theoretical considerations evolved from in-depth reflection on the outcomes of the quantitative and qualitative parts of the current study. Gaining a better understanding about how it differs or is similar to other states of awareness (progressive muscle relaxation and no treatment) provided novel insights. The findings along with the research discussed in the literature review indicate significant differences exist between hypnosis and progressive muscle relaxation regarding cognitive processes. The current findings offer insights for further research on the differences (i.e. empathic responding is elevated in hypnosis compared to progressive muscle relaxation) and potential similarities (positive affect is elevated during both hypnosis and progressive muscle relaxation). This assists the development of theoretical classification and an overall better understanding of the hypnotic state associated cognition.

The Value of Pilot Testing in Hypnosis Research

Upon beginning the main study of Part One, the benefits of conducting a pilot study became evident. When investigating the hypnotic state effects, the preliminary pilot provided critical

information about the methodology. It permitted preliminary analysis of the Part One hypotheses, which lead to the selection of a more appropriate assessment tool (the ASAT II instead of the ASAT III) and resulted in the inclusion of another dependant variable (Affect) and scale measure (the PANAS), which in the main study provided significant insights. The pilot study also provided an opportunity for sample size power calculations and facilitated a preliminary evaluation of the usefulness of the data. Prior research informed that the hypnotic state has the potential to make participant responding unpredictable and it was challenging to find hypnotised participants responding negatively to an otherwise well explored assessment measure such as the ASAT. Pilot testing proved a useful tool for testing out preliminarily aspects and obscurities.

Pilot testing also assisted with resolving procedural issues, specifically the issue with the regressive item on the SSHS:C the pre-experiment assessment measure that was initially planned. The issue posed a serious risk of creating psychological distress and so the test was omitted as this outweighed the potential benefit. When researching hypnotic states it is important to be extra careful because individuals in the hypnotic state are vulnerable to suggestion. Therefore, it is important to prioritise informed consent and competence, and to disclose as much information about the study as possible. Specifically, the aim of reducing the possibility of harm should be of upmost importance.

Considerations for Clinical Psychology Research

Knowledge gained from the current research might provide valuable insights for clinical psychology research, specifically regarding sociopathy and psychopathy, for example. The

Diagnostic Statistical Manual of Mental Disorders (DSM-5), considers sociopathy and psychopathy to be two types of anti-social personality disorder (APD). Individuals with APD are said to lack empathy (American Psychiatric Association, 2013) and the Psychopathic Personality Inventory (PPI) considers cold-heartedness to be an important trait of this condition. These individuals have been found to have weaker connections related to the emotional systems of the brain (Kiehl and Buckholtz, 2010). These individuals are said to lack shame, guilt, embarrassment and remorse. The findings from the current research show the hypnotic state enhances empathy and positive affect and it might be valuable to assess whether hypnotic state effects can moderate or enhance these emotional responses in APD.

Blame externalization and impulsivity are also said to be associated with APD individuals and the PPI considers them more likely to blame others in situations where they are at fault. Grandiose feelings of self-worth and achievement are also said to be distinguishing characteristics of these individuals. The findings from Part One and Two indicate that the hypnotic state alters attributional tendencies. It might be insightful to assess whether these APD tendencies can be changed with hypnotic intervention.

Failure of response modulation is also a manifestation of APD (Hiatt and Newman, 2006) with a deficient ability to alter activities and/or modulate responses, which depend on relevant peripheral influences. This is specifically measured by the Stroop test discussed in the literature review and sociopaths and psychopaths perform well on this test (Hiatt, Schmitt and Newman, 2004). The findings from Part Two suggest that the hypnotic state facilitates different thinking patterns and this signposts the need to investigate how the hypnotic state affects APD cognition

processes. If the hypnotic state is capable of modifying empathy, affect and attributional tendencies in sociopaths and psychopaths, hypnotherapeutic clinical applications could assist with the management of maladaptive cognitive and behavioural patterns associated with these conditions.

Hypnotherapy and Research in the United Kingdom

The National Health Service (NHS) website states hypnotherapy uses hypnosis to treat conditions and change habits and mentions that there are different types of hypnotherapy in which a hypnotherapist guides an individual into a trance-like state, where self-control is maintained (National Health Service, 2024). It stresses that hypnotherapy must not be incorporated into treatment for people presenting with psychosis or certain types of personality disorders, but does not clarify which disorders and why treatment should be avoided. It cautions hypnotherapy could make these conditions worse but does not describe how and which conditions in particular. It advises that in the UK hypnotherapists are not state regulated and hypnotherapy may be offered by people who are not medically or health trained professionals and that hypnotherapy is not available on the NHS. Arguably, from the review of the research literature in this thesis, it is not evident that hypnotherapy or hypnosis worsens clinical psychological conditions. The unclear perspective on hypnotherapy and lack of clarity in the description of hypnosis, suggests the NHS's knowledge about its application is limited.

The National Institute for Health and Care Excellence (NICE) aims to provide evidence-based healthcare guidance for practitioners to deliver the best possible care and effective treatments. NICE also strives to reduce inequalities and variation in healthcare (National Institute for Health

and Care Excellence, 2023). It positions psychological therapies as a first line treatment for adults in primary care and there are now a range of such approved therapies, the most prominent being cognitive behavioural therapy. Other therapies, such as hypnotherapy is not a NICE recommended therapy due to the lack of evidence based clinical trials and the limited meta research data available. This does not mean that hypnotherapy is ineffective but that its efficacy is not fully explored. NICE mentions the effective use of hypnotherapy in the treatment of irritable bowel syndrome but does not go beyond this.

The National Council for Hypnotherapy (NCH) holds one of the largest registers of independent hypnotherapists in the UK and strives to meet all the guidelines of the Complementary and Natural Healthcare Council. Along with the British Society of Clinical Hypnosis (BSCH), these professional bodies are involved in shaping the standards and future of hypnotherapy (National Council for Hypnotherapy, 2023). The NCH website lists health conditions for which hypnotherapy can be effective and describes the hypnotic state as being similar to daydreaming, in which relaxation is key. It describes how, in the hypnotic state, individuals can access the subconscious to facilitate desired change. However, there seems to be a lack of theoretical foundation for describing these important aspects, which weakens the acceptance of hypnosis as a valid therapeutic intervention. The current research contributes to building a theoretical foundation for understanding and describing the hypnotic state, what cognitive changes occur, and how or why it might be effective in psychotherapy.

5.5 Study Limitations

Personal experiences and behavioural predispositions might have played a role in the way the data was interpreted. It was undeniably challenging to approach the experiment and interviewing process without judgement or some form of expectation. These inclinations probably impacted the research outcomes by steering interpretation to some extent. Particularly in Part Two, the interpretation of someone's interpretation, about the hypnotic state, could have included some biases. Transference and countertransference might have interfered where the mere engagement with participants could have been subject to the unconscious influence of projection. The idea that meaning is not universal was considered here. The relay of information regarding what participants meant through their described perceptions, explanations and analogies, might have differed significantly from their genuine experience. As a result, the meaning gained from these descriptions may not be completely accurate. Specific technical limitations are discussed below.

Limitations Encountered in the Quantitative Part of the Study (Part One):

The study is limited by the relatively small sample size and cannot claim to be representative of a larger population, and therefore, the data is not generalizable. There is also the possibility that participants possessed biased outlooks as they were self-selecting volunteers, which might also have made them more prone to cognitive shifts during hypnotic induction. Nevertheless, the sample still provided insightful information about the hypnotic state relevant to the research aims. There was a specific focus on detecting if significant differences between conditions exist and Part One of the research successfully showed these differences.

The measures used in Part One posed some challenges. As described in Chapter Three, the poor reliability of the ASAT II led to the individual sub-scales being collapsed to form either success or failure scenarios without the reference to non-interpersonal versus interpersonal dimensions. However, normality was still not met for the collapsed self-attribution sub-scales. As a result, a non-parametric analysis was initially employed as a valid data analysis and provide accurate results. These results were later confirmed by a multi-variate analysis yielding the same results. Unlike the ASAT II, a normal distribution was met for the QMEE and PANAS measures and independent one-way ANOVA calculations were incorporated into the data analyses.

Limitations Encountered in the Qualitative Part of the Study (Part Two):

During this phase of the study research limitations are associated predominantly with the interpretations of the experiences of participants. Also, each of the participant's interpretations likely possessed some level of contextual influence. It is impossible to disregard the impact of pre-existing influences, such as associations with personal and pre-structured beliefs and attitudes. This was an inevitable limitation of qualitative work of this kind. It is impossible to accurately understand another individual's perspective. Personality and character might also influence the use of a particular analytical style over another (e.g. pessimism versus optimism). Unintentional behavioural cues from the researcher, through body language for example, could also have influenced certain participant response patterns. The potential effects of these influences were challenging and difficult to control for during the research.

A further challenge encountered during the qualitative analysis was instigated by incongruent research outcomes. The quantitative and qualitative findings concerning emotional empathy, showed contrasting results. It was expected that the Part Two interview participants would, in some way, overtly confirm the Part One emotional empathy results, but this did not occur. It was difficult to account for this discrepancy, although the themes of 'More level-headed interpretation' and 'Less extreme self-judgement' hint at a greater capacity for empathy. Further research might assist with providing some clarification with regard to the inconsistency.

5.6 Final Reflective Discussion

I believe that through reflection, you are granted the opportunity to become aware of limitations. This impacts perspective. Personal experiences and behavioural predispositions are likely to play a role in the way we interpret. As a result, it can become challenging to observe situations or approach an experiment as a blank slate. I think that for each individual, with a lifetime of learned values and personal perspectives, the capacity for reasoning becomes steered, in a particular direction. It is steered to make sense of observations. This inclination, however, can impact research initiatives, and in turn, limit the research outcomes. I found myself struggling with this concept throughout the current work.

Researchers are, first and foremost, human beings, and human beings are shaped, through experience. Habitual responses for each of us may differ and diverge, and the schemas involved are too complex to define effectively. Having considered this, I caught myself questioning if it is

even possible to truly understand another person's experience. I found myself in a constant battle with the thought that meaning is not universal. In other words, the researcher's construction of what the participant means, through their associations, explanations and analogies, might greatly differ from what the participant actually means. I also analysed whether my own personality and attributes might have brought a particular analytical style. I questioned whether a participant's learned attitude and their perception of me unconsciously influenced their response for a particular question. I realised that it might be impossible to ever know for sure how an individual's associations might influence perspective and analysis. Additionally, I acknowledged that individuals communicate not only through verbal speech but also through body language. As a result, behavioural cues might have their own set of inferences.

IPA is built on the researcher's own interpretation of the others' observations or experiences. It is understood that the interpretation of another's interpretation of a specific experience, is bound to possess some bias. I became aware that each of the participants' interpretations possessed some level of pre-structured disposition or context (or bias). I realised that it might be impossible to omit the influence of personal concepts. Here, I struggled with the idea that meaning, being subjective, threatens validity. I do not think that it is possible to know for certain, how and where others' meanings converge and diverge. It could be that individuals discuss concepts but never really truly understand what each other means. During the Part Two data analysis, I became aware that IPA possesses limitations, relating to unavoidable variations in meaning.

Nevertheless, there is great value in its uses. When exploring a unique phenomenon, such as hypnosis, IPA provides a deeper understanding of participants' lived experiences. This was confirmed in Part Two of the study where IPA provided valuable insights and introduced new

information for further research. Nevertheless, I caught myself questioning the validity of my own understanding of participants' descriptions and doubted the accuracy of my interpretations. The value of rich data from participant accounts may be a research strength of IPA but this could also be a weakness because of this room for idiosyncratic interpretation by the researcher.

In retrospect, if I was to re-do this research, I would do a few things differently. Specifically, in the experimental portion of the work (Part One), I would include a larger sample size with the aim of increasing precision (by reducing the effect of random variability), gaining greater statistical power, and reducing the impact of outliers. Additionally, a larger sample would provide better generalizability with a higher chance of more adequately representing the diversity of the population, and in turn strengthen the findings. I would also consider replacing the ASAT with another measure due to its poor reliability and difficulty with application in hypnosis. I would consider the Attribution Style Questionnaire (ASQ) as an alternative option. The ASQ is quite similar to the ASAT but shows more promise with regard to reliability and validity (Kneebone & Dewar, 2017). Nevertheless, the items of the ASQ resemble those of the ASAT version III, which was used in the pilot study, posing comprehensive challenges. It might be useful to consider the development of an attributional style measure that is suitable for hypnosis research – one that incorporates items that are easy to understand and communicate, to facilitate assessment. I would consider this in postdoctoral research.

Reflection on the Impact of this Research on Personal Practice

Undoubtedly, the presented research findings will impact my personal professional practice. The findings obtained from Part One will impact the way I structure hypnotic inductions. For

example, as I am now aware that empathy is increased during the hypnotic state, I will incorporate induction procedures that aim to increase empathic understanding, particularly for patients who struggle with a lack of empathy, including those who have anger or aggression towards an individual or a situation. Effectively navigating such patients through hypnosis to gain empathic insight could help to resolve cognitive and behavioral challenges associated with a lack of empathic ability. Similarly, because I've learned that the hypnotic state facilitates increased positive affect, I will consider structuring hypnotic inductions to focus on restructuring undesirable thoughts and reactions (i.e. phobias), while evoking positive feelings and emotions. This might also benefit those suffering from depression and anxiety as it could assist with reframing negative cognitive associations. Additionally, a reframe approach via hypnotic scripts might assist patients who struggle with negative attributional tendencies, such as over-valuing intrinsic impact on a negative life situation. Guidance towards a more balanced perspective during hypnosis may help to resolve maladaptive cognitive and behavioural patterns associated with limiting self-attributional tendencies.

In a more general sense, the observed differences during hypnotic interpretation encountered in Part Two revealed that when working with patients under hypnosis it is crucial to remain cognizant that hypnotic thinking and the experience of emotions might differ from a normal state of awareness. This *trance logic* not only requires a different approach towards patients during therapy, including unique ethical considerations, but also a different approach to communication as well as understanding. With regard to ethics, I will prioritise ensuring that each patient is well aware of the potential impact of the hypnotic state on memory (i.e. risk of spontaneous regression), interpretation, and the experience of emotions, for example. Part Two also

uncovered that when communicating with a hypnotized individual, patience is important as responding might be delayed or disorganised. I will avoid contradiction or correction of what is experienced, even if what a patient describes seems illogical and incorrect. The findings from this research have revealed that hypnotic thinking does not always neatly align with logic. Therefore, it seems unlikely that discrediting a patient's experience will yield a logical explanation. Inversely, it might promote confusion and a lack of understanding, which could hinder therapy. As a psychotherapist, I will continue to place myself in a similar frame of mind (i.e. through the use of similar language) in an effort to validate the patient's hypnotic experience, promoting acceptance and facilitating a positive therapeutic outcome.

5.7 Recommendations for Further Research

The research findings provide new knowledge in measuring and understanding the cognitive and perceptual changes that take place in the hypnotic state. They have the potential to initiate further research into how cognitive shifts can be induced by hypnosis and contribute to novel psychotherapeutic practice. From a clinical viewpoint, the study outcomes are relevant and provide valuable knowledge about the effects of the hypnotic state on cognition and perception and the potential for subsequent behavioral change.

The findings from Part One of the research show that emotional empathy is heightened in the hypnotic state and the above sections discuss how this could be useful to psychotherapy. Further research could uncover ways in which empathy could be modified through hypnosis for specific patient groups, specifically those with empathy impairment and presenting with antisocial

personality disorder. The same clinical research approach could also assess the hypnotic effects on affect and attributional style for people with mood disorders, for example.

The Part One of the research study showed that self-attributional style for success scenarios becomes altered by the hypnotic state. This was supported by the hypnotised participants' experiential accounts in Part Two, which indicated that a more level-headed and calm reasoning style operated during hypnosis. The interview participants also indicated that they were less self-judgemental when hypnotised. Further research in this area might provide valuable knowledge for organizational psychologists where attribution theory and motivation are studied. Research into attributional style might also contribute to the development of psychotherapeutic interventions that focus on modifying attributional tendencies. This could be useful in treating depressed individuals, as changes in attributional style have shown to impact mood.

Another facet that might be interesting to study is the potential impact of the hypnotic state on emotional intelligence. By identifying its therapeutic potential opportunities for developing strategies aimed at reshaping thought processes and behaviors are made possible. Such developments might facilitate knowledge about the management and resolution of undesired behavioral and thought patterns. Of course, extensive research, including longitudinal studies would be necessary to affirm such propositions. Nevertheless, gaining a deeper understanding of how individuals might interpret, analyse and respond during the hypnotic state, could provide valuable information about its parameters for theoretical and clinical development in psychotherapy as well as psychology as a whole.

5.8 Conclusion

This thesis has effectively examined, quantitatively and qualitatively, the cognitive effect of the hypnotic state on reasoning and perception, presented new knowledge and signposts for clinical practice and further research. The review of the research literature demonstrates that the psychotherapeutic application of hypnosis can be valuable in the treatment of a range of psychological and medical conditions. The thesis also highlights that the cognitive shifts that occur in the hypnotic state require further exploration, as most of the extant research, apart from neurological studies, has explored the post-hypnotic effects of hypnosis and shown little interest in exploring the potentially significant psychological changes that occur while in the hypnotic state. This thesis contributes to this body of work by multi-dimensionally examining the hypnotic state and its effects on cognition and has provided deeper understanding of hypnosis and its clinical possibilities.

This mixed methods research contributes to the development of a practical and theoretical framework, which posits state specific cognitive and perceptual effects of the hypnotic state. It has examined a number of hypnotic state specific effects, while considering the concept of *trance logic*. The findings yield new knowledge about how the hypnotic state affects cognitive functioning, specifically with regard to reasoning and interpretation. The experimental findings indicate that there is a statistically significant difference between hypnosis, progressive muscle relaxation and no treatment for emotional empathy, positive affect, and self-attribution. *Trance logic* is characterised by higher emotional empathy (in comparison to no treatment), higher positive affect (in comparison to no treatment), a higher tendency for strategy attributions for

success scenarios (in comparison to progressive muscle relaxation), and a lower tendency for effort attributions for success scenarios (in comparison to progressive muscle relaxation).

The presented work also explored the subjective experiences of individuals that were hypnotised, through analysis of retrospective accounts of state-specific hypnotic effects. A number of cognitive shifts attributed to the hypnotic state were depicted in the participants' descriptions of their lived experiences of being hypnotised. The themes developed from these descriptions provide insights into how emotions, thinking and reasoning are experienced during the hypnotic state. These insights provide support for the quantitative findings and also indicate the need for further research in this area.

In addition to theoretical development, a pragmatic approach was adopted to find practicality and significance from findings that could be useful in psychotherapeutic applications. This work has identified some potential cognitive restructuring competencies associated with the hypnotic state. These might not only be clinically valuable but also be indicative for further research. The presented work has built on previous research and provided novel parameters for further study of *trance logic* and the hypnotic state.

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Appendix A

Ethics Approval Letter



Research Ethics Committee

17th November, 2015

Post-graduate Application.

Dear Ksenia,

Thank you for your application to the Research Ethics Committee for ethical approval of the following research project:

Title of research proposed: Hypnosis, Empathy and Attribution

Date of submission: 25th October, 2015

Principal researcher: Ksenia Tchoubarova

Programme Director: Dr Tony Agathangelou

Supervisor: Dr Rosamond Watling

Advisor: Dr Amy Harrison

I am pleased to inform you that your proposed research project is deemed consistent with the University's Ethical Guidelines and Code of Practice for Research and has therefore been **approved**.

You may commence your research at any time from the date of this confirmation.
May I, on behalf of the committee, wish you well in your research.

Please note: you are required to return to the Committee should there be any significant departure from the research outlined in your application. Should there be any uncertainty concerning any proposed changes please do not hesitate to contact the committee.

A handwritten signature in black ink, appearing to read "Tony Agathangelou", with a long horizontal flourish extending to the right.

Dr Tony Agathangelou
Chair, Research Ethics Committee
Tel: 00 44 (0) 207 487 7585

Appendix B

Participant Information Sheet

Institution: The University of Wales & Regent's School of Psychotherapy and Psychology

Study Name: Hypnosis, Empathy, Attribution, and Affect

Principal Investigator: Ksenia Tchoubarova

Faculty Supervisor: Dr Rosamond Watling

PLEASE, READ THIS DOCUMENT CAREFULLY. YOUR SIGNATURE IS REQUIRED FOR PARTICIPATION. YOU MUST BE AT LEAST 18 YEARS OF AGE TO GIVE YOUR CONSENT TO PARTICIPATE IN RESEARCH. YOU WILL BE ASKED TO SIGN TWO COPIES OF THE CONSENT FORM IF YOU DECIDE TO TAKE PART IN THE STUDY; ONE COPY WILL BE YOURS TO KEEP AND THE OTHER COPY WILL BE LEFT WITH THE RESEARCHER.

Note: All research participation must be voluntary, and you have the right to withdraw at any time, without prejudice, should you object to the nature of the research. You are entitled to ask questions and to receive an explanation after your participation.

Description of the Study:

You are being asked to take part in a research study where a number of different kinds of psychological techniques and measures are being evaluated. To do this, you will be asked to express any of the following regarding the state of hypnotic trance: Attitudes and/or Feelings; Knowledge about Hypnosis and/or Expectations; Any Concerns; Any Other Questions.

Nature of Participation:

You will participate in two combined experimental sessions. The first session will be a pre-experimental condition, in which you will be invited to undertake an assessment of your level of susceptibility to hypnotic suggestion – this relates to the initial 6 participants from the pilot study, only. In the assessment session, you will be asked to participate in either (a) a hypnotic induction, (b) a relaxation procedure, or (c) a neutral activity, and will be orally guided through a series of psychometric questions associated with perception.

Note: Further, you may be invited for an interview to discuss your general experience of the study.

Purpose of the Study:

To evaluate several psychological measures, and the possible relations between them. The aim of the study is to explore some general information about hypnotic suggestion and cognitive functioning when compared with other states of conscious awareness. The research interest relies only on an evaluation of these variables, and how they may be related to one another.

Time Commitment:

The study is estimated to take approximately 50 minutes per session (spanning across two sessions, separated by a 15-minute intermission, for the initial 6 participants in the pilot study).

Note: You will be asked if you would be willing to participate in a short interview (approximately 20-30 minutes) within the following months. For this, a Skype or telephone interview can be arranged.

Unlikely but Possible Risks:

- ❖ The hypnotic state is a state of consciousness, which is considered to be generally safe. The most likely impact on participants of the research during hypnosis is a sense of deep relaxation. Nevertheless, possible side effects include; mild discomfort, dizziness, emotionality, anxiety, spontaneous regression (rare), tiredness, extreme relaxation, panic, loss of concentration, and temporary confusion.
- ❖ When guided through psychometric questioning, it is possible that you might interpret some aspects of the content as unpleasant, upsetting, or disinteresting. For example, some descriptions may cause you to think of subjectively negative emotional states. Please be reminded that you always have the option of skipping certain questions and/or descriptions.
- ❖ You will be asked to provide some potentially confidential information about yourself and your perceptions.

Possible Benefits:

- ❖ When your participation is complete, you will be given an opportunity to learn more about this research as well as hypnosis, which may be useful for your own personal development.
- ❖ You will have an opportunity to contribute to the present ongoing research in hypnosis, psychotherapy and psychology, by participating in this study.
- ❖ You will have the chance to experience the hypnotic trance state and/or deep relaxation.

Compensation for your Time:

- ❖ Refreshments will be available during the entirety of the experiment.
- ❖ You will have the option to request a uniquely tailored post-hypnotic suggestion or to explore a personal theme of interest, while in hypnotic trance.

- ❖ You will receive a complimentary hypnotic induction recording after participating (please, make this known to the researcher in order to receive the recording electronically).

Confidentiality:

You will be assigned a code number, which will protect your identity. All data will be kept in secured files, in accord with the standards of the University. All identifying information will be removed from questionnaires as soon as the study is complete. No one will be able to access your responses, except for the researcher. Please, note that those participating in the second part (interviewing) of the study will be audio recorded for the purpose of this research only; this is relevant for those in the hypnosis condition. All recordings will be discarded after the study is completed. Each participant has the right to decline this proposition and to continue participating without being audio recorded. Participants may request a copy of the audio recording.

Opportunities to Withdraw at will:

If you decide now or at any point to withdraw or stop participating, you are free to do so at no penalty to yourself. You are free to skip specific questions and continue participating at no penalty.

Opportunities to Question:

Any technical questions about this research may be directed to the PhD Supervisor (Dr Rosamond Watling, Email: watlingr@regents.ac.uk).

Interested in Staying Informed about the Results?

If you wish to be informed of the results regarding this research, please advise the principal investigator (Ksenia Tchoubarova)

Your signature below indicates that you voluntarily agree to participate in this study.

Dated:

Signature of Participant:

Appendix C

Participant Consent Form

Regent's University London
School of Psychotherapy and Psychology
Written Informed Consent – Psychology Department

Title of study: Hypnosis, Empathy, Attribution, and Affect
Researcher's name: Ksenia Tchoubarova
Supervisor's name and email: Dr Rosamond Watling (watlingr@regents.ac.uk)

- ☐ I have understood the details of the research project as explained to me by the researcher, and confirm that I consent to act as a participant.
- ☐ I have been given contact details for the researcher in the information sheet.
- ☐ I understand that my participation is entirely voluntary, the data collected during the research will not be identifiable, and I have the right to withdraw from the project at any time without any obligation to explain my reasons for doing so.
- ☐ I further understand that the data I provide may be used for analysis and subsequent publication, and I provide my consent that this may occur.

Name

Signature

Date: _____

To the participant:

Data may be inspected by the Chair of the Psychology Ethics Committee, Programme Director, Head of School and the Chair of the University Research Ethics Committee, if the University is required to undergo an institutional audit of its ethical procedures – this would happen in strict confidentiality.

- ☐ Please tick here if you *do not* wish your data to be included such audits.

Appendix D

Participant Debriefing Form

Hypnosis, Empathy, Attribution, and Affect

Ksenia Tchoubarova, Candidate for a PhD in Psychotherapy and Counselling Studies, University of Wales & Regent's School of Psychotherapy and Psychology

Rosamond Watling, Ph.D., Supervisor, Regent's University London; School of Psychotherapy and Psychology

During this study, participants were initially asked to undertake an evaluation of their capacity for hypnotic suggestibility, through the application of the Stanford Scale of Hypnotic Susceptibility, Form C (this is only relevant for the selected few who have participated in the pilot study). Following this, participants were randomly divided into three conditions, which make up the neutral activity group, the hypnotic induction group and the relaxed group. Participants in the neutral activity group were asked to pass time (approximately 40 minutes) reading through the available magazines. Participants in the hypnotic induction group were guided into a moderate to deep state of hypnotic trance through formal hypnotic induction, in which the qualified clinical hypnotherapist utilized the rapid eye movement induction, followed by a two-stage dissociation, favorite place deepener, and the countdown deepener. Participants in the relaxed group were guided through a progressive muscle relaxation script. All groups were then equally exposed to three psychometric questioning procedures; the Attribution Style Assessment Test II (modified) and the Questionnaire Measure for Emotional Empathy, as well as the Positive and Negative Affect Schedule (this is not applicable to the initial six participants in the pilot study).

The purpose of this research is to look at the potential relationships between hypnotic trance, emotional empathy, self-attribution and affect. Hypnosis is expected to be associated with higher levels of emotional empathic interpretation and a reduced tendency to assert intrapersonal failures to ability. Additionally, hypnotised individuals are hypothesized to exhibit higher scores for positive affect and lower scores for negative affect, when compared with non-hypnotised and relaxed participants.

This study's aim is to build on knowledge pertaining to the interaction between emotional intelligence, affect, empathic understanding, and attribution, while considering hypnotic trance as a state specific phenomenon. This research focus may be capable of making some significant contributions to a greater theoretical understanding of the cognitive effects, which may have some valuable associations with the hypnotic trance state, specifically with regard to perception, judgment and reasoning.

Thank you for participating in this study. If you have any questions in reference to the research, please make this known now or at your convenience. You are welcome to share your general experience regarding the study. What were your expectations? Was there any part of the study

that was particularly challenging? Is there anything that you would change about the study? If you would like to discuss the final results, please advise us of this and we will make the necessary arrangements after the completion of the research (Date TBD). If you have any questions or concerns, please contact Dr Rosamond Watling (watlingr@regents.ac.uk) or Ksenia Tchoubarova (S00606772@regents.ac.uk).

For a brief overview of Clinical Hypnosis, please refer to the accompanying information sheet provided by the British Society of Clinical Hypnosis.

If you would like to learn more about clinical and experimental hypnosis, the following references may be of interest to you:

Yapko, Michael D. (2012). Trancework: An Introduction to the Practice of Clinical Hypnosis. Retrieved from <http://www.ebilib.com>" <http://www.ebilib.com>

Hammond, D. C. (2015). Defining hypnosis: An integrative, multi-factor conceptualization. *American Journal of Clinical Hypnosis*, 57(4), 439-444.
doi:10.1080/00029157.2015.1011496

Thank you for your participation!

Appendix E

Breakdown of the Stanford Scale of Hypnotic Susceptibility (Form C)

SSHS:C Checklist of Materials & Test Items:

- ❖ Two chairs for subject (recliner and side chair)
- ❖ Desk and chair for experimenter
- ❖ Tape recorder and tape for recording session (optional)
- ❖ Black (or other contrasting color) pin installed appropriately on wall
- ❖ Pencil well prominently displayed on desk, containing at least two pencils (for posthypnotic suggestion)
- ❖ Consent form
- ❖ Watch with second hand
- ❖ Pad of unlined paper and soft lead pencil (for age regression)
- ❖ Bottle containing oil of peppermint, hidden from view (for anosmia item)
- ❖ Three boxes mounted on plastic, hidden from view (for negative visual hallucination)
- ❖ "PRE" and "POST" forms for recognition testing of amnesia (optional)

SSHS:C (Score + or – for pass or fail, respectively):

Note: check for contacts, chewing gum, tobacco, etc.

(0) Black Pin ‘TARGET’ (The goal is to tire the eyes. Incorporate Hartland’s progressive muscle relaxation & the count up from 1 to 20 as a deepener. Give the suggestion that the participant will be able to speak and communicate.

(1) Hand Lowering

(2) Moving Hands Apart

(3) Mosquito Hallucination

- (4) Taste Hallucination
- (5) Arm Rigidity
- (6) Dream
- (7) Age Regression – Instead of grades, try to incorporate specific ages to avoid cultural confusion.
- (8) Arm Immobilization
- (9) Anosmia – Vinegar Substitute
- (10) Hallucinated Voice
- (11) Negative Visual Hallucination – White circle substitute for black boxes & Subjective Rating of own hypnotic depth.
- (12/13) Post Hypnotic Suggestion & Amnesia

Appendix F

Questionnaire Measure for Emotional Empathy (QMEE)

Please, rate the following statements on a scale of - 4 to + 4. Where, - 4 represents a very strong disagreement and + 4 represents a very strong agreement. 0 represents a neutral position...

- (1) It makes me sad to see a lonely stranger in a group.
- *(2) People make too much of the feelings and sensitivity of animals.
- *(3) I often find public displays of affection annoying.
- *(4) I am annoyed by unhappy people who are just sorry for themselves.
- (5) I become nervous if others around me seem to be nervous.
- *(6) I find it silly for people to cry out of happiness.
- (7) I tend to get emotionally involved with a friend's problems.
- (8) Sometimes the words of a love song can move me deeply.
- (9) I tend to lose control when I am bringing bad news to people.
- (10) The people around me have a great influence on my moods.
- *(11) Most foreigners I have met seemed cool and unemotional.
- (12) I would rather be a social worker than work in a job-training center.
- *(13) I don't get upset just because a friend is acting upset.
- (14) I like to watch people open presents.
- *(15) Lonely people are probably unfriendly.
- (16) Seeing people cry upsets me.
- (17) Some songs make me happy.
- (18) I really get involved with the feelings of the characters in a novel.
- (19) I get very angry when I see someone being ill-treated.
- *(20) I am able to remain calm even though those around me worry.
- *(21) When a friend starts to talk about his problems, I try to steer the conversation to something else.
- *(22) Another's laughter is not catching for me.
- *(23) Sometimes at the movies I am amused by the amount of crying and sniffing around me.
- *(24) I am able to make decisions without being influenced by people's feelings.

(25) I cannot continue to feel OK if people around me are depressed.

*(26) It is hard for me to see how some things upset people so much.

(27) I am very upset when I see an animal in pain.

*(28) Becoming involved in books or movies u a little silly.

(29) It upsets me to see helpless old people.

*(30) I become more irritated than sympathetic when I see someone's tears.

(31) I become very involved when I watch a movie.

*(32) I often find that I can remain cool in spite of the excitement around me.

*(33) Little children sometimes cry for no apparent reason.

To Score: Reverse the scores of the starred questions and find the total algebraic sum of all responses.

Appendix G

Description of the QMEE

The purpose of the scale: To assess emotional empathy, which is defined as "a vicarious emotional response to the perceived emotional experiences of others."

Questions: 33 items

7 sub-scales:

- ❖ Susceptibility to emotional contagion
- ❖ Appreciation of the feelings of unfamiliar and distant others
- ❖ Extreme emotional responsiveness
- ❖ Tendency to be moved by others' positive emotional experiences
- ❖ Tendency to be moved by others' negative emotional experiences
- ❖ Sympathetic tendency
- ❖ Willingness to be in contact with others who have problems

Sample Items:

1. The people around me have a great influence on my moods. (Susceptibility to emotional contagion)
2. Lonely people are probably unfriendly. (Appreciation of the feelings of unfamiliar and distant others) (reverse scored)
3. Sometimes the words of a love song can move me deeply. (Extreme emotional responsiveness)
4. I like to watch people open presents. (Tendency to be moved by others' positive emotional experiences)
5. Seeing people cry upsets me. (Tendency to be moved by others' negative emotional experiences)
6. It is hard for me to see how some things upset people so much. (Sympathetic tendency)
7. I would rather be a social worker than work in a job training center. (Willingness to be in contact with others who have problems)

Source: http://www.sjdm.org/dmidi/Questionnaire_Measure_of_Emotional_Empathy.html

Appendix H

Attribution Style Assessment Test, Version II (ASAT-II)

Pre-experiment: Random placement into the hypnotic condition, PMR or the neutral condition (magazine reading).

Time Commitment: Fifty minutes (Approximately)

Hypnosis Condition:

- (I) Rapid Eye Movement & Two-Stage Hypnotic Inductions...
- (II) Countdown Deepener 10 to 1...
- (III) Favorite Place Deepener...

PMR Condition:

- (I) PMR Script

Neutral Condition:

- (I) Neutral Task (Read magazines to pass time)

Start of Assessment: ASAT II (modified)

“Imagine yourself in the following scenarios.”

(2) You have just failed at coordinating an outing for a group of people you like very much. Which of the following three reasons best accounts for this outcome?

- A. I am not very good at arranging social events.
- B. I did not stress the importance of everyone pitching in.
- C. I did not try hard enough to coordinate everyone involved.

(7) In a memory experiment, where your task was to memorize pairs of words, you did not memorize enough of the pairs to be included in a follow-up study. Which of the following three reasons best accounts for this outcome?

A. I am not good at memorization tasks.

B. I did not try very hard to memorize the word pairs.

C. I used the wrong memorization technique for this kind of memory task.

(8) You went out on a blind date and enjoyed yourself. Which of the following three reasons best accounts for this outcome?

A. I tried to relax and enjoy myself.

B. I am good at relaxing and enjoying myself in this kind of a situation.

C. I kept the conversation going and found myself relaxing and enjoying myself.

(9) In an attempt to save money for a large, special purchase, you have set a carefully planned budget. Month after month you find you have gone over your budget. Which of the following three reasons best accounts for this outcome?

A. I just cannot stay within tight spending limits.

B. I did not use the right techniques to prevent wasteful spending.

C. I did not try hard enough to stay within my budget.

(10) Over vacation you have gained a few pounds, and set a goal of losing them by mid-quarter. At mid-quarter the extra weight is still with you. Which of the following three reasons best accounts for this outcome?

A. I did not try hard enough to lose the weight.

B. I did not use the right weight reduction method.

C. I am just not good at controlling my weight.

(12) You find yourself enjoying some social activity most every Saturday night. Which of the following three reasons best accounts for this outcome?

A. I always contact my friends early in the week to arrange an activity.

B. I put a lot of effort into arranging social activities.

C. I am good at planning social activities.

(15) You have just succeeded at completing the crossword puzzle in the daily newspaper. Which of the following three reasons best accounts for this outcome?

A. I put a lot of effort into completing the puzzle.

B. I am good at crossword puzzles.

C. I used the right approach to solving the puzzle.

(16) You have just succeeded at resolving an argument with a close friend. Which of the following three reasons best accounts for this outcome?

A. I used a conciliatory approach and it worked.

B. I put a lot of effort into resolving this argument.

C. I am good at resolving such arguments.

(19) You have failed to complete the crossword puzzle in the daily newspaper. Which of the following three reasons best accounts for this outcome?

A. I did not try very hard to complete the puzzle.

B. I am not very good at crossword puzzles.

C. I did not use the right approach to solving the crossword puzzle.

(20) You have just succeeded at coordinating an outing for a group of people you like very much. Which of the following three reasons best accounts for this outcome?

A. I am good at arranging social events.

B. I stressed the importance of everyone pitching in.

C. I put a lot of effort into coordinating everyone involved.

(24) In a memory experiment, where your task was to memorize pairs of words, you memorized enough of the pairs to be included in the follow-up study. Which of the following three reasons best accounts for this outcome?

A. I am good at memorization tasks.

B. I put a lot of effort into memorizing the word pairs.

C. I used the right memorization technique for this kind of memory task.

(25) You have just failed to resolve an argument with a close friend. Which of the following three reasons best accounts for this outcome?

A. I was too argumentative and not conciliatory enough.

- B. I did not try very hard to resolve the argument.
- C. I am not good at resolving such arguments.

(28) You went out on a blind date and you were unable to relax and enjoy yourself. Which of the following three reasons best accounts for this outcome?

- A. I did not really try to relax and enjoy myself.
- B. I cannot relax and enjoy myself in this kind of situation.
- C. I talked too much and did not give myself a chance to relax and enjoy myself.

(31) In an attempt to save money for a large, special purchase, you have set up a carefully planned budget. Month after month you find that you have stayed well within your budget. Which of the following three reasons best accounts for this outcome?

- A. I am good at staying within the set limits.
- B. I used the right technique to prevent wasteful spending.
- C. I put a lot of effort into staying within my budget.

(35) Over vacation you have gained a few pounds, and set a goal of losing them by mid-quarter. At mid-quarter the extra weight is all gone. Which of the following three reasons best accounts for this outcome?

- A. I tried very hard to lose the weight.
- B. I used the right weight reduction method.
- C. I am good at controlling my weight.

(36) You find yourself alone on a Saturday night and regret that you had not arranged to do something with a friend. Which of the following three reasons best accounts for this outcome?

- A. I did not contact my friends soon enough to arrange an activity.
- B. I did not try very hard to make any arrangements.
- C. I am not good at planning social activities.

Appendix I

ASAT-II Item Explanation

This adjustment incorporates the following items extracted from the original ASAT II: 2, 7, 8, 9, 10, 12, 15, 16, 19, 20, 24, 25, 28, 31, 35, and 36.

The negative/positive pairs from the above items are as follows:

2 & 20

7 & 24

28 & 8

9 & 31

10 & 35

36 & 12

19 & 15

25 & 16

Scoring: the verbal responses are recorded, clarified with the ASAT II response options, and calculated accordingly.

Scoring for Item Forced Choice Attributional Style Assessment Test (ASAT II):

(I) Three choices (strategy, ability, effort) are randomly ordered for each item:

1. SEA – 12, 16, 25, and 36

2. ASE – 2, 9, 20, and 31

3. SAE - NONE

4. EAS – 8, 15, 19, and 28

5. AES – 7 and 24

6. ESA – 10 and 35

(II) The classifications of these selected items, by type, are as follows:

Interpersonal Failure: 2, 25, 28, and 36

Interpersonal Success: 8, 12, 16, and 20

Non-interpersonal Failure: 7, 9, 10, and 19

Non-interpersonal Success: 15, 24, 31, and 35

Appendix J

The Positive and Negative Affect Schedule (I-PANAS-SF)

PANAS Questionnaire

This scale consists of a number of words that describe different feelings and emotions. The researcher is to read each item and then list the number from the scale below, which corresponds to the participants response, next to each word.

Indicate to what extent you feel this way right now, that is, at the present moment

OR

Indicate the extent you have felt this way over the past week

Note: It is always necessary to circle the instructions that were followed when applying this measure. For the purpose of the proposed research, a present moment approach was applied for all participants.

Scoring Legend:

- 1 – Very Slightly or Not at All
- 2 – A Little
- 3 – Moderately
- 4 – Quite a Bit
- 5 – Extremely

Positive & Negative Affect Words:

- 1. Interested
- 2. Distressed
- 3. Excited
- 4. Upset
- 5. Strong
- 6. Guilty
- 7. Scared
- 8. Hostile
- 9. Enthusiastic
- 10. Proud

- 11. Irritable
- 12. Alert
- 13. Ashamed
- 14. Inspired
- 15. Nervous
- 16. Determined
- 17. Attentive
- 18. Jittery
- 19. Active
- 20. Afraid

Scoring Instructions:

Positive Affect Score

Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Mean Scores: Momentary 29.7 (SD 7.9); Weekly 33.3 (SD 7.2).

Negative Affect Score

Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: Momentary 14.8 (SD 5.4); Weekly 17.4 (SD 6.2).

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Appendix K

Hypnotic Induction Scripts & Deepeners

Induction Scripts: Rapid Eye Movement & Two-Stage Dissociation

Apply the Rapid Eye Movement induction by asking the participant to follow your two fingers (the index finger and middle finger) from left to right, in an effort to tire the eyes. You can give suggestions that the eyes are becoming heavy, tired and wanting to close. Guide the participant to close the eyes should they not close naturally.

Important note: Do not apply the Rapid Eye Movement Induction if the patient is wearing contacts and/or has an eye injury; proceed directly to the Two-Stage Dissociation.

“... make yourself comfortable ... and close your eyes ... let them close ... and I would like you to imagine ... only imagine ... that you are floating out of your body ...”

“... floating right out of your body ... and you will let me know when you had done so ... by a slight nod of your head ... but there is no hurry ... take all the time you like ...”

Wait for the signal

“... that's right ... and you can continue floating ... away from here ... far ... far away from here ... and you can go anywhere you like ... maybe a favourite place of relaxation ... where you can feel comfortable and at ease ... safe and secure ... fully in control ... feeling good and relaxed ... feeling good about yourself and everything around you ... and you will let me know when you are there ... by a slight nod of your head again ...”

Wait for the signal

“... that's right ... and NOWwww ... I would like you to imagine ... that you are looking at a television set ... with a large blank screen ... and in a few moments time ... I am going to ask you to switch on the T.V. set ... and what you will see on the screen ... will be very interesting to you ... you will enjoy watching ... what you see ... and your head will nod again ... when the set is switched on ...”

Describe any situation by talking in the third person, such as the following example. It is necessary to dress the fictional character in the same clothes as the participant.

Example:

“... and see that woman in the navy skirt and jumper ... taking a leisurely walk ... enjoying the sights ... and sounds of the city ... and she looks good ... and you know she feels good as she continues her walk ... and her walk is now taking her towards a large square ... you recognise it as Trafalgar Square ... calmly watch that woman ... and you see her walk towards a pigeon ...”

and the pigeon at first begins to walk away from her ... and then ... it starts to fly away from her ... AWAY ... and she seems strangely pleased at that ... so pleased that she hardly notices the cluster of birds ... that are also flying away ... AWAY ... and the birds are looking smaller and smaller ... the fluttering of their wings become ever less audible ... she can hardly hear them now ... and YOU know ... that she will always remember ... that birds will ALWAYS fly away from her ... AWAY ... AWAY ... and you can wonder ... how soon before she'll hardly notice them ... and it does not matter where she is from now on ... who she is with ... or what she is doing ... she will know ... that birds always fly away ... ”

Deepening: Countdown from Ten to One

... in a few seconds' time... you will hear me count down from ten to one... and with each descending number... between ten and one... you are going to become one-tenth more relaxed... ten percent more relaxed... with each descending number...

... and each descending number... will help you go ... one-tenth deeper... into that wonderful... hypnotic state of relaxation... the light trance state that in any event... will become deeper and deeper... as we go on...

... and if... while I am counting... you experience a slight... though very pleasant... physical sensation... as if you were floating... floating down... that will be fine... it only means that you are drifting... into an ever-deepening state... of physical and mental relaxation... that will become deeper... and deeper... as we go on...

... so, ready... ten... nine... and deeper and deeper... eight... seven... six... drifting down... ever deeper relaxed... five... four... three... and deeper and deeper still... two... one... all the way, deep down relaxed...

Deepening: Favorite Place of Relaxation

This approach was used as a deepener to create a safe place for the participant, which they were able to re-visit during the entire session. The qualified practitioner was aware that some people might have negative associations with stairs. Therefore, an adaptation of this detail was considered.

... I would like you to imagine... that you are standing on a balcony... and there is a long set of stairs... leading down from the balcony... and there is as yet no need for you to see... where these stairs are leading to... and they are strong stairs... with wide steps... and a handrail too... well lit... so that you can see clearly... and in a few seconds time... I am again going to count down from ten to one... but this time... with each descending number... you not only go deeper relaxed... but you take a single step down... from the balcony... and you will feel a curious sense of excitement with each step... and when you reach the last step... I will ask you to pause for a while... and you can wonder... where you are going next... I will then ask you to step off... and when you do... you will find yourself in your favorite place of relaxation...

... so, ready... take that first step down... ten... nine... and another step down... eight... seven... six... and it is so nice to enjoy walking down... five... four... three... and... another step... another step down... two... one... and resting... wondering... where you go next...

Pause for ten seconds...

... and you can... step off... now... and into your very own favorite place of relaxation... and enjoy... this wonderful place....

Pause for ten seconds...

Awakening (Post Psychometric Assessment):

... and now... I am going to wake you... in a few seconds time... you will hear me count... from one to ten... you will slowly awaken... with each number... and at the count of eight... you will open your eyes... and by the count of ten... you will be fully wide awake... you will wake up feeling fine... with a feeling of well-being... all over... a feeling of well-being... every part of you will be back here with me in the present... and all normal sensations will return to your limbs... and you will be fully wide awake by the count of ten... you will feel fine.. refreshed... feeling better... and more optimistic... than you felt in a long... long time... so... as I count from one to ten... so you become more and more awake with each number... and at the count of eight... you will open your eyes... and at the count of ten... you will be fully wide awake...

... so... ready... one... two... three... WAKING UP... four... five... six... WAKING UP... seven... eight... OPEN YOUR EYES... nine... ten... WIDE AWAKE... WIDE AWAKE... WIDE AWAKE...

Appendix L

Progressive Muscle Relaxation Script

Find yourself a quiet place to relax. Turn off your phone and dim the lights. This is your time...a time for complete and utter relaxation.

For this relaxation, you can either sit or lie down. Just make sure that you are warm enough, and that you are comfortable. Let your hands rest loosely in your lap, or by your side. Now close your eyes.

Become aware of your breathing, and notice how your abdomen rises and falls with each breath...

Now take a long slow deep breath in through your nose, all the way down into your stomach. Hold the breath for just a moment, and then exhale through your mouth. Allow your breath to carry away all stress and tension as the air floods out of your lungs.

Take another slow breath in through your nose. Fill your lungs completely. Hold it for a moment...and release the breath through your mouth. Empty your lungs completely.

Take a third deep breath in. Hold it for a moment, and then let it go.

Feel that your body has already undergone a change. The tension in your body has begun to loosen and subside.

Now let your breathing rhythm return to normal...and relax....

During this relaxation I will ask you to tense various muscles throughout your body. Please do this without straining. You do not need to exert yourself, just contract each muscle firmly but gently as you breathe in. If you feel uncomfortable at any time, you can simply relax and breathe normally.

Bring your awareness to your feet and toes. Breathe in deeply through your nose, and as you do, gradually curl your toes down and tense the muscles in the soles of your feet. Hold your breath for just a few seconds and then release the muscles in your feet as you breathe out. Feel the tension in your feet wash away as you exhale. Notice how different your feet feel when tensed and when they are relaxed.

Take another deep breath in again, tense the muscles in the soles of your feet and hold this position for a few seconds.

Now release. Feel yourself relaxing more and more deeply with each breath. Your whole body is becoming heavier, softer and more relaxed as each moment passes.

Now bring your awareness to your lower legs...to your calf muscles. As you draw in a nice deep breath, point your toes up towards your knees and tighten these muscles. Hold for just a moment, and then let those muscles go limp as you exhale.

Once again, draw in a deep breath...and tighten your calf muscles. Hold for a few seconds, and then let it all go. Feel your muscles relax, and feel the tension washing away with your out-breath.

In a moment you will tense the muscles in the front of your thighs. If you are lying down, you can do this by trying to straighten your legs. You'll feel the muscles pulling your knee-cap upwards. If you are seated, you can tense these muscles by pushing your heels down onto the floor.

Take a deep breath in and tense the muscles in your thighs. Hold for just a moment, and then release everything. As you do this, the blood flow to your muscles increases, and you may notice a warm tingling sensation. Enjoy this feeling of soothing relaxation in your thighs.

Again, breathe in deeply and tighten your thigh muscles. Hold for a moment. Now release. Focus on letting your muscles go limp and loose.

Draw in a nice deep breath and gradually tighten the muscles in your buttocks. Hold this contraction for a few seconds, and then release your breath. Feel the tension leaving your muscles. Feel them relaxing completely.

Once more, breathe in deeply and tighten the muscles in your buttocks. Hold for a moment. Now release them. You are becoming more and more deeply relaxed.

Take another breath, and this time, gradually tighten all the muscles in your legs, from your feet to your buttocks. Do this in whatever way feels natural and comfortable to you. Hold it...and now release all these large strong muscles. Enjoy the sensation of release as you become even more deeply relaxed.

Now bring your awareness to your stomach. Draw in a nice deep breath and then tighten these muscles. Imagine you are trying to touch your belly button to your spine. Now release your breath and let your muscles relax. Notice the sensation of relief that comes from letting go.

Once again, draw in a deep breath and then tighten your stomach muscles. Hold for a few seconds... and then let them relax as you exhale and release all tension.

Bring your awareness to the muscles in your back. As you slowly breathe in, arch your back slightly and tighten these muscles.... Now release your breath and let your muscles relax.

Again, draw in a deep breath and then tighten your back muscles. Hold for a few seconds...and then let them relax and release.

Now give your attention to your shoulder muscles and the muscles in your neck. As you slowly draw in a nice deep breath, pull your shoulders up towards your ears and squeeze these muscles firmly. Now breathe out completely, and allow your contracted muscles to go loose and limp.

Again, pull your shoulders up towards your ears and squeeze these muscles firmly. Now feel the tension subside as you relax and breathe out.

Feel the heaviness in your body now. Enjoy the feeling. Feel yourself becoming heavier and heavier. Feel yourself becoming more and more deeply relaxed.

You are calm, secure, at peace.

Now it's time to let go of all the tension in your arms and hands. Let's start with your upper arms.

As you breathe in, raise your wrists towards your shoulders and tighten the muscles in your upper arms. Hold that breath and that contraction for just a moment...and then gently lower your arms and breathe all the way out. You may feel a warm, burning sensation in your muscles when you tighten them. Feel how relaxing it is to release that tightness and to breathe away all tension.

As you curl your upper arms again, tighten the muscles as you breathe in. Breathe in deeply. Now relax your arms and breathe out.

Now bring your awareness to your forearms. As you breathe in, curl your hands inwards as though you are trying to touch the inside of your elbows with your fingertips. Now feel the tension subside as you relax and breathe out.

Again, take a deep breath in, and tighten the muscles in your forearms. Hold it for a moment, and then release them. Feel the tension washing away.

Now, take another breath in and tightly clench your fists. When you have finished breathing in, hold for just a few seconds, and then release. Notice any feelings of buzzing or throbbing. Your hands are becoming very soft and relaxed.

Take another deep breath in and clench your fists again. Hold for just a few seconds, and then release. Let your fingers go limp.

Your arms and hands are feeling heavy and relaxed.

Take a couple of nice long slow breaths now, and just relax. Feel yourself slipping even deeper into a state of complete rest.

Now tighten the muscles in your face by squeezing your eyes shut and clenching your lips together. As you do, breathe in fully. Hold it...now breathe out and relax all your facial muscles. Feel your face softening.

Once more, breathe in deeply while you scrunch the muscles in your eyes and lips.... and release.

Now bring your awareness to the muscles in your jaw. Take a deep breath in, and then open your mouth as wide as you can. Feel your jaw muscles stretching and tightening. Now exhale and allow your mouth to gently close.

Again, fill your lungs with air and then open your mouth wide. Now let your mouth relax and let your breath flood all the way out.

You are now completely relaxed from the tips of your toes to the top of your head.

Please take a few more minutes to rest. Relax. Listen to the sound of your breathing and enjoy the lovely, warm sensation of physical relaxation. If you have the time, feel free to fall asleep. You will wake feeling completely rejuvenated and relaxed.

Source: <http://www.baylor.edu/content/services/document.php/183466.pdf>

Appendix M

Power Analyses for ANOVA Designs Sample (QMEE Scores)

The power calculations were carried out online. The website where the calculations were run is <https://www.datavis.ca/online/power/index.html>. The online form uses a SAS program that calculates power or sample size needed to attain a given power for one effect in a factorial ANOVA design. The program is based on specifying Effect Size in terms of the range of treatment means, and calculating the minimum power, or maximum required sample size.

Below, is the output data for the Emotional Empathy (QMEE) scores. The power parameters specified were:

- a = '3' (levels of factor for power)
- b = '1' (levels of factor(s) crossed with A)
- delta = '1.238, 1.274, 0.508' (effect size(s))
- alpha = '0.025' (significance level)

Power analysis for ANOVA designs

3x 1 layout Ha: $T1=GM-\Delta/2$, $T2=T3=\dots=T(k-1)=GM$, $Tk=GM+\Delta/2$
tested at Alpha= 0.025

DELTA (in units of sigma=Std. Dev.)

N	1.238	1.274	0.508
	<i>Hypno</i>	<i>Hypno</i>	<i>PMR</i>
	versus	versus	versus
	<i>Neutral</i>	<i>PMR</i>	<i>Neutral</i>

2	0.052	0.054	0.029
3	0.098	0.103	0.035
4	0.153	0.162	0.042
5	0.213	0.226	0.049
6	0.276	0.293	0.056
7	0.340	0.361	0.064
8	0.404	0.428	0.071
9	0.465	0.492	0.079
10	0.524	0.552	0.088
12	0.630	0.660	0.105
14	0.719	0.748	0.123
16	0.791	0.817	0.142
18	0.847	0.870	0.161
20	0.890	0.909	0.181
25	0.955	0.965	0.232
30	0.982	0.987	0.286
35	0.993	0.995	0.339
40	0.997	0.998	0.393
50	0.999	0.999	0.495
60	0.999	0.999	0.588
70	0.999	0.999	0.670
80	0.999	0.999	0.740
90	0.999	0.999	0.798

Appendix N

Part Two Interview Questions

1. How you would you describe your overall experience of being hypnotized?

Possible Prompt: Could you go into more detail?

Possible Prompt: Did you feel that the emotional response (or feeling) was something that you could control? was it positive, negative, neutral, or something else?

2. Did you see imagery? What types of senses do you recall being stimulated during induction, if any?

Possible Prompt: Would you say that this is similar or different to your normal waking state.

3. What kinds of feelings (if any) did you experience during the hypnotic induction? (Affect)

Possible Prompt: Do you think you would you experience similar feelings your normal waking state?

Possible Prompt: Do you recall interacting with anybody during your induction?

Possible Prompt: Were you aware of their feelings or emotions? How did you make sense of them?

4. When you were hypnotized, did it feel different or similar when compared to your normal state of awareness? If so, how would you describe it?

Possible Prompt: When asked... your response was... (repeated 3 QMEE questions and the corresponding responses). Do you think you would respond similarly or differently now, in the normal waking state? (Empathy)

Possible Prompt: What do you think accounts for this difference?

5. Did your overall experience of hypnosis align with your expectations? What were you expecting?

Possible Prompt: In terms of control, who do you feel was in control of this experience?

6. Do you think that in hypnosis, your reaction would be similar or different to certain life situations and circumstances, when compared to your usual state of awareness?

Possible Prompt: Can you recall a time in your life when you failed at something? How do you think you would react in hypnosis? (Attribution for Failures)

Secondary Prompt: what did you attribute your failure to? What do you think you would attribute a failure to in hypnosis?

Possible Prompt: Can you recall a time in your life when you succeeded at something? How do you think you would react in hypnosis? (Attribution for Successes)

Secondary Prompt: what did you attribute your success to? What do you think you would attribute a success to in hypnosis?

7. Given this experience, would you undergo hypnotic induction again? If so, why?
8. Is there anything you want to add to your experiences in general?

Appendix O

Themed Participant Quotes

(1) A Pleasant and Happy Place

A Positive and Pleasant Experience:

“...I felt relief and I think it was overall positive...” -P1

“...it felt very pleasant...” -P4

“...just the actual sense of peacefulness...” -P4

“...I don’t know. I was just very like... kind of like enlightening and like... I don’t know it was just very interesting (laughs).” -P16

“...it felt like I was very like light and like not so like weighed down it was very... I don’t know...” -P16

“I kind of felt like scared and then like it was just was a flash or something... The first feeling was like negative but then it was positive.” -P16

... [Positive] because basically the more stressed you are the more negative you feel. And the more calm you are the more objectively you look at things and basically the more positively you can evaluate them.” -P19

“... it felt nice to go with the flow versus trying to challenge a specific event, uh a specific I guess direction.” -P19

“...it was extremely pleasant experience, it was really good.” -P19

“... I really enjoyed it. It was nice (laughs).” -P22

“It was a positive experience... Yeah it was great, it was very like... safe feeling when like you you described for me to go in to my happy place (laughs).” -P22

“... it felt nice to kind of like have somebody lead you in to maybe emotional wells that you didn’t really explore before, it’d be kinda cool to like just open that up a little bit... it was fun in a way it was like very therapeutic... I feel better about it than when I woke up today.” -P22

Relaxing and Peaceful:

“...it’s a relaxing feeling where um my body kind of wind down...” -P1

“The relaxation and you like as if if you were just floating...” -P4

“So for me it was uh more of a relaxation but also being able to tune in as a... to my environment.” -P4

“...There was at first there was like some resistance because we had just started it and I was like a bit scared and then doing the the relaxation things at the beginning like really relaxed...” -P16

“... I was a lot more relaxed...” -P19

“It was a very relaxing experience.” -P22

“... it was very peaceful. So er it was nice to just be able to kind of relax and yeah.” -P22

(2) Spontaneity and Feeling Free

Unexpected Vivid Imagery:

“...it’s like my thoughts wind down and um then I start like visualise like visualising I don’t know, images come up depending on like what is being asked or what I’m feeling so it’s um an interesting experience...” -P1

“...I had an involuntary visible response.” -P1

“...I felt like this real, like this real feeling when I felt this image um the result the facial cues and the visual, the visual image um and yeah it was more like the facial cues plus how I felt in my gut, like it was a gut feeling.” -P1

“...it’s not like I’m reading a book where I’m reading words and then images appear just naturally so it’s like a different experience...” -P1

“...went down this ladder and we pictured going down and further and further. If I sort of start thinking about it I actually feel as if I would be doing it now if I were basically you know close my eyes and sort of go through that...” -P4

“...I usually hold myself back [reference to life situations]” -P4

“... I saw myself in like a blue and white polka dot dress in like fields and then and then I was like floating I saw like beautiful colours and like above kind of like a skyline or something like clouds but they were just like colours like... marbly colours and stuff...” -P16

“Not see you with my like eyeballs but like imagery in my head.” -P16

“...it was like something... like out of a movie or something like just like the images like but with feeling.” -P16

“Um... just like sight. Nothing and and love like I felt like um just like overall calmness um... I don't know and I felt like when I was like with the nature and pictures and imagery and stuff like it felt calm.” -P16

“... the imagery that was present er was based on my standards so therefore when like unexpected um element appeared such as you know like the the the screen, the staircase and um other things that we may not necessarily be there especially based on a certain person's you know preferences um but those was a bit strange I guess.” -P19

“There were like sounds of like when I was picturing the river and there was like the river sounds and there were birds and um and um like the trees like rustling, not so much with the cabin one which was weird but I think that like... yeah the best one was the forest.” -P22

Involuntary Reactions:

“...feels like things just flowing and coming at me and I just have to... deal with it.” -P1

“...I feel like in the hypnotised state... I don't have time or I'm not in that capacity to have a cost benefit analysis...” -P1

“...different types of um overwhelming senses of emotions in that sense like I felt like I had no control...” -P1

“... Yeah I felt um like I think at first I think I felt like when I got hypnotised I felt like a little confused as I felt l the images coming up like why did I see like my grandma or my mum like I wasn't thinking about them really and um I wasn't sure like the purpose of it appearing... I felt really like a little bit confused and like concerned you know as to why I was emotional, cos I felt emotional.” -P1

“I was tearing too for no reason and I'm not an emotional like person like a sad or a crier to begin with so I felt really like a little bit confused and like concerned you know as to why I was emotional, cos I felt emotional.” -P1

“...it's different, like I feel like my waking state um... I'm really adapting good at shutting things out and shutting situations and emotions out...” -P1

“I think in my normal waking state yeah I'm very good at just being voluntarily controlling my output. Like at first of course if when something happens like a crisis or acute incident happens I feel the emotions involuntarily. But then after that I'm able to really shut the, shut the box and move on and not have a visible emotional response but I think in that state I had a vis I had an involuntary visible response.” -P1

“...under hypnosis it was it was I would just be just be open to allow that in and sort of experience and then sort of have a judgement on it or you know.” -P4

“...if I in my normal state if I sort of close my eyes I’m sort of waiting to um... hear what’s around me or see what’s around me.” -P4

“...these pictures were just like coming to my mind...” -P16

“... I wonder why those images like came to me and stuff. I don’t know, it’s just interesting.” -P16

“...it was kind of like an overwhelming feeling...” -P16

“... when I saw imagery of that woman I thought like super like shocked for a second so I think it [emotional response] would kind of like be like amplified [in a hypnotic state].” -P16

“I’m more... apprehensive in like real life then like when I was like in that state I was less apprehensive.” -P16

“... when hypnotised you... I don’t know if your mind is running faster or if you’re just disregarding sort of a bunch of peripheral uh information that is not necessarily relevant so you are able to assess the situation a bit more calmly.” -P19

“... some sudden changes occurred. I was, it was more like... I guess the desire to adhere to like, ‘cos I I got really in to uh the role that I was trying to fulfil...” -P19

“It’s sorta like you’re shooting a scene you know for a tv show and then somebody uh does some ad-libbing and you’re just trying to go with it as the scene goes along now.” -P19

“Uh I feel like my ... hypnotised self would be somewhat more frank and less calculating in specific circumstances.” -P19

“But I think that like there was a first impulse of emotion and then you can kinda like try and analyse it before... taking that further.” -P22

“Yeah it’s definitely different. It’s er more... impulsive? If that’s the right word? Like you kinda, you don’t really think about your actions or emotions before... You just kind of you you feel you just feel, you go through feelings and instead of like instead of questioning why you feel that way.” -P22

“I had some anxiety... Where I’m like, do I really feel like that? I don’t know if I feel like that (laughs).” -P22

“... more impulsive when you’re, you have kind of more like clear mind in a,m it it sounds weird but you you don’t really think about too much when when you’re asked a question when you’re like in that state. You’re like oh yeah that sounds about right um unlike when you’re awake you’re kind of like just overanalysing what to do (laughs) all the time (laughs).” -P22

“I guess somebody would ask me a question and then [in a non-hypnotic state], I think that it would be different because I would have more... it wouldn't be as impulsive when I would answer a question it would just be like, oh I wonder how I do feel like this I'll I'm just going to take this example from you know like every day and like every day and see how this compares with, like this was very like immediate with like this is how I feel.” -P22

Accepting Whatever Comes Up:

“...when something happens, I deal with it like in that day then I move on like And I try not to like go back in to that box but I think in this situation it was overwhelming for me because it really tapped into these feelings that I don't like to access, consciously...” -P1

“...in my normal waking state that's the way I operate like I think of like pros and cons and I think about the situation.” -P1

“...in the normal waking waking stage it's more of um ok you're listening for either the alarm or the birds or something to that would basically say ok, others are awake or um you know is it really still the middle of the night or you're you're looking at is it bright enough out er against your eyes or against your eyelids I should say... when you're hypnotised you don't have that. It's just, at least for me it was more like pondering ok what's coming next you know, what pleasantries am I going to sort of see or feel um, it was more be trying to be in tune with what's going on around me as opposed to time to get up or you know.” -P4

“... [normally] a lot of things act (sighs) rather predictably ... you can usually think them through and you can think through multiple possibilities and um you can actually account for let's say the major um scenarios that could occur so you can be prepared.” -P19

(3) Not What I Expected

Like a Different Dimension:

“It felt like yeah like as I said where I'm reading a book or you know watching tv it's like it's, it's really like direct so there is like direct, like response, like ok so I see, like a I see, like a beautiful drawing so it's like my emotional response is directly related to that but when I got hypnotised, I yeah, I felt like things were out of my control like and it was subconscious.” -P1

“...it was amazing that er your whole body felt very um... separated from the mind.” -P4

“I felt like as if I was in water floating, without any apparatus... and being able to just... exist within this...” -P4

“...under the hypnotic state you feel like as if you're floating so like it's not like as if you're right down to earth it's it's like a different dimension.” -P4

“Yeah just like... I was like not on earth or something (laughs) like you know, like seeing physical, like being physically aware of like things and their feeling? I don't know, something like that.” -P16

“...it almost felt like a dream state...” -P16

“... you’re looking at this from a third person perspective, it wasn’t so much, the feeling was ok cool we’re playing a video game kinda scenario...” -P19

“...you may feel the emotion itself but it’s not going to be as extrovertly expressed as it would be in your conscious state.” -P19

“I was coherent in what was going on and everything. Um, I think it was just... like being I guess led um through something instead of me myself having to uh take those steps? If that makes any sense?” -P22

Sleep but Not:

“I was expecting what is on TV of like you’re getting very sleepy and like a little pendulum and um I don’t know the hyp- hypnosis person asking me to do like bark like a dog or stuff like that...” -P1

“... It is very difficult to tell that you are hypnotised throughout the process basically ‘cos from an insider’s perspective it looks more just like something along the lines of you... falling asleep I guess, almost and then trying to stay awake.” -P19

“... [I was] expecting a lot more of... I guess external control so to speak... And a much deeper level of um... a dive in a sense that I was thinking um some procedure were to take place where I am totally under, uh and I may or may not remember... this was a lot more mild and tame than what I was expecting it to be.”
” -P19

“I like lucid dreaming... somewhat actually I feel similar experience to by being in a hypnotic state...” -P19

“...in the hypnosis, you’re sorta asleep but sorta not and that dissonance of the brain is feeling is... tiring...” -P19

“... I was expecting like needing to be completely like knocked out or something and like not remember or recall anything so that was definitely different...” -P22

Expected Something Else:

“...I wasn’t expecting to think about emotions or have um personal imagery appear or feel like I was out of, not in control of my emotions so I didn’t expect that at all.” -P1

“I think that it’s invaluable to tap in to like another sphere of your emotions [reference to hypnosis] and your like brain that you probably [normally] voluntarily – involuntarily shut out... because it’s uncomfortable.” -P1

“...I didn’t think that it was going to be as... pleasant and... er relaxing. But most of all I think I found... it um cured something within me.” -P4

“...I hold myself back a lot [in the normal state]” -P4

“... I was expecting to maybe see my grandma but um... that didn’t happen but um generally speaking I think it was better than what I expected.” -P4

“[I was expecting] ... to be in like a very calm state and to... just... I don’t know be like led in to like my like subconscious without like thinking about something so like deeply.” -P16

“You’re thinking oh, I’m going to snap my fingers and I’m going to be programmed to do X.” -P19

(4) Expanded Perspective

More Level-Headed Perspective:

“[In a hypnotic state] I would be calm about it [reference to the past failure] because I think I would know that maybe that wasn’t for me, that wasn’t even in line that that task wasn’t ever in my skill set or even my interests... whereas in my waking state I would probably be upset or sad.” -P1

“... [In a hypnotic state] I think it would be just like a sign in the right direction for me.” -P1

“[In hypnotic and non-hypnotic states] I just think like it’s [reference to the past success] a mixture, like I got lucky or got lucky and worked hard...” -P1

“... under hypnosis I wouldn’t be as hesitant [reference to the failure] so I most probably would be able to problem solve much easier... It would just be a greater experience to sorta say ok this happened and I would try to figure out how it actually succeeded.” -P4

“[In a hypnotic state] Maybe, maybe something I did was wrong [reference to the failure].” -P16

“[In a hypnotic state] That I made the right choices [reference to the success].” -P16?

“[In a hypnotic state] I don’t know [reference to a failure], it depends ... I would say I’d be a lot less emotional about it actually.” -P19

“[In a hypnotic state] I would be basically trying to spread the guilt so to speak um to try to make myself feel better (sniggers) [reference to a failure]. -P19

“[In a hypnotic state] more calm.[reference to a success]... just like with the failure you’re a lot more emotionally involved with it when you’re conscious uh versus where in hypnosis I found that you make slightly more weighted decisions so to speak.” -P19

“In hypnosis I would probably attribute it [reference to a success] to... a bit of luck and extreme preparation... and planning... hypnotically you, because your feelings are more intrinsic... you’re more along the lines of, you’re more level headed in terms of what you attribute to it... because your emotions are more internalised, your brain is able to process it better is what I feel.” – P19

“[In a hypnotic state] I’d feel more positive about it [reference to the failure]. Take it as a life experience instead of I don’t know, kicking myself and like putting myself down.” P22

“[In a hypnotic state] I’d just be like very proud of myself I think. it’d be, it was about the same ‘cos I worked hard for it [reference to the success]... in a more like peaceful mind but I think yeah, I think I’d still be very proud of myself.” -P22

Less Extreme Self-Judgement:

“... [In a non-hypnotic state] I would probably be upset or sad because it represents like a failure on a, like a status level like oh I failed, like my family going to judge me and stuff like that.” -P1

“[In a non-hypnotic state] I attribute it [reference to the past failure] to myself not working hard enough...” -P1

“ [In a non-hypnotic state] It was [due to] fear, er it was my fear of uh failure [reference to the failure].” -P4

[In a non-hypnotic state]...I just think it’s not it wasn’t meant for me like so mm the world in my life like it wasn’t meant for me but still I like learn from it, I grew from it [reference to the failure].” -P14

[In a non-hypnotic state]... Just thought that like it was meant to be, meant for me [reference to the success].” -P14

“... [In a non-hypnotic state] I did as expected because of technically my achievements [reference to a success] I did contribute a major portion of that so.” -P19

“[In a non-hypnotic state] Um... I messed up [reference to a failure] uh messed up big and there was a number of factors that contributed to it...” -P19

“ [In a non-hypnotic state] I think it would be like that I didn’t try enough, hard enough or I didn’t put enough effort in because if I did then, um there would be better results from it [reference to the failure].” -P22

“ [In a non-hypnotic state] I worked really hard for it [reference to the success].” -P22

Ambivalent Pragmatism (Agree and Disagree):

“I think that the animal one [reference to questionnaire response] probably would be more empathetic towards that one, um, but the other responses I agree with so...” -P1

“...I’m pragmatic... about it now. I can think about it; the different alternatives [reference to QMEE questions)” -P1

“...I don’t think they do [reference to QMEE question] so I would be the same [reference to selected response].” -P4

“Yeah [when asked if the response would be similar to a previously answered QMEE question] I [Still] disagree with that (laughs) it makes me sad so... -P16

“... my answer to that [QMEE] question would be a bit more situational... it would be the very heavily situation based and like the person who’s doing it uh basically their track record so to speak.” -P19

“... it would depend [reference to answering QMEE questions similarly or differently]... I think that like a lot of it would, like the conclusion would be drawn from like how I would feel, like sometimes I like going to events and just being by myself and yeah enjoying the people around me.” -P22

“... I mean you think about it more when like when you stated the [QMEE] question through um being hypnotised I was like oh well if he is lonely then yeah I do feel stuff.” -P22

Ambiguous Locus of Control (Going with the Flow):

“...I felt like things were out of my control...” -P1

I think me [I was in control] but I think maybe like on a deeper level like me but underneath the... underneath the um conscious [me] like the subconscious [me] that I don’t like to like evoke until, because because it’s like too much (laughs). -P1

“...I feel like my waking state um... I’m really adapting good at shutting things out and shutting situations and emotions out, if somethings happening at home I can go to work and look perfectly fine and operate fine...” -P1

“...initially I make decisions based on just my pragmatic self ... -P1

“I think the questions opened and allowed me to experience what the whole thing I think you know I mean if I wouldn’t have been open enough in order to sorta say I accept what’s about to happen, regardless of what’s gonna happen. Whatever I see, feel um however I’m touched is gonna be of benefit.” -P4

“You were the conveyer of questions but I think it’s my interpretation.” -P4

“...in my specific case whenever a life er... reaction comes I’m usually, I usually hold myself back without really er in order to say no I can’t go past this point. Under hypnosis, I most probably would be willing to or take that in to um, I would be able to allow that to happen... without having hesitation.” -P4

“...it was like not in my control so it was kinda like a dream imagery that just like, would just like come to me all of a sudden like without thinking about it.” -P16

“I don’t know... I don’t know. No one [was in control]... Uh, well you definitely like kept like the control like where my mind was going or like but like it you didn’t control like what I saw...” -P16

“... your feelings that you’re experiencing um are vastly controlled by the scene itself.” -P19

“... if anything hypnotism helps me control my emotions rather than the other way around.” -P19

“... to me, the more calm [as in hypnosis] I am the easier it is to control the um like emotional state or feedback...” -P19

“... for one I wasn’t the one whose controlling the entire path and two, I guess I was going with the flow a lot more...” -P19

“... I am a lot more in control in my normal state.” -P19

“... you’re sort of in control but you’re only in control of the character and not so much the scene and that’s why I was kinda an interesting experience...” -P19

“...it was cool to like have somebody kind of like lead you to thoughts and I guess emotions...” -P22

“... I just went along for the ride (laughs).” -P22

“I think I was [in control]? Yeah. ‘cos I was, you you were like guiding me but like I was choosing where to go I guess.” -P22

“... your brain is you know taking you to and like, what your um... what images that come up with and how you feel about it and just like it’s very, very freeing in a way instead of feeling like when you’re awake like you like you have to feel. Ok you’re going somewhere and you have to feel happy about it or anything. You’re just very like, very zen (laughs).” -P22

Appendix P

Sample of Transcribed Participant Interview

Participant 1

Interviewer: So, how would you describe your overall experience at being hypnotised?

Participant: Umm, I think it's a relaxing feeling where umm my body kind of wind down almost? And it's like my thoughts wind down and umm, then I start like visualize, like visualizing, I don't know, images come up depending on like what is being asked or what I'm feeling, so it's umm an interesting experience; it's not very, it's like not like a... it's not like I'm reading a book where I'm reading words and then images appear, just naturally... so it's like a different experience.

I: Okay, umm, did you feel any, anything at all when you were in...

P: Yeah, I felt umm like, I think at first, I think I felt like when I got hypnotised I felt like a little confused, as I felt the images coming up, like why did I see like my grandma or my mum, like I wasn't thinking about them really, and umm, I wasn't sure like the purpose of it appearing, umm and then I felt also, like I felt, like emotional too cos I was tearing too for no reason, and I'm not an emotional like person, like a sad, or a crier to begin with, so I felt really, like a little bit confused... and like concerned... you know, as to why I was emotional, cos I felt emotional.

I: Yeah, so did you feel the emotional response or feeling was something that you could control?

P: No. It was barely subconscious... It felt like yeah, like as I said, where I'm reading a book or you know, watching tv, it's like, it's... it's really like direct so there is like direct, like response, like okay, so I see like a... I see like a beautiful drawing, so it's like my emotional response is directly related to that... but when I got hypnotised, I yeah, I felt like things were out of my control, like, and it was subconscious.

I: So, was it a positive, negative or a neutral...

P: Umm...

I: experience? Or something else altogether?

P: Umm... I would go with something else altogether. I think overall positive. It felt like a relief, like I felt relief and I think it was overall positive... but I think in the moment, it felt overwhelming, like it felt, like it, like, I usually don't, I try... I don't overthink by nature, I don't overanalyse, I don't overthink, like I try not to overthink, I try not to over-analyse the situation... so umm, when something happens, I deal with it like that day, then I move on, like and I try not to like go back into that box but I think in this situation, it was overwhelming for me because it really tapped into these feelings that I don't like to access, consciously, like I'll do other things, I'll work a while, I'll go out, I'll do other things to like not access these crier emotions (laughs); they're like umm, I don't know... umm, just different types of umm... overwhelming senses of emotions in the sense like I felt like I had no control.

I: So, you mentioned that you saw some imagery... umm, so what types of senses do you recall being stimulated?

P: I think like sadness, longing like for that type of relationship again like with my grandma cos like, it was like, like a mother relationship I had. Umm, it was like, like, it was like a good feeling... like I felt good and happy seeing her but then I felt bad cos I didn't get a chance to say

goodbye properly so it was like accessing, like certain parts of my life, where I felt like, vulnerable.

I: So, were the senses mainly visual or were there other senses?

P: They were visual.

I: Okay...

P: Umm, yeah, they're visual.

I: Okay. Umm, would you say that this is a similar or different feeling or experience, umm, when comparing it to your waking state, like your normal state?

P: No, it's different, like I feel like in my waking state umm... I'm really adapting good at shutting things out and shutting situations and emotions out. If something is happening at home, I can go to work and look perfectly fine and operate fine, where, whereas when I was in that state, umm, I didn't have control over what I was feeling and the emotions that were coming out, and the tearing, and yeah, so it was different... and things, emotions that were coming up, I felt like I didn't have the ability to impulse, to stop it from coming up, like it was kind of like flowing.

I: It's just like involuntary?

P: Mmm hmm...

I: Okay, so you mentioned you had feelings... umm, so what kind of like, what were the prominent feelings that you experienced during the induction that really stood out to you?

P: Umm, I don't know if overwhelmed is a feeling but I had overwhelming feelings, like I felt overwhelmed, like overwhelming sense of just yeah, longing and sad, not sadness just longing and like hmm... yeah...

I: Okay, so do you think you would experience similar feelings in your normal waking state?

P: No.

I: No?

P: I think in my normal waking state, yeah, I'm very good at just being, voluntarily controlling my output. Like at first, of course, if when something happens, like a crisis or acute incident happens, I feel the emotions involuntarily... but then after that, I'm able to really shut the, shut the box and move on and not have a visible emotional response... but I think in that state, I had a vis... I had an involuntary visible response.

I: Hmm...

P: Yeah, so it was yeah, so no... Hmm...

I: Interesting, okay. Umm, so you mentioned that you did recall interacting with people in the induction or experience, or something to do with them, were you aware of their feelings and emotions at all?

P: Yeah, I think it was their feelings... like I was... the visual, the visual response I received was really positive, like it wasn't auditory or anything but it was visual and she seemed happy and I felt it so...

I: So, how did you make sense of your experience of her?

P: Umm...

I: Potential experience if you will...

P: What do you mean?

I: Feelings... how did you make sense of her perceived feelings?

P: Oh, how did I perceive it?

I: Yeah!

P: Umm, I think it was just, I don't know, I can't describe it, it was like the feeling I felt, like this real, like this real feeling when I felt this image... umm, the result of the facial cues and the visual, the visual image... umm, and yeah, it was more like the facial cues plus how I felt in my gut, like it was a gut feeling.

I: Oh okay, so there's no like interaction verbally?

P: No.

I: That's really interesting. Okay, so when you were hypnotised, did it feel similar overall or different to your normal waking state?

P: Different.

I: I think you mentioned that (laughs). Umm, so would you describe it again?

P: Umm, I felt different cos again, in my normal waking state, yeah, I'm able to really control things, control how I feel and then in that state, in like the hypnotised state, umm, yeah it's very involuntary... it's...

I: Mmm hmm...

P: It just feels like things just flowing and coming at me and I just have to... hmm...

I: Okay...

P: deal with it.

I: Awesome... Okay, so now I'm going to ask you... I'm going to read out loud to you, your three responses to one of the questionnaires, and in the questionnaire you were asked to rate certain statements, umm, from negative four to umm, positive four... where zero equals neutral to how you feel that way. The statements are supposed to represent how you feel. So, you said... Okay, so I asked you, it makes me sad to see a lonely stranger in a group... You rated it as four...

P: What's four?

I: Four is when you feel a really strong agreement with that statement. Umm, then I asked you, people make too much of the feeling and sensitivity of animals... and you rated that as umm, two...

P: So, can you read that again?

I: So, people make too much of the feelings and sensitivity of animals, you rated that as two, as you agreed. Two meaning, it's agreement but it's not like, very strong agreement. Then I asked, I find public displays of affection annoying and you rated that as zero.

P: What's zero?

I: Zero is neutral. You have no feelings (laughs) towards that at all. So, umm, what I want to know is, do you think you would respond similarly or differently, now that you are in a normal waking state, to those types of questions and statements?

P: I think that the animal one probably, I would be more empathetic towards that one... umm, but the other responses, I agree with so...

I: Yeah?

P: Yeah.

I: Okay, that's pretty much the same... So, with the animal one, what do you think accounts for this difference?

P: Um, maybe it's because I've never had a pet before... so maybe...

I: No, I mean...

P: (Laughs)...

I: What's the reason for you responding...

P: Oh (laughs)...

I: ... normally...

P: Oh, I was like...

I: Compared to when you're hypnotised?

P: I don't know... like maybe... what do you mean? Tell me...

I: Cos you were... because you mentioned that you would respond differently now that you are in a normal waking state.

P: Oh, I think it's more, cos I'm pragmatic...

I: Mmm hmm...

P: about it now. I can think about it, the different alternative, and I can actually, I feel like in the hypnotised state... I don't have time or I'm not in that capacity to have a cost benefit analysis in my head of like you know, pros and cons, or, or what not, in the analysis of it, but in my normal waking state, that's the way I operate... like I think of like pros and cons and I think about the situation.

I: So, it's a more impulsive, I guess...

P: Yeah.

I: response than in the hypnotic state?

P: Mmm hmm, it's like more impulsive.

I: Impulsive...

P: Yeah, free flowing.

I: Okay, umm, so did your overall experience with hypnosis align with your expectations? What were you expecting?

P: Hmm... I was expecting what is on TV, of like, you're getting very sleepy and like a little pendulum, and umm, I don't know, the hyp... hypnosis person asking me to do, like bark like a dog or stuff like that. I wasn't expecting to think about emotions or have umm, personal imagery appear, or feel like I was out of... not in control of my emotions, so I didn't expect that at all.

I: Mmm hmm... So, in terms of control... who do you feel was in control of your experience?

P: I think me but I think maybe like on a deeper level, like me, but underneath the... underneath the umm, conscious Jennifer, like the subconscious Jennifer that I don't, like to like, evoke until... because, because it's like too much (laughs).

I: Yeah, okay... um, do you think that in hypnosis your reaction would be similar or different to certain life situations and circumstances, if you compare it to your usual state of awareness? Like when something happens in your life, do you think you respond similarly or differently when you're hypnotised?

P: I think when I actually tap in to my deeper, deeper... um... unfiltered self, I usually make the right decisions because that's usually my core gut decision making, and I feel after that, I feel more calm, so I think umm, I would make decisions differently.

I: Mmm hmm...

P: Because initially, I make decisions based on just my pragmatic self and sometimes it's not aligned to like what I feel so...

I: Okay.

P: Yeah.

I: Um so... now... can you recall a time in your life when you failed at something? So just in your mind recall a time, like when you failed at a task or I don't know, something you wanted to achieve? So, how do you think you would react to that failure in hypnosis?

P: Umm... hmm, I think, I think I would be calm about it because I think I would know that maybe that wasn't for me, that wasn't even in line, that, that task wasn't ever in my skill set or even my interests but...

I: So, this is under a hypnosis you would react that way?

P: I, I would be calm, yeah. Because, whereas, in my waking state, I would probably be upset or sad because it represents like a failure on a, like a status level, like oh I failed, like my family is going to judge me and stuff like that.

I: Mmm hmm. So, okay, when that failure happened in your life, what did you attribute the failure to?

P: I attributed it to myself not working hard enough, not studying enough, even though I tried my best.

I: Mmm hmm...

P: Like even now, looking back on it in retrospect.

I: So, at the time, like when it happened, if you were hypnotised, how do you think you would attribute that failure?

P: Umm, I think it would be just like a sign in the right direction for me. Like, you know, this is not for me and that it, you know, would really reiterate that this isn't my, doesn't align to my interests and my skill set, so it's like, this is it for me. It would be, it would be like, fine, I think from like my...

I: Okay...

P: true self; My deeper self.

I: Oh, okay, so now let's be a little more optimistic. Can you recall a time in your life when you succeeded at something?

P: Yeah!

I: Can you recall it in your mind? And how do you think, oh yeah, how do you think that you would react to that success in hypnosis?

P: I think I would react the same in the situation because I think, umm, typically, when I do things that have good outcomes... you know, it's easy, it's because I've made a decision based on not what other people think or based on subtle standards, umm, but based on what I feel deep in my core, in my gut... Typically, it's more of a free flowing type of feeling.

I: Mmm hmm...

P: Yeah.

I: Okay, so when that success took place, what did you attribute that success to?

P: Umm... I think I attributed it to just... being able to like... under... like, my own, my own, not only my own skills but just more being able to understand... By being able to like understand like that okay, this, this is for me, like, I like this and I feel good, I feel good in that situation so maybe me being able to like capture my, my moment, that moment, and like really understand, like... really understand that umm... like basically, understand the situation at hand and be like okay, this is for me, I like it and I'm going to do it, versus thinking like what other people think and...

I: Okay, so what do you think you would attribute the success to if you experience that success under hypnosis; if you are hypnotised during that?

P: I don't know, maybe like I don't know... maybe like... umm... I don't know. I haven't, I don't know, I can't really think of... I don't know.

I: Okay.

P: I don't really think about like... when things, when good things happen, it sounds weird, I don't think about...

I: What if...

P: Yeah, like I don't think, I just think like it's a mixture, like I got lucky or got lucky and worked hard and it like came to a head (laughs), so...

I: Yeah, so you can't recall how you would experience that?

P: In hypnosis?

I: Yeah.

P: Umm... sounds, maybe it's like, sometimes, I feel like it's just part of my life plan and that's part of like... because when things fall into place for me, they really fall in to place and they fall into place without much of my effort.

I: Okay...

P: So, when things, when good things happen like that, it's just part of my plan, and I feel calm and I think that in hypnosis, I would probably feel the same. Like, yeah...

I: The same. Okay, so given this experience, would you undergo hypnosis again? And if so, why?

P: Yes, I would undergo hypnosis because I think that it's invaluable to tap into, like, another sphere of your emotions and your like, brain, that you probably voluntarily – involuntarily shut out... but people do probably because it's uncomfortable.

I: Mmm hmm...

P: But I think it's important to like heal. Healing and uncovering deeper umm, emotions or issues and yeah... I'd probably go through it again to deal with like my family issues cos that's a sensitive area. I don't like talking about it like, I don't like having the reminders about it unless I feel comfortable and, and umm, I try not to like dwell on it often. I don't, I don't overanalyse, I try not to, and I think I would probably do that for umm... do hypnosis for that purpose; to try to like, try to at least heal my own self.

I: Yeah... Okay, is there anything you want to add to your experience, now?

P: Umm, no. I think it's valuable and I think that people can benefit from it, especially people who are stressed over work. They think... like we use so much of our waking brain all the time and we use so much of our, umm, analysis skills and we don't really have an opportunity or even energy or the time to tap in to umm, I guess the unconscious side, where it really reveals, like truer, rawer, more vulnerable emotions... and I think that's really important to heal cos like, I know other people who don't, who really are detached from it and they experience like all sorts of problems... like addiction, all sorts of things, because they don't know how to process it, or they don't even try... and like yeah. So...

I: Hmm, yeah, okay. Thank you.

Appendix Q

Previous Non-parametric ASAT II Analysis

The ASAT II scores were developed, based on counts of the participant responses for each corresponding category; discrete dependent variables. Initially, I intended to assess all twelve variables related to self-attribution, separately. However, as I was not particularly interested in comparing the interpersonal versus non-interpersonal dimensions, I collapsed these two categories together to form six variables. This also was expected to benefit the assessment's reliability. Nevertheless, normality was still not met for the collapsed self-attribution categories. For each of the categories, there was at least one group where the normality assumption was rejected (according to both the Kolmogorov-Smirnov and the Shapiro-Wilk tests).

Descriptive Data:

Table 4.2(5-2-1)

Self-attribution group means and standard deviations.

Condition/Group	Scenario Type	Attribution	Mean	Standard Deviation
Hypnosis	Failure	Strategy	3	.943
		Ability	2	1.414
		Effort	3	1.633
	Success	Strategy	4.3	1.252
		Ability	1.2	1.229
		Effort	2.5	1.179
No Treatment	Failure	Strategy	2.4	1.578
		Ability	1.5	1.434
		Effort	4.1	1.101
	Success	Strategy	2.9	1.792

		Ability	1.7	.949
		Effort	3.4	1.506
PMR	Failure	Strategy	3.1	.994
		Ability	1.6	.996
		Effort	3.3	.823
	Success	Strategy	1.9	1.197
		Ability	1.4	.843
		Effort	4.7	1.767

Inferential Data:

The Kruskal-Wallis test (and a rank summary for the collapsed group scores) was used to determine whether there are statistically significant differences between the groups for each of the six (collapsed) self-attribution options. Differences between the groups were found for success-strategy (Chi-square=9.9, $p=.007$) and success-effort (Chi-square=8.5, $p=.014$).

Table 4.2(5-2-2)

Rank summary for the collapsed categorical group ASAT II scores.

Scenario Type	Attribution	Condition/ Group	N	Mean Rank
Failure	Strategy	Hypnosis	10	17.55
		No Treatment	10	11.60
		PMR	10	17.35
		Total	30	
Failure	Ability	Hypnosis	10	17.20

		No Treatment	10	13.95
		PMR	10	15.35
		Total	30	
Failure	Effort	Hypnosis	10	12.40
		No Treatment	10	19.85
		PMR	10	14.25
		Total	30	
Success	Strategy	Hypnosis	10	22.05
		No Treatment	10	14.45
		PMR	10	10.00
		Total	30	
Success	Ability	Hypnosis	10	13.50
		No Treatment	10	17.80
		PMR	10	15.20
		Total	30	
Success	Effort	Hypnosis	10	10.10
		No Treatment	10	15.10
		PMR	10	21.30
		Total	30	

Table 4.2(5-2-3)

Tests statistics for the collapsed categorical group ASAT II scores (Kruskal-Wallis).

	Strategy Attribution for Failure Scenario	Ability Attribution for Failure Scenario	Effort Attribution for Failure Scenario	Strategy Attribution for Success Scenario	Ability Attribution for Success Scenario	Effort Attribution for Success Scenario
Chi-Square	3.227	.722	4.168	9.983	1.309	8.496
DF	2	2	2	2	2	2
Asymp. Sig.	.199	.697	.124	.007	.520	.014

Pairwise comparisons

The Kruskal-Wallis test illustrated whether there are differences between the three groups but not where the differences are. Therefore, pairwise comparisons, incorporating the Mann-Whitney test were conducted, to identify which groups are statistically different from each other in terms of strategy attributions for success scenarios and effort attributions for success scenarios.

Hypnosis vs. No Treatment:

Table 4.2(5-2-4)

Rank summary for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the hypnosis and control groups.

		Condition/ Group	N	Mean Rank	Sum of Ranks
Success Scenario	Strategy	Hypnosis	10	12.90	129.00
		No Treatment	10	8.10	81.00
		Total	20		
Success Scenario	Effort	Hypnosis	10	8.80	88.00
		No Treatment	10	12.20	122.00
		Total	20		

Table 4.2(5-2-5)

Tests statistics for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the hypnosis and control groups (Mann-Whitney Test).

	Strategy Attributions for Success Scenarios	Effort Attributions for Success Scenarios
Mann-Whitney U Test	26.000	33.000

Wilcoxon W Test	81.000	88.000
Z	-1.851	-1.336
Asymp. Sig. (2-Tailed)	.064	.182
Exact Sig. (1-Tailed)	.075	.218

Hypnosis vs. Progressive Muscle Relaxation:

Table 4.2(5-2-6)

Rank summary for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the hypnosis and progressive muscle relaxation groups.

		Condition/ Group	N	Mean Rank	Sum of Ranks
Success Scenario	Strategy	Hypnosis	10	14.65	146.50
		PMR	10	6.35	63.50
		Total	20		
Success Scenario	Effort	Hypnosis	10	6.80	68.00
		PMR	10	14.20	142.00
		Total	20		

Table 4.2(5-2-7)

Tests statistics for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the hypnosis and progressive muscle relaxation groups (Mann-Whitney Test).

	Strategy Attributions for Success Scenarios	Effort Attributions for Success Scenarios
Mann-Whitney U Test	8.500	13.000
Wilcoxon W Test	63.500	68.000
Z	-3.239	-2.875
Asymp. Sig. (2-Tailed)	.001	.004
Exact Sig. (1-Tailed)	.001	.004

No Treatment vs. Progressive Muscle Relaxation:

Table 4.2(5-2-8)

Rank summary for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the no treatment and progressive muscle relaxation groups.

		Condition/ Group	N	Mean Rank	Sum of Ranks
Success Scenario	Strategy	No Treatment	10	11.85	118.50
		PMR	10	9.15	91.50
		Total	20		

Success Scenario	Effort	No treatment	10	8.40	84.00
		PMR	10	12.60	126.00
		Total	20		

Table 4.2(5-2-9)

Tests statistics for the collapsed ASAT II data for strategy and effort attributions for success scenarios, between the no treatment and progressive muscle relaxation groups (Mann-Whitney Test).

	Strategy Attributions for Success Scenarios	Effort Attributions for Success Scenarios
Mann-Whitney U Test	36.500	29.000
Wilcoxon W Test	91.500	84.000
Z	-1.059	-1.620
Asymp. Sig. (2-Tailed)	.290	.105
Exact Sig. (1-Tailed)	.315	.123

Corrections:

There were significant differences in strategy attributions for success scenarios between the hypnosis and progressive muscle relaxation groups. In particular, the hypnosis group has a greater score compared to the progressive muscle relaxation group (4.3 vs. 1.9, $p = .001$). Significant differences have also been found for effort attributions for success scenarios, where the hypnosis group had a significantly lower score compared to the progressive muscle relaxation group (2.5 vs. 4.7, $p = .004$). If we apply the Bonferroni correction to account for the

multiple comparisons in testing self-attribution, the adjusted alpha level will be .008. In other words, the p-value will need to be lower than .008 in order to reject the null hypothesis. After applying the Bonferroni correction, the groups differ significantly for Strategy for Success Scenarios and Effort attributions for Success Scenarios.

Appendix R

QMEE Analyses

1. One-way ANOVA - Table 4.2(2)
2. Post hoc comparisons (Tukey HSD and Games-Howell) - Table 4.2(3)

Table 4.2(2)

Analysis of variance for all participant QMEE scores (one-way ANOVA).

			Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	Combined		5993.867	2	2996.933	5.679	.009
	Linear Term	Contrast	1692.800	1	1692.800	3.208	.085
		Deviation	4301.067	1	4301.067	8.150	.008
	Quadratic Term	Contrast	4301.067	1	4301.067	8.150	.008
Within Groups			14249.500	27	527.759		
Total			20243.367	29			

Table 4.2(3)

Post hoc comparisons for group QMEE scores (Tukey HSD and Games-Howell).

	Condition/ Group	Condition/ Group	Mean Difference	Standard Error	Sig.	95% Confidence Interval (Lower Bound)	95% Confidence Interval (Upper Bound)
T. HSD	Hypnosis	Control	34.600	10.274	.006*	9.13	60.07
		PMR	18.400	10.274	.192	-7.07	43.87
	Control	Hypnosis	-34.600	10.274	.006*	-60.07	-9.13
		PMR	-16.200	10.274	.273	-41.67	9.27
	PMR	Hypnosis	-18.400	10.274	.192	-43.87	7.07
		Control	16.200	10.274	.273	-9.27	41.67
G-H	Hypnosis	Control	34.600	11.307	.024*	4.61	64.59
		PMR	18.400	7.223	.051	-.08	36.88
	Control	Hypnosis	-34.600	11.307	.024*	-64.59	-4.61
		PMR	-16.200	11.689	.375	-46.85	14.45
	PMR	Hypnosis	-18.400	7.223	.051	-36.88	.08
		Control	16.200	11.689	.375	-14.45	46.85

Note. The mean difference is significant at the 0.05 level

Appendix S

ASAT II Analyses

1. ASAT II Multivariate Tests - Table 4.2(6)
2. ASAT II Tests of Between-Subjects Effects - Table 4.2(7)
3. ASAT II Estimated Marginal Means - Table 4.2(8)
4. ASAT II Multiple Comparison Post Hoc Tests - Table 4.2(9)
5. ASAT II Multiple Tests of Normality - Table 4.2(10)

Table 4.2(6)

ASAT II Multivariate Tests.

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.977	253.286 ^b	4.000	24.000	.000
	Wilks' Lambda	.023	253.286 ^b	4.000	24.000	.000
	Hotelling's Trace	42.214	253.286 ^b	4.000	24.000	.000
Group	Roy's Largest Root	42.214	253.286 ^b	4.000	24.000	.000
	Pillai's Trace	.560	2.433	8.000	50.000	.026
	Wilks' Lambda	.499	2.497 ^b	8.000	48.000	.024
	Hotelling's Trace	.887	2.551	8.000	46.000	.022
	Roy's Largest Root	.724	4.526 ^c	4.000	25.000	.007

a. Design: Intercept + Group

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Table 4.2(7)*ASAT II Tests of Between-Subjects Effects.*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	F-Strategy	2.867 ^a	2	1.433	.985	.387
	F-Ability	1.400 ^b	2	.700	.421	.661
	F-Effort	6.467 ^c	2	3.233	2.129	.138
	S-Strategy	29.067 ^d	2	14.533	7.020	.004
	S-Ability	1.267 ^e	2	.633	.609	.551
	S-Effort	24.467 ^f	2	12.233	5.415	.011
Intercept	F-Strategy	240.833	1	240.833	165.458	.000
	F-Ability	86.700	1	86.700	52.136	.000
	F-Effort	360.533	1	360.533	237.424	.000
	S-Strategy	276.033	1	276.033	133.326	.000
	S-Ability	61.633	1	61.633	59.221	.000
	S-Effort	374.533	1	374.533	165.777	.000
Group	F-Strategy	2.867	2	1.433	.985	.387
	F-Ability	1.400	2	.700	.421	.661
	F-Effort	6.467	2	3.233	2.129	.138
	S-Strategy	29.067	2	14.533	7.020	.004
	S-Ability	1.267	2	.633	.609	.551
	S-Effort	24.467	2	12.233	5.415	.011
Error	F-Strategy	39.300	27	1.456		
	F-Ability	44.900	27	1.663		
	F-Effort	41.000	27	1.519		
	S-Strategy	55.900	27	2.070		
	S-Ability	28.100	27	1.041		
	S-Effort	61.000	27	2.259		
Total	F-Strategy	283.000	30			
	F-Ability	133.000	30			
	F-Effort	408.000	30			
	S-Strategy	361.000	30			
	S-Ability	91.000	30			
	S-Effort	460.000	30			

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Total		42.167	29			
	F-Ability	46.300	29			
	F-Effort	47.467	29			
	S-Strategy	84.967	29			
	S-Ability	29.367	29			
	S-Effort	85.467	29			

- a. R Squared = .068 (Adjusted R Squared = -.001)
- b. R Squared = .030 (Adjusted R Squared = -.042)
- c. R Squared = .136 (Adjusted R Squared = .072)
- d. R Squared = .342 (Adjusted R Squared = .293)
- e. R Squared = .043 (Adjusted R Squared = -.028)
- f. R Squared = .286 (Adjusted R Squared = .233)

Table 4.2(8)

ASAT II Estimated Marginal Means.

				95% Confidence Interval	95% Confidence Interval
Dependent Variable	Group	Mean	Std. Error	Lower Bound	Upper Bound
F-Strategy	Hypnosis	3.000	.382	2.217	3.783
	Control	2.400	.382	1.617	3.183
	PMR	3.100	.382	2.317	3.883
F-Ability	Hypnosis	2.000	.408	1.163	2.837
	Control	1.500	.408	.663	2.337
	PMR	1.600	.408	.763	2.437
F-Effort	Hypnosis	3.000	.390	2.200	3.800
	Control	4.100	.390	3.300	4.900
	PMR	3.300	.390	2.500	4.100
S-Strategy	Hypnosis	4.300	.455	3.366	5.234
	Control	2.900	.455	1.966	3.834
	PMR	1.900	.455	.966	2.834
S-Ability	Hypnosis	1.200	.323	.538	1.862
	Control	1.700	.323	1.038	2.362

	PMR	1.400	.323	.738	2.062
S-Effort	Hypnosis	2.500	.475	1.525	3.475
	Control	3.400	.475	2.425	4.375
	PMR	4.700	.475	3.725	5.675

Table 4.2(9)

ASAT II Multiple Comparison Post Hoc Tests.

Dependent Variable		(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	95% Confidence Interval
							Lower Bound	Upper Bound
F-Strategy	Tukey HSD	Hypnosis	Control	.60	.540	.515	-.74	1.94
			PMR	-.10	.540	.981	-1.44	1.24
		Control	Hypnosis	-.60	.540	.515	-1.94	.74
			PMR	-.70	.540	.409	-2.04	.64
		PMR	Hypnosis	.10	.540	.981	-1.24	1.44
			Control	.70	.540	.409	-.64	2.04
	Games-Howell	Hypnosis	Control	.60	.581	.569	-.91	2.11
			PMR	-.10	.433	.971	-1.21	1.01
		Control	Hypnosis	-.60	.581	.569	-2.11	.91
			PMR	-.70	.590	.478	-2.23	.83
		PMR	Hypnosis	.10	.433	.971	-1.01	1.21
			Control	.70	.590	.478	-.83	2.23
F-Ability	Tukey HSD	Hypnosis	Control	.50	.577	.665	-.93	1.93
			PMR	.40	.577	.769	-1.03	1.83
		Control	Hypnosis	-.50	.577	.665	-1.93	.93
			PMR	-.10	.577	.984	-1.53	1.33
		PMR	Hypnosis	-.40	.577	.769	-1.83	1.03

			Control	.10	.577	.984	-1.33	1.53
	Games-Howell	Hypnosis	Control	.50	.637	.717	-1.13	2.13
			PMR	.40	.542	.745	-1.00	1.80
		Control	Hypnosis	-.50	.637	.717	-2.13	1.13
			PMR	-.10	.547	.982	-1.51	1.31
		PMR	Hypnosis	-.40	.542	.745	-1.80	1.00
			Control	.10	.547	.982	-1.31	1.51
F-Effort	Tukey HSD	Hypnosis	Control	-1.10	.551	.132	-2.47	.27
			PMR	-.30	.551	.850	-1.67	1.07
		Control	Hypnosis	1.10	.551	.132	-.27	2.47
			PMR	.80	.551	.330	-.57	2.17
		PMR	Hypnosis	.30	.551	.850	-1.07	1.67
			Control	-.80	.551	.330	-2.17	.57
	Games-Howell	Hypnosis	Control	-1.10	.623	.213	-2.71	.51
			PMR	-.30	.578	.864	-1.82	1.22
		Control	Hypnosis	1.10	.623	.213	-.51	2.71
			PMR	.80	.435	.187	-.32	1.92
		PMR	Hypnosis	.30	.578	.864	-1.22	1.82
			Control	-.80	.435	.187	-1.92	.32
S-Strategy	Tukey HSD	Hypnosis	Control	1.40	.643	.094	-.20	3.00
			PMR	2.40*	.643	.003	.80	4.00
		Control	Hypnosis	-1.40	.643	.094	-3.00	.20
			PMR	1.00	.643	.283	-.60	2.60
		PMR	Hypnosis	-2.40*	.643	.003	-4.00	-.80
			Control	-1.00	.643	.283	-2.60	.60
	Games-Howell	Hypnosis	Control	1.40	.691	.138	-.38	3.18
			PMR	2.40*	.548	.001	1.00	3.80
		Control	Hypnosis	-1.40	.691	.138	-3.18	.38
			PMR	1.00	.682	.333	-.76	2.76
		PMR	Hypnosis	-2.40*	.548	.001	-3.80	-1.00

			Control	-1.00	.682	.333	-2.76	.76
S-Ability	Tukey HSD	Hypnosis	Control	-.50	.456	.525	-1.63	.63
			PMR	-.20	.456	.900	-1.33	.93
		Control	Hypnosis	.50	.456	.525	-.63	1.63
			PMR	.30	.456	.790	-.83	1.43
		PMR	Hypnosis	.20	.456	.900	-.93	1.33
			Control	-.30	.456	.790	-1.43	.83
	Games-Howell	Hypnosis	Control	-.50	.491	.576	-1.76	.76
			PMR	-.20	.471	.906	-1.42	1.02
		Control	Hypnosis	.50	.491	.576	-.76	1.76
			PMR	.30	.401	.739	-.73	1.33
		PMR	Hypnosis	.20	.471	.906	-1.02	1.42
			Control	-.30	.401	.739	-1.33	.73
S-Effort	Tukey HSD	Hypnosis	Control	-.90	.672	.387	-2.57	.77
			PMR	-2.20*	.672	.008	-3.87	-.53
		Control	Hypnosis	.90	.672	.387	-.77	2.57
			PMR	-1.30	.672	.149	-2.97	.37
		PMR	Hypnosis	2.20*	.672	.008	.53	3.87
			Control	1.30	.672	.149	-.37	2.97
	Games-Howell	Hypnosis	Control	-.90	.605	.321	-2.45	.65
			PMR	-2.20*	.672	.013	-3.94	-.46
		Control	Hypnosis	.90	.605	.321	-.65	2.45
			PMR	-1.30	.734	.208	-3.18	.58
		PMR	Hypnosis	2.20*	.672	.013	.46	3.94
			Control	1.30	.734	.208	-.58	3.18

Based on observed means.

The error term is Mean Square (Error) = 2.259.

*. The mean difference is significant at the .05 level.

Table 4.2(10)*ASAT II Multiple Tests of Normality.*

	Kolmogorov-Smirnov	Shapiro-Wilk				
	Statistic	Df	Sig.	Statistic	df	Sig.
F-Strategy	.212	30	.001	.930	30	.049
F-Ability	.177	30	.017	.909	30	.014
F-Effort	.209	30	.002	.926	30	.039
S-Strategy	.194	30	.006	.934	30	.063
S-Ability	.200	30	.004	.882	30	.003
S-Effort	.160	30	.050	.953	30	.204
a. Lilliefors Significance Correction						

Appendix T

PANAS Analyses

1. Analysis of variance for all participant positive affect scores (one-way ANOVA) - Table 4.2(12)
2. Post hoc comparisons for group positive affect scores (Tukey HSD and Games-Howell) - Table 4.2(13)
3. Positive affect tests for normality - Table 3.3(6)
4. Analysis of variance for all participant negative affect scores (one-way ANOVA) - Table 4.2(16)
5. Post hoc comparisons for group negative affect scores (Tukey HSD and Games-Howell) - Table 4.2(17)

Table 4.2(12)

Analysis of variance for all participant positive affect scores (one-way ANOVA).

			Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	Combined		539.467	2	269.733	8.143	.002
	Linear Term	Contrast	57.800	1	57.800	1.745	.198
		Deviation	481.667	1	481.667	14.540	.001

	Quadratic Term	Contrast	481.667	1	481.667	14.540	.001
Within Groups			894.400	27	33.126		
Total			1433.867	29			

Table 4.2(13)

Post hoc comparisons for group positive affect scores (Tukey HSD and Games-Howell).

	Condition/ Group	Condition/ Group	Mean Difference	Standard Error	Sig.	95% Confidence Interval (Lower Bound)	95% Confidence Interval (Upper Bound)
T. HSD	Hypnosis	Control	6.800	2.574	.035*	.42	13.18
		PMR	-3.400	2.574	.396	-9.78	2.98
	Control	Hypnosis	-6.800	2.574	.035*	-13.18	-.42
		PMR	-10.200	2.574	.001*	-16.58	-3.82
	PMR	Hypnosis	3.400	2.574	.396	-2.98	9.78
		Control	10.200	2.574	.001*	3.82	16.58
G-H	Hypnosis	Control	6.800	2.629	.047*	.08	13.52
		PMR	-3.400	2.612	.413	-10.07	3.27

	Control	Hypnosis	-6.800	2.629	.047*	-13.52	-.08
		PMR	-10.200	2.478	.002*	-16.53	-3.87
	PMR	Hypnosis	3.400	2.612	.413	-3.27	10.07
		Control	10.200	2.478	.002*	3.87	16.53

Note. Indicates that the mean difference is significant at the 0.05 level

Table 3.3(6)

Positive affect tests for normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Group		Statistic	df	Sig.	Statistic	df	Sig.
Positive Affect	Hypnosis	.161	10	.200*	.960	10	.789
	No Treatment	.129	10	.200*	.974	10	.928
	Progressive Muscle Relaxation	.198	10	.200*	.891	10	.173

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 4.2(16)

Analysis of variance for all participant negative affect scores (one-way ANOVA).

			Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	Combined		11.467	2	5.733	.911	.414
	Linear Term	Contrast	7.200	1	7.200	1.144	.294
		Deviation	4.267	1	4.267	.678	.418
	Quadratic Term	Contrast	4.267	1	4.267	.678	.418
Within Groups			170.000	27	6.296		
Total			181.467	29			

Table 4.2(17)

Post hoc comparisons for group negative affect scores (Tukey HSD and Games-Howell).

	Condition/ Group	Condition/ Group	Mean Difference	Standard Error	Sig.	95% Confidence Interval (Lower Bound)	95% Confidence Interval (Upper Bound)
T. HSD	Hypnosis	Control	1.400	1.122	.436	-1.38	4.18
		PMR	1.200	1.122	.541	-1.58	3.98
	Control	Hypnosis	-1.400	1.122	.436	-4.18	1.38
		PMR	-.200	1.122	.983	-2.98	2.58
	PMR	Hypnosis	-1.200	1.122	.541	-3.98	1.58
		Control	.200	1.122	.983	-2.58	2.98
G-H	Hypnosis	Control	1.400	1.249	.515	-1.81	4.61
		PMR	1.200	1.145	.560	-1.79	4.19
	Control	Hypnosis	-1.400	1.249	.515	-4.61	1.81
		PMR	-.200	.952	.976	-2.65	2.25
	PMR	Hypnosis	-1.200	1.145	.560	-4.19	1.79
		Control	.200	.952	.976	-2.25	2.65

Note. The mean difference is significant at the 0.05 level

Appendix U

Participant Recruitment Poster



KEEP CALM AND RELAX... AND BENEFIT RESEARCH

Simply test out relaxation techniques and answer some questions.

Sound Tempting?

You are invited to take part in an exciting new research study called "Hypnosis, Empathy & Attribution." You have a unique opportunity to work with a certified clinical hypnotherapist and learn more about hypnotic phenomena, mindfulness and the potential benefits of relaxation techniques.

FOR MORE INFORMATION OR TO SIGN UP...

CONTACT: Ksenia at themind@dr.com

Appendix V

Transcribed Interview Sections with Line Numbering

Participant 1 (Jenny) Transcribed Interview with Line Numbering

- 1 **Interviewer:** So how would you describe your overall experience at being hypnotised?
- 2 **Participant 1 (Jenny):** Um I think it's a relaxing feeling where um my body kind of wind down
- 3 almost? and it's like my thoughts wind down and um then I start like visualise like visualising I
- 4 don't know, images come up depending on like what is being asked or what I'm feeling so it's
- 5 um an interesting experience, it's not very it's like not like a it's not like I'm reading a book
- 6 where I'm reading words and then images appear just naturally so it's like a different experience.
- 7 **I:** Ok, um did you feel any anything at all when you were in
- 8 **P:** Yeah I felt um like I think at first I think I felt like when I got hypnotised I felt like a little
- 9 confused as I felt I the images coming up like why did I see like my grandma or my mum like I
- 10 wasn't thinking about them really and um I wasn't sure like the purpose of it appearing um and
- 11 then I felt also like I felt like emotional too 'cos I was tearing too for no reason and I'm not an
- 12 emotional like person like a sad or a crier to begin with so I felt really like a little bit confused
- 13 and like concerned you know as to why I was emotional, cos I felt emotional.
- 14 **I:** Yeah, so did you feel the emotional response or feeling was something that you can control?
- 15 **P:** No. It was barely subconscious...it felt like yeah like as I said where I'm reading a book or
- 16 you know watching tv it's like it's, it's really like direct so there is like direct, like response like
- 17 ok so I see like a I see like a beautiful drawing so it's like my emotional response is directly
- 18 related to that but when I got hypnotised, I yeah, I felt like things were out of my control like and
- 19 it was subconscious.
- 20 **I:** So was it a positive negative or a neutral
- 21 **P:** Um
- 22 **I:** experience or something else altogether
- 23 **P:** Um I would go with something else altogether. I think overall positive it felt like a relief, like
- 24 I felt relief and I think it was overall positive but I think in the moment it felt overwhelming like
- 25 It felt like it like I usually don't, I try, I don't overthink, by nature I don't overanalyse I don't
- 26 overthink like I try not to over think I try not to overanalyse the situation so um when something
- 27 happens I deal with it like in that day then I move on like And I try not to like go back in to that
- 28 box but I think in this situation it was overwhelming for me because it really tapped into these
- 29 feelings that I don't like to access, consciously, like I'll do other things, I'll work a while, I'll go
- 30 out, I'll do other things to like not access these crier emotions (laughs) they're like um, I don't
- 31 know um just different types of um overwhelming senses of emotions in that sense like I felt like
- 32 I had no control.
- 33 **I:** So you mentioned that you saw some imagery, um so what types of senses do you recall being
- 34 stimulated?
- 35 **P:** I think like sadness, longing like for that type of relationship again like with my grandma cos
- 36 like it was like, like a mother relationship I had. Um It was like, like, it was like a good feeling
- 37 like I felt good and happy seeing her but then I felt bad cos I didn't get a chance to say goodbye
- 38 properly so it was like accessing like certain parts of my life where I felt like vulnerable.
- 39 **I:** So, were the senses mainly visual or they auditory senses?
- 40 **P:** they're visual
- 41 **I:** Ok
- 42 **P:** Um yeah, they're visual.
- 43 **I:** Ok. Maybe smelling?
- 44 **P:** No.
- 45 **I:** Ok. Um, would you say that this is a similar or different feeling or experience um when
- 46 comparing it to your waking state like your normal state?

47 P: No, it's different, like I feel like my waking state um... I'm really adapting good at shutting
48 things out and shutting situations and emotions out, if somethings happening at home I can go to
49 work and look perfectly fine and operate fine where where as when I was in that state um I didn't
50 have control over what I was feeling and the emotions that were coming out and the tearing and
51 yeah so it was different and things, emotions that were coming up, I felt like I didn't have the
52 ability to impulse to stop it from coming up like it was kind of like flowing.
53 I: It's just like involuntary...?
54 P: mm hmm
55 I: Ok, so you mentioned you had feelings um so what kind of like what were the prominent
56 feelings that you experienced during the induction that really stood out to you?
57 P: Um, I don't know if overwhelmed is a feeling but I had overwhelming feelings, like I felt
58 overwhelmed like overwhelming sense of just yeah, longing and sad not sadness just longing and
59 like mm. Yeah.
60 I: Ok so do you think you would experience similar feelings in your normal waking state?
61 P: No
62 I: No?
63 P: I think in my normal waking state yeah, I'm very good at just being voluntarily controlling my
64 output. Like at first of course if when something happens like a crisis or acute incident happens I
65 feel the emotions involuntarily. But then after that I'm able to really shut the, shut the box and
66 move on and not have a visible emotional response but I think in that state I had a vis I had an
67 involuntary visible response.
68 I: Mmm.
69 P: Yeah so it was yeah, so no. Mmm.
70 I: Interesting, ok. Um So you mentioned that you did recall interacting with people in the
71 induction or experience or something to do with them, were you aware of their feelings and
72 emotions at all?
73 P: Yeah, I think it was their feelings like I was... the visual, the visual response I received was
74 really positive, like it wasn't auditory or anything but it was visual and she seemed happy and I
75 felt it so
76 I: so how did you make sense of your experience of her?
77 P: Ummm
78 I: potential experience if you will
79 P: what do you mean?
80 I: Your feeling... how did you make sense of her perceived feeling?
81 P: Oh, how did I perceive it?
82 I: Yeah
83 P: Umm, I think it was just, I don't know, I can't describe it, it was like the feeling I felt like this
84 real, like this real feeling when I felt this image um the result the facial cues and the visual, the
85 visual image um and yeah it was more like the facial cues plus how I felt in my gut, like it was a
86 gut feeling.
87 I: Uh ok, so there's no like interaction verbally?
88 P: No.
89 I: That's really interesting. Ok, so when you were hypnotised, did it feel similar overall or
90 different to your normal waking state?
91 P: Different.
92 I: I think we mentioned that (laughs). Um so would you describe it again?

- 1 **Interviewer:** How would you describe your overall experience of being hypnotised?
2 **Participant 4 (Mary):** ... It was different. Um, relaxing... um... I felt like it was more on the
3 um like the whole spiritual aspect of it. Um... I think I was expecting something different uh oh
4 than what I experienced but it was amazing that er your whole body felt very um... separated
5 from the mind.
6 **I:** Um hm
7 **P:** Especially with um... when it was being hypnotised. The relaxation and you like as if if you
8 were just floating
9 **I:** Hm
10 **P:** And uh, everything was, like nothing could hurt you.
11 **I:** Oh, that's interesting. Did you, could you go in to detail about what you experienced maybe?
12 Like any...
13 **P:** Well, during the time when the time (unintelligible) it was starting the hypnosis going under,
14 um when you're sort of went down this ladder and we pictured going down and further and
15 further. If I sort of start thinking about it I actually feel as if I would be doing it now if I were
16 basically you know close my eyes and sort of go through that sort of um interaction thinking
17 about ok this is what happened from what I remember. Going down and it makes me feel more
18 relaxed, it's like as if I would be able to do it for myself if under a stressful situation and sort of
19 stay, uh, stay down um... for even if it were thirty seconds or more until you sort of think, ok I
20 can now, I feel better, I feel more relaxed and then basically resurface.
21 **I:** Um hm
22 **P:** So for me it was uh more of a relaxation but also being able to tune in as a... to my
23 environment.
24 **I:** Ok, did you feel the emotional response or feeling that you experienced was something you
25 could control?
26 **P:** During the time erm... I believe so. Yeah I, at that time there was no fear or anything so I
27 didn't think that I needed to um stop it
28 **I:** Um hm
29 **P:** But erm I guess under you know theory, potentially I guess I would be able to but I didn't
30 want to at the time because it felt very pleasant and um... no but it's something that er... even
31 doubt a stressful situation.
32 **I:** Would you say it was something positive, negative or just something else?
33 **P:** Very positive.
34 **I:** Oh ok.
35 **P:** That's what I thought, I, that's what I felt.
36 **I:** Ok. And did you see any imagery? What kind of um yeah what kind of imagery did you see if
37 you saw any?
38 **P:** Um the imagery I was like I say going down a ladder
39 **I:** Um hm
40 **P:** And then um, it was sort of like... I felt like as if I was in water floating, without any
41 apparatus
42 **I:** Mm hm
43 **P:** And being able to just... exist within this... you know, people snorkel but it was very, but
44 you didn't have to have the equipment it was just floating kind of within water.
45 **I:** Um hm. And which senses did you recall being stimulated the most during your experience? If
46 any at all?

47 P: Er um
48 I: That maybe stood out to you
49 P: Well I know that um smell was quite er prominent
50 I: Um hm
51 P: Um... I think it was more of the sixth sense because you know you're hearing but it was
52 peaceful so there was noise outside noise that I could detect. Um the smell was more of what I...
53 as you know um could find that... that made a big difference.
54 I: Mm hm
55 P: Um... and then just the actual sense of peacefulness or I I would classify that more like sixth
56 sense.
57 I: Ok, that's fine. Um so would you say this is a similar or different experience to your normal
58 waking state if you were to compare it to that?
59 P: Ooh ok um... yeah... I would think, I would say that it's more similar um just as just before
60 you're actually like when if you're in that waking stage between um you feel, you see a dream
61 that you as you're dreaming in your [comparing to] sleep and... something tends to like wake
62 you up or you sort of think you think to yourself oh you know, when's the alarm coming on or
63 something and then um you start moving your fingers and just yeah it's in the yeah more in the
64 waking part.
65 I: Yeah so it's like more in the in-between or something.
66 P: Yeah, I think I would feel it's in-between. You don't automatically get up, you just basically
67 enjoy what's going on, the surroundings before you sort of start thinking ok its time to
68 I: Ok
69 P: Get up.
70 I: And what kind, what kinds of feelings did you experience during the induction?
71 P: Pleasant, happy
72 I: Um hm
73 P: Uh um... peaceful... relaxed... um... it was, yeah it was a very er pleasant kind of
74 I: So do you think that you would experience those type of feelings the same way um in your
75 normal waking state?
76 P: Not necessarily.
77 I: Hm
78 P: I think it was more deeper or better. Because in the normal waking waking stage it's more of
79 um ok you're listening for either the alarm or the birds or something to that would basically say
80 ok, others are awake or um you know is it really still the middle of the night or you're you're
81 looking at is it bright enough out er against your eyes or against your eyelids I should say
82 whereas when you're hypnotised you don't have that. It's just, at least for me it was more like
83 pondering ok what's coming next you know, what pleasantries am I going to sort of see or feel
84 um, it was more be trying to be in tune with what's going on around me as opposed to time to get
85 up or you know
86 I: Um hm
87 P: So so I think it was different.
88 I: Ok. Do you recall interacting with anyone in your experience of hypnosis?
89 P: No, but I know I was wishing to.
90 I: Oh
91 P: (Laughs)
92 I: Ok

- 1 **Interviewer:** How would you describe your overall experience with being hypnotised?
- 2 **Participant 16 (Tabitha):** Er... very... very interesting but very um... I don't know. I was just
- 3 very like... kind of like enlightening and like... I don't know it was just very interesting
- 4 (laughs). I don't know.
- 5 **I:** Ok that's fine. Um do you wanna could you go in to more detail that maybe if you experienced
- 6 anything, you saw anything.
- 7 **P:** Um yeah I saw... I saw myself in like a blue and white polka dot dress in like fields and then
- 8 and then I was like floating I saw like beautiful colours and like above kind of like a skyline or
- 9 something like clouds but they were just like colours like... marbled colours and stuff, um
- 10 yeah... What was what was the question again?
- 11 **I:** Just about just about your experience about being hypnotised, did you have any sort of uh
- 12 feelings or emotional response?
- 13 **P:** Yeah. There was at first there was like some resistance because we had just started it and I
- 14 was like a bit scared and then doing the the relaxation things at the beginning like really relaxed
- 15 and I kind of felt like... not like her lies but like I couldn't really move my body but I just like,
- 16 these pictures were just like coming to my mind like exactly like how we were like leading and
- 17 yeah.
- 18 **I:** Yeah ok, um did you feel like it was something like you can control, the emotions and the
- 19 feelings?
- 20 **P:** Um... ok now that I think back from like when I saw like this this girl like in the olden days
- 21 or like whenever on like the movie screen. I was like following her like and then you're like and
- 22 then like see through her eye or whatever but like before like when you're like ok I found there
- 23 was this screen and like on the screen it was kind of like an overwhelming feeling and then I got
- 24 and then like there was like this picture of this kind of like this old biddy with like dirt road and
- 25 like this women like a dark kind of dress and like a scary face which came up like a flash like a
- 26 and then like it just like disappeared and then like
- 27 **I:** Oh wow!
- 28 **P:** Yeah.
- 29 **I:** Ok that's interesting.
- 30 **P:** And then like... the then the like me and the like dress sorta was going through like a forest.
- 31 **I:** Did you, so did you feel like that feeling or emotional response was something in your control
- 32 or was it maybe was it
- 33 **P:** No.
- 34 **I:** Ok.
- 35 **P:** No so I kind of felt like scared and then like it was just was a flash or something and then like
- 36 disappeared and then I was following someone through like the meadow and yeah.
- 37 **I:** And would you say it was overall positive, or negative or neutral, um that feeling?
- 38 **P:** The feeling? The first feeling was like negative but then it was positive.
- 39 **I:** Ok, so you did mention that you saw some imagery.
- 40 **P:** Some what?
- 41 **I:** Some imagery.
- 42 **P:** Yes.
- 43 **I:** And so what type of senses do you recall being stimulating?
- 44 **P:** Um... just like sight. Nothing and and love like I felt like um just like overall calmness um...
- 45 I don't know and I felt like when I was like with the nature and pictures and imagery and stuff
- 46 like it felt calm.

47 I: Um hm
48 P: And I felt like no like smell or anything.
49 I: Hm, ok. Um would you say that this is something similar or different to your normal waking
50 state of feeling?
51 P: Like if I
52 I: Like if you're comparing like sleeping and being hypnotised in your experience what versus
53 like being aware and awake
54 P: Yeah different.
55 I: Different?
56 P: Yeah.
57 I: In what way? Just off the top of your head.
58 P: Um... It was different... it almost felt like a dream state like it was... it was like not in my
59 control so it was kinda like a dream imagery that just like, would just like come to me all of a
60 sudden like without thinking about it.
61 I: Hm. Ok. So what kind of feeling did you experience?
62 P: Feelings for?
63 I: You mentioned er
64 P: Er yeah like a bit like scared and then just an overall like calmness and like I don't know I felt
65 like I don't know I felt like... I don't know like love and calmness (indistinct noise). Yeah.
66 I: Um do you think you would experience similar feelings in your normal waking state?... Like
67 do you think you would be able to experience those feelings that you had like now?
68 P: Um, yeah. Yeah.
69 I: You do?
70 P: Yeah.
71 I: Um so do you recall interacting with anybody?
72 P: Um... yeah there was a man who was... like family. Just like family type feeling of people.
73 I: Ok. Were you aware of their feelings and emotions at all?
74 P: Um... I could... Yeah, I could sense like
75 I: So how did you make sense of their feelings and emotions?
76 P: Um I... I don't know just like... With their energy through what they like look like (laughs) I
77 don't know. Um... yeah... yeah.
78 I: Ok. Um that's ok so when you were hypnotised did you did it feel different or similar when
79 compared to your normal state of awareness in general?
80 P: Yes different.
81 I: Yep so you mentioned that it was different so could you describe it any further?
82 P: Um... I don't know, it felt like I was very like light and like not so like weighed down it was
83 very... I don't know, I can't think of any, I don't know it was just very
84 I: Maybe you can compare it to something.
85 P: Yeah um... it was like... I don't know, it was like something... like out of a movie or
86 something like just like the images like but with feeling. I don't know.
87 I: It's ok
88 P: I feel like I can't think of like the words right now
89 I: Um hm, it's ok.
90 P: Um... yeah.
91 I: So I'm just going to read out three of your responses to one of the questionnaires and I'm
92 going to ask you some questions

- 1 **Interviewer:** How would you describe your overall experience of being hypnotised?
2 **Participant 19 (Ian):** ... Hm. It is very difficult to tell that you are hypnotised throughout the
3 process basically 'cos from an insider's perspective it looks more just like something along the
4 lines of you... falling asleep I guess, almost and then trying to stay awake. Um, but at the same
5 time you're kind of conscientious of what's going on. So that you kind of fed me the answer to in
6 that regard but this form of hypnotism I I have some bias in regards to hypnotism so um I sense
7 that a) like to what extent did it actually affect you and b) what are the expected states right? 'cos
8 um
9 **I:** Mm hm
10 **P:** Based on what um you know, stereotypical things you think when you think hypnotism you
11 don't really think oh, you know you're just gonna be relaxed enough to answer things without
12 thinking as much right. You're thinking oh, I'm going to snap my fingers and I'm going to be
13 programmed to do X. so that would be my answer to that.
14 **I:** Ok, did you feel that the emotional response or feeling was something that you could control?
15 **P:** ... Personally yes but my main reason for that is I am 99% of the time in control of my
16 emotions for the most part so therefore if to me, the more calm I am the easier it is to control the
17 um like emotional state or feedback I guess and in that regard it just, if anything hypnotism helps
18 me control my emotions rather than the other way around.
19 **I:** Ok so would you say was it positive, negative, neutral or something else?
20 **P:** Um, I'd say it's more positive
21 **I:** Ok
22 **P:** Just primarily because basically the more stressed you are the more negative you feel. And the
23 more calm you are the more objectively you look at things and basically the more positively you
24 can evaluate them.
25 **I:** Yeah, I see. Ok. Um so with regard to imagery, did you see imagery?
26 **P:** Yes.
27 **I:** Ok
28 **P:** So in... that's one of the things that I found a bit I guess strange and he later explained as a
29 methodology uh was that the imagery that I see I was, basically in order to comply with the
30 experiment itself I was trying to follow closely what the uh I guess the scenario that was being
31 set so but the imagery that was present er was based on my standards so therefore when like
32 unexpected um element appeared such as you know like the the the screen, the staircase and um
33 other things that we may not necessarily be there especially based on a certain person's you
34 know preferences um but those was a bit strange I guess.
35 **I:** Um hm. So what types of senses do you recall being stimulated during the induction?
36 **P:** What do you mean by senses?
37 **I:** Like sense of smell maybe, sound. Do you recall any in particular standing out for you?
38 **P:** Mm... maybe sense of touch actually.
39 **I:** Hm, interesting.
40 **P:** Like, for example um, like the sea breeze uh from the balcony scene or um the grass from you
41 know when you walk around the see the clock sort of thing.
42 **I:** Mm hm. So that's, I see. Would you say this is similar or different to your normal waking state
43 if you're comparing the two?
44 **P:** Well the difference is that... that particular scene was induced. So if I'm in my normal waking
45 state I can recall that state that I was in but probably... very similar level of detail. But I can just
46 as similarly recall an actual physical event that happened of me for example being um on a nice

47 ocean front balcony or you know lying down by a lake which is most likely what the um
48 construct in my head was based on because it needs those experiences you know as reference. So
49 in that regard I'd say... yes and no. so yes, I could make something like that but no as it would
50 be more memory based, it would be more imagination based, unless specific effort was made to
51 make it purely non-reference.
52 I: Um hm. Ok. So what kind of feelings did you experience during the hypnotic induction?
53 P: Some confusion.
54 I: Um hm
55 P: And um... some sudden changes occurred. I was, it was more like... I guess the desire to
56 adhere to like, 'cos I I got really in to uh the role that I was trying to fulfil so when things were
57 going south a bit or that's from my point of view. Uh it was very interesting trying to adjust the
58 scene. It's sorta like you're shooting a scene you know for a tv show and then somebody uh does
59 some ad-libbing and you're just trying to go with it as the scene goes along now. I guess that was
60 the feeling you get um
61 I: Ok.
62 P: Yeah.
63 I: Yeah. Do you think you would experience similar feelings in your normal state for example?
64 P: Mm I am a lot more in control in my normal state
65 I: Mm hm
66 P: So, and most of the time... a lot of things act (sighs) rather predictably or at least, um so
67 things that would be of essence, you can usually think them through and you can think through
68 multiple possibilities and um you can actually account for let's say the major um scenarios that
69 could occur so you can be prepared more or less um kind of like a route choosing, um a planned
70 out route so to speak. But. And the smaller ones like yes they happen but but they are of less
71 consequence. Here the primary goal was to stick to a route but you had no idea what that route
72 could be so to answer your question, um probably less so in real life then this particular state.
73 I: Ok. Do you recall seeing anybody or interacting with anybody during the induction?
74 P: ... Mm do you mean besides the pseudo reflection of myself?
75 I: Um
76 P: That I was looking at through the tv.
77 I: Yeah
78 P: Um
79 I: Or yourself when you saw
80 P: No, it was just me.
81 I: Oh, ok.
82 P: So throughout the entire thing it was me going
83 I: So were you aware of your own feelings and emotions?
84 P: Yes.
85 I: Yeah?
86 P: Um
87 I: How did you make sense of them?
88 P: ... That's a deeper question. What do you mean by how do I make sense of stuff? How do I
89 know what I feel?
90 I: Yeah, when you saw yourself
91 P: Well, here's the thing. When I got the directive like oh you know you're no longer looking at
92 this from the first person's perspective um you're looking at this from a third person perspective,

Participant 22 (Anne) Transcribed Interview with Line Numbering

1 **Interviewer:** How would you describe your overall experience of being hypnotised?
2 **Participant 22 (Anne):** It was a very relaxing experience. I really enjoyed it. It was nice
3 (laughs)
4 **I:** Could you go in to more detail?
5 **P:** Um, it was cool to like have somebody kind of like lead you to thoughts and I guess
6 emotions as well where like you don't usually sit down and you know do this like to yourself
7 so you might not think that, think about places like that on your own (laughs)
8 **I:** Like you mentioned emotion,
9 **P:** Yeah.
10 **I:** Um, did you feel that the emotional response or feelings um were they something that you
11 can control?
12 **P:** For the most part yeah. But I think that like there was a first impulse of emotion and then
13 you can kinda like try and analyse it before... taking that further.
14 **I:** Um hm. Um was it a positive or negative or neutral
15 **P:** It was a positive experience
16 **I:** But the emotion itself
17 **P:** Oh the emotion. Yeah it was great, it was very like... safe feeling when like you you
18 described for me to go in to my happy place (laughs)
19 **I:** Mm hm
20 **P:** Yeah, yeah it was really good.
21 **I:** And what emotions did you experience?
22 **P:** There was a lot of peace (laughs). There was er... there was (unintelligible noise) one of
23 my (breaths) sorry it's really distracting (laughs) um... it was very peaceful. So er it was nice
24 to just be able to kind of relax and yeah.
25 **I:** So predominantly peaceful and positive
26 **P:** And positive
27 **I:** Um did you see any imagery?
28 **P:** I did
29 **I:** Um, do you wanna go in to detail? (laughs)
30 **P:** (laughs) Um, I saw a forest that I was visit in high school but I haven't been there for quite
31 a while now and it's by a river and er me and my friends would just like walk that forest a lot
32 when we were in high school so it was really nice to kind of go back there and just feel like a
33 kid again in a way really like you don't have as many responsibilities and bills and (laughs)
34 yeah it was it was really nice.
35 **I:** Hm. Did you see any other images?
36 **P:** Um there was the cabin I think the second questionnaire with the staircase? Um, my I
37 guess family's cabin that we go to on occasion it's very like it's very... you're in solitude
38 over there basically like the houses are kind of by themselves and you can kinda just sit back
39 and relax and not worry about neighbours and just enjoy (laughs).
40 **I:** Yeah.
41 **P:** Yeah.
42 **I:** Ok um, what types of senses do you recall being stimulated during the induction if
43 anything comes to mind? By senses I mean like sight, what you saw, or um smell or
44 **P:** There were like sounds of like when I was picturing the river and there was like the river
45 sounds and there were birds and um and um like the trees like rustling, not so much with the
46 cabin one which was weird but I think that like... yeah, the best one was the forest.
47 **I:** Mm hm. So what senses stood out to you the most?
48 **P:** Um... I'd say the sight, 'cos that was what I was picturing the most and then the er the
49 sound afterwards.
50 **I:** Mm hm. And like erm by senses I also mean like if you had any physical senses or

Participant 22 (Anne) Transcribed Interview with Line Numbering

51 P: Erm, no I don't think that I, I had like tingling (laughs) when er when you were
52 I: Yeah you mentioned that
53 P: telling me to, yeah, I had like some some I don't know, like little er goose bumps that
54 happened in like a couple of times when you were taking me through the relaxation like um
55 telling me to you know relax my limbs and everything it was like a wave of like just (gasps)
56 (laughs).

57 I: Would you say that this is similar or different to your normal waking state.
58
59 P: Uh it's different. It's er like when you're being hypnotised you mean?
60 I: Mm hm
61 P: Yeah, it's definitely different. It's er more... impulsive? If that's the right word? Like you
62 kinda, you don't really think about your actions or emotions before... You just kind of you
63 you feel you just feel, you go through feelings and instead of like instead of questioning why
64 you feel that way.
65 I: Interesting
66 P: Yeah.
67 I: Yeah
68 P: I don't know, I'm very like if I'm finding I like to know why I feel that way unless we're
69 very relaxing in that way where I just you know, in that way where I just went along for the
70 ride (laughs)
71 I: so just accepted whatever
72 P: Yeah. Yeah it was nice.
73 I: Very interesting. Um, what kind of feeling did you experience during the induction?
74 P: There was a lot of peace like I said before
75 I: Mm
76 P: Um, I think like with the personal questions I had some anxiety, um but it it got better later
77 on. It was just a lot of like, when I would say a number I would sometimes feel like I wanted
78 to second guess the number I'm saying.
79 I: Mm.
80 P: Where I'm like, do I really feel like that? I don't know if I feel like that (laughs). But it
81 was like, it must have been the you know that was you know, how I really felt in that trance
82 so I must have some weight to it (laughs).
83 I: Hm. Do you think that your ex- you would experience similar feelings in your normal
84 waking state like if you were to compare?
85 P: I guess
86 I: To
87 P: Like if uh, I guess somebody would ask me a question and then, I think that it would be
88 different because I would have more... it wouldn't be as impulsive when I would answer a
89 question it would just be like, oh I wonder how I do feel like this I'll I'm just going to take
90 this example from you know like every day and like every day and see how this compares
91 with, like this was very like immediate with like this is how I feel.
92 I: So you're saying it's quicker and more impulsive?
93 P: Yeah.
94 I: Ok. Um do you recall interacting with anybody during the induction? Or seeing anybody
95 really?
96 P: No. I didn't see anybody.
97 I: Nobody?
98 P: Nobody.
99 I: Mm. ok. Um... So were you aware of your own feelings and emotions?