Coulrophobia: An investigation of clinical features

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DECLARATION

I, Talia Planting, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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1. Chapter 1: Introduction and literature review

INTRODUCTION, BACKGROUND AND SIGNIFICANCE

Clowns represent more than comedic figures as can be seen in their portrayal as threatening figures, engendering distrust and displaying criminal tendencies in literature and popular media (Spratley, 2009). Anthropological studies have noted that in certain tribes, such as the Koyemshi of New Mexico, clowns are integral to specific rituals and ceremonies; with supernatural abilities and fear attributed to their presence (Spratley, 2009. Clowns are seen by some as “social outlaws” that have no boundaries and are untrustworthy behind their disguised features (Durwin, 2004).

Coulrophobia refers to a phobia in which an individual experiences significant distress, fear and or revulsion when exposed to the image and/or person of a clown (Stevenson, 2010). This condition, like other specific phobias, may start in childhood and continue into adulthood (Durwin, 2004). There is, however, limited scientific literature on this topic with little known about its characteristic demographic and clinical features.

An array of online support groups for those who share similar negative experiences of clowns has emerged. This includes *www.ihateclowns.com*, which includes a link to popular social media site Facebook (*https://www.facebook.com/ihateclowns*), which has over 8000 people who affirm this group, representing those with a shared dislike or revulsion of clowns. The site posts links to articles, pictures and videos depicting clowns as portrayed by authors, films or criminals. The comments include references to longstanding fear; disgust and mistrust of clowns; physical symptoms of distress (such as emesis), and a need to escape when encountering clowns.

While coulrophobia has been discussed in scholarly papers in the humanities, it is not well documented in the medical literature. The socio-demographics and phenomenology of coulrophobia have not been well defined. This includes if it is more common in women, like many other specific phobias (Res & Vol, 1996). Further exploration and description is needed to see if this is a diagnostic entity that fits DSM-5 criteria for specific phobia.

RESEARCH AIM

This is an exploratory, observational study with the aim of expanding the knowledge on a phenomenon that is underreported in scientific journals despite its apparent widespread occurrence in thousands of individuals.

The primary aim of this study is to investigate the socio-demographic factors and symptomatology of coulrophobia in online support groups of those who report to be scared of clowns, and to assess whether such factors and symptoms are similar to those of better studied specific phobias (e.g. early onset, more common in women).

A secondary aim is to determine if those who self-report coulrophobia have symptoms that are limited to anxiety, or whether they also have symptoms that are more consistent with a specific phobia (e.g. disgust, other DSM-5 diagnostic criteria).

Lastly this study will aim to determine the extent of psychological distress and impairment in individuals with coulrophobia in these online support groups, in order to help address the question of whether coulrophobia meets the definition of a mental disorder.

This will be done by obtaining data to fill the gap in the existing body of knowledge in this field, and in so doing inspire further research into this area to aid those who suffer from it.

RESEARCH OBJECTIVES

Objective 1: To determine socio-demographic variables in self-reported coulrophobia, including assessing whether coulrophobia is more common in women than in men.

Objective 2: To determine the course, duration and severity of symptoms in coulrophobia, including assessing whether coulrophobia has early onset.

Objective 3: To determine if those who self-report to have coulrophobia only fear clowns or are also disgusted by them.

Objective 4: To determine if coulrophobia fulfills all of the DSM – 5 criteria for specific phobia.

Objective 5: To use standardized symptom measures of psychological distress and impairment in individuals with coulrophobia.

RESEARCH HYPOTHESIS

It is hypothesized that while there will be varied socio-demographic factors and phenomenology (severity of symptoms, course and duration of symptoms, comorbidities, extent of psychological distress and functional impairment) in a population with self-reported coulrophobia, some individuals will have sufficiently significant distress and impairment that they meet criteria for a mental disorder. Like other phobias, coulrophobia will have early onset, and will be more common in females. Finally, it is hypothesized that coulrophobia will be phenomenologically similar to specific phobias.

LITERATURE REVIEW

A literature search was done to ascertain if there was prior research on coulrophobia, and if so what. The following databases were used: Medline, PsycARTICLES, PsychiatryOnline, PsycINFO, Pubmed, Scopus and Google Scholar. Search terms used while searching these databases included: “clown,” “fear,” “phobia”, “anxiety,” “coulrophobia,” “prevalence,” “epidemiology”, “internet-based,” “research,” “scales” and “ethics.”

In addition to articles found from search terms used above, further articles from the bibliographies of these articles were used.

Coulrophobia

Coulrophobia is a term used to describe an abnormal fear of clowns (Stevenson, 2010). It is not well documented in scientific articles. A peer reviewed letter by Austin and McCann noted a phenomenon where certain children were afraid of clowns and an incidence of a

middle aged woman who too had an aversion to clowns: displaying fear behavior when confronted with a clown (Austin, R.K., & McCann, U.D. 1996). They devised the term ballatrophobia to describe this.

The idea of a 'clown' has been associated with court jesters; village idiots; a type of tribal shaman engaging in socially taboo behavior during ceremonies; sacred beings with supernatural abilities, and the modern day clown with the typical painted face and exaggerated body parts (Durwin, 2004). Although this study will focus on the modern day circus clown as the object of coulrophobia, it is linked to the historical associations of clowns having supernatural abilities and performing offensive acts.

It is unclear whether those who self-report to have coulrophobia are scared of clowns because of their appearance, fear associations, or are disgusted by and as a result hostile towards clowns due to their portrayal in media as evil (Durwin, 2004).

Clowns may be perceived as threatening due to their subversive, deviant and at times violent behavior that is portrayed as harmless or without serious consequence (Spratley, 2009). This, coupled with the combination of exaggerated features that give the sense of both real and uncanny qualities, puts them on par with monsters for certain individuals (Spratley, 2009).

Stott, an English professor at the University of Buffalo, notes that the idea of clowns as a scary figure started in "The Pickwick Papers" by Charles Dickens; He describes the memoirs of Joseph Grimaldi, a famous comic pantomime entertainer in London during the early 1800's with a chaotic personal life, in a way that shows how humor can be a façade of an underlying disturbed persona (McConnell Stott 2009).

Clowns continued to receive notoriety when "Pogo", otherwise known as John Wayne Gacy or "Killer Clown", a registered entertainer hiding behind the façade of a clown costume was reported to have sexually assaulted and murdered at least 33 men and boys (Durwin, 2004). Various forms of media continued to portray the dark side of clowns throughout the 1900s, with the film "Poltergeist" and Stephen King's novel "It" (1986) describing Pennywise, an evil clown that attacks children (Durwin, 2004).

Related to this may be the use of clown costumes by certain criminal groups and murderers.

A California State University professor, Durwin, noted that people who fear clowns can experience panic attacks when confronted with one, experiencing physical symptoms such as sweating, nausea, shortness of breath and feelings of dread (Durwin, 2004). He drew attention to the possible cause of this fear being linked to the socially unacceptable

qualities that clowns embody: having “no boundaries” and being “adults who behave like children” (Durwin, 2004).

Etiological theory

As an adaptive evolutionary process:

Research has shown that those with anxiety disorders, including those with specific phobia, have preferential attention biases towards stimuli that are threatening, over those which are neutral (Cisler & Koster, 2010). In the case of a clown phobia the image, or persona, of a clown is viewed as a threatening stimulus. Some of the mechanisms described by various models ascribe the underlying mechanisms to this attentional bias as being an adaptive evolutionary process (Öhman, A. (1996, 2005); Öhman, A., & Wiens, S. (2004)); a system that is vulnerable to prioritizing minor stimuli as overly threatening (Mogg, K., & Bradley, B. P. (1998)). Another proposed mechanism includes an increased underlying anxiety sensitizing one toward attentional bias of minor danger signals (Matthews, A., & Mackintosh, B. (1998)).

A form of classical conditioning:

Ohman et al (2001) have suggested that there is selective attention paid to stimuli based on threats that are evolutionary; with further preferential attention to threat when it is associated with a strong emotion, such as fear. (Ohman, Flykt, & Esteves, 2001). The Horror genre in popular media may perpetuate this by exploiting the menacing aspects of incongruous physical features; whereas comic figures utilize the same features as a form of entertainment (Spratley, 2009). Seligman (1971) further suggested that these strong fear associations may be formed between feared stimuli and harmful outcomes in the past, forming an association that is difficult to terminate. Psychologists who link clown phobia to a traumatic experience with a clown in childhood corroborate this (Durwin, 2004). In a study from Sheffield University involving 250 children between the ages of 4 and 16, Curtis found that the majority of children responded negatively to clown themes in hospitals; these children disliked clowns and found them scary (Anon 2008a).

Fear evaluation in classical conditioning may also encompass an element of disgust and sensitivity toward disgust (Merckelbach, De Jong, Muris, & Van Den Hout, 1996). In animal phobias, for example, in fear of spiders, disgust is evoked and is coupled with an increased sensitivity toward negative perceptions of spiders (via modeling behavior or information about their undesirability) resulting in a phobia of spiders (Merckelbach et al.,

1996). This theory links to the portrayal of clowns as menacing characters in media, potentially increasing the disgust associated with them in those sensitive to this.

As a consequence of perceptual distortion:

There may also be an underlying perceptual distortion in situations where there are a variety of sensory signals at the extremes of particular perceptual category creating a tension in perception that can manifest as extreme emotional or physical discomfort (Moore, 2012). In coulrophobia, a clown perceptually represents a human at the periphery of the 'person' category causing a fearful reaction in the sufferer (Moore, 2012). This is seen in various typical physical appearance of a clown; for example oversized shoes; exaggerated red mouth and cheeks painted on a white face; and garish wigs of colorful hair (Spratley, 2009). These distortions are automatically detected and while embellishments of a human face, they distort it and can be interpreted as malevolent, causing discomfort in certain people (Spratley, 2009). A professor of psychology at California State University Northridge, Dr Ronald Doctor, notes "Kids around two or so are very reactive to a familiar body type with an unfamiliar face" (Durwin, 2004).

As part of background research for underlying causes of phobias:

From a cognitive motivational understanding

Anxiety is seen as a consequence of hypersensitivity to potential threat in those with high trait anxiety where visual attention is preferentially drawn to stimuli perceived as threatening (Mogg & Bradley, 1998). The emotional value assigned to such stimuli accounts for this selective attention in those with high trait anxiety (Mogg & Bradley, 1998). Mogg explains that there is a valence evaluation system that assesses the potential threat of a stimulus based on the physical properties of the stimulus; the context in which it is found and stored memory of the stimulus. This feeds into a goal engagement system that processes the threat and decides on appropriate action (Mogg & Bradley, 1998).

An individual with high trait anxiety is thought predisposed to an overactive valence evaluation system for stimuli with mild threat value. In addition there is a postulated discrepancy in the subjective and reasonable evaluation of a stimuli's threat value with insufficient regulation by the valence evaluation system (Mogg & Bradley, 1998). In the case of coulrophobia, it is hypothesized that the sight of a clown would trigger the valence evaluation system leading to excessive anxiety with a lack of modification of the

valence system, due to the dysregulation between the subjective threat and logical assessment of real threat (Mogg & Bradley, 1998).

Due to dysfunctional brain circuitry:

An explanatory model asserting an underlying dysfunction in the functional brain circuitry can be considered in the understanding of phobias. Specifically brain circuitry involved in the assessment of potential danger or disinhibition of networks that modulate threat assessment (Sylvester et al., 2012) . Neuroimaging has shown the prefrontal cortex and amygdala to be key areas of brain neurocircuitry detecting potential environmental threat (Telzer et al., 2008). In particular, the ventral prefrontal cortex is activated when determining the emotional significance of environmental stimuli and resulting emotional responses (Telzer et al., 2008). Together with the orbitofrontal cortex, it has a role in the autonomic response to emotive stimuli (Phillips, Drevets, Rauch, & Lane, 2003). The insula has also been shown to be part of the neurocircuitry involved with anticipatory anxiety; with animal associated phobias it is shown to be involved in the emotional response to feared stimuli (Phillips et al., 2003).There are different theoretical proposals regarding the underlying mechanism. The common theme is that it is an automatic process that enhances the process of shifting attention toward a perceived threat.

Is coulrophobia more common in women than in men?

In a large study conducted by Fredrikson et al (1996) it was shown that in general, specific phobias are more common in women than in men (Res & Vol, 1996). Women have been shown to have higher prevalence rates for animal phobias (snakes and spiders) and situational phobias (heights, darkness, flying, enclosed spaces and lightening), whereas mutilation phobias (injections, injuries and dentists) were found to be evenly distributed in men and women (Res & Vol, 1996).

Mclean, et al (2009) suggest that the gender bias in women toward increased anxiety and fear related disorders may be related to gender socialization and environmental influences (McLean & Anderson, 2009). Expanding on this, their study suggests women as more likely to use emotion-style coping leading to less efficacy in managing stress, and therefore the perception of inadequacy and avoidance in threatening situations (McLean & Anderson, 2009). Merckelbach, et al added that men are socialized to interact with feared situations resulting in a protective effect (Merckelbach et al., 1996).

Why use Internet based research?

There is a large community of people using the Internet to find shared support and understanding of their fear of clowns (Spratley, 2009). One such online support group includes: *www.ihateclowns.com*, a website run by Rodney Blackwell that provides a space for those with who fear, hate or dislike clowns to interact with others who share similar views.

There are many advantages to internet based research, including ease of access to a wider population sample, or to a select population via chat rooms, with relatively low cost in terms of both monetary requirements and the logistics of data collection (Reips, 2002). This includes potential for greater accessibility to sample sizes of a specific research population than by more traditional research methods (Gosling, Vazire, Srivastava, & John, 2004).

Kraut et al notes the researcher does not have to repeatedly introduce the research, inform and instruct each participant; it can be done in one introductory passage that is read online by each participant. There is also minimization of data collection bias from human transcription of participants responses, as each response is captured by respondents in real time online (Kraut & Bruckman, 2004).

It also allows retrieval of sensitive information, provided anonymously, that may otherwise be withheld (Reips, 2002), by avoiding the intrusive element that may accompany face-to-face interviews. This allows the researcher to be more discreet (Kraut & Bruckman, 2004). This form of collecting information is easier to retain without it being misplaced as with a paper survey (Cook, Heath, & Thompson, 2000).

Internet based research does have concerns such as population selection bias because certain populations have greater access and resources than others; or those who are insincere in their answers, which can be minimized in face-to-face interviews by visually verifying a participants demographic data and assessing the seriousness with which they respond to questions (Kraut & Bruckman, 2004).

However Gosling and colleagues have addressed these biases in a study on preconceptions regarding internet based studies. They found that internet samples are more diverse in certain areas than those collected traditionally in terms of gender, geographic location, sociodemographic status and age; and were equally representative of race as traditional study methods (Gosling et al., 2004). Internet based studies may be

particularly useful for volunteer study populations, allowing more definite and comprehensive responses (Gosling et al., 2004).

METHODS

This will be an analytic descriptive study using an Internet survey as the method for data collection.

Sampling and procedure for sampling

The study population will consist of an internet support group on popular social media site Facebook, with over 8000 people having identified it as a group they support, with regular activity on the group. It is an open group to the public; making consent from the individuals participating in the survey pertinent to this study. This is addressed by Appendix A, which individuals will have to agree to prior to completing the survey.
Other online groups to use should there be an inadequate response from the ihateclowns facebook group, include

- a group on online site “similar worlds” *https://similarworlds.com/group?fid=3915900&name=I-Hate-Clowns*
- members of twitter feed linked to “#ifIseeaclown”
- members who have identified themselves as having coulrophobia from “theexperienceproject” site

This will be done via a survey (Appendix B).

The study population is made up of a group of people who self-report to have experience significant anxiety from and/or repulsion of clowns. Participant recruitment will happen via a link posted on the support group site, which would allow an individual to complete the questionnaire. It would pertain only to those individuals aged 18 years and older who self-report significant fear of/ repulsion to clowns.

The percentage of participants who will respond cannot be statistically predicted so an adequate sample size is estimated to be 100 to 200 participants.

Inclusion Criteria: Participants aged 18 years and above who self-report a fear /repulsion of clowns

Exclusion Criteria: Participants aged less than 18 years; those without a self-reported fear/ repulsion of clowns

Measures

A self-administered online questionnaire (Appendix B) run from Surveymonkey will comprise the outcome measure.

To prevent individuals completing the survey multiple times SurveyMonkey provides an inbuilt electronic system.

The content of the questionnaire will comprise socio-demographic information and phenomenology –symptoms, symptom severity, course, duration, comorbid illnesses, and extent of psychological distress and functional impairment – in individuals who self-report to have coulrophobia. It will also include a section on DSM-5 criteria for specific phobia.

The two scales used to measure extent of psychological distress and functional impairment will include:

- The Kessler Psychological Distress Scale (K10): consisting of ten questions based on symptoms of anxiety and distress that represent the degree of distress experienced over the preceding four weeks.
- The Sheehan Disability Scale: consisting of three questions focusing on the effect of symptoms on work, family life and social functioning (Sheehan & Sheehan, 2008). This will determine functional impairment caused by coulrophobia related symptoms.

This survey will be administered only in English and take approximately twenty minutes to complete.

Data analysis

The primary researcher will capture data on Excel spreadsheets.

A member of the UCT Department of Statistics will be contacted to aid in the analysis of Data.

Visually, categorical data will be represented on bar charts and continuous data on histograms.

Means and standard deviations will be used to describe continuous data, and if the distribution is skewed medians and quartiles will be used. Frequencies will be used to describe categorical data.

There will be an estimation of the proportion of males and females with self-proclaimed coulrophobia who fulfill criteria for specific phobia with confidence intervals.

LIMITATIONS OF THE STUDY

As the study population consists an online support group of self-reported individuals with coulrophobia, it will be difficult to conclude if it is a representative sample of the general population. There may therefore be low external validity as the study results may not be generalizable to other populations. There is likely to be a more representative sample from an online population as it accesses an international group of people with a broader demographic distribution (Reips, 2002).

There may also be self-selection bias from a low response yield from the proposed study population. This may partly be in response to a perceived threat of privacy from the imposition of a researcher into a support group's online community (Eysenbach & Till, 2001). In spite of this, electronic surveys have been shown to reach a considerable numbers for a research population in an efficient way (Cook et al., 2000).

Validity of respondents' answers from an online support group may be compromised by desire to appear acceptable with what they consider to be the group norms (Leng, 2013). The anonymity and voluntary nature of survey completion should aid in addressing this (Reips, 2002). They may be careless or deceptive in their responses.

Generalizability of findings may be limited by poor availability and accessibility of online participation, due to low socio-economic status or educational level, as a further study limitation (Leng, 2013). Language barrier will also preclude certain group members from participating in the study, as the survey will only be conducted in the English language.

ETHICAL CONSIDERATIONS

Consent

Informed consent will be obtained with the use of a consent form and informative paragraph (Appendix A) advising that participation is voluntary, anonymous, and for the use of a research project. Included in this form would be the proviso that participants be 18 years or older, and the option to withdraw from the study at any stage during completion of the questionnaire by closing the web browser or emailing the primary researcher to withdraw a completed questionnaire.

Two links at the start of the questionnaire would allow only those who click “agree to consent” to complete the remainder of the ensuing questionnaire, and those who click “disagree to consent” to be excluded from completing the questionnaire (via an inbuilt electronic system within the SurveyMonkey questionnaire).

In order to minimize participation of individuals less than 18 years of age there will be a leading question stating age, which would be linked to an inbuilt electronic system in SurveyMonkey removing those who enter an age less than 18 years of age. It will also be designed to interest adults as opposed to children and teenagers younger than age 18: images appealing to the lifestyle and tastes of youth will be excluded.
Any questions that are not agreeable to participants can be skipped by clicking on the “next” link at the end of each individual question.

There is no remuneration or cost to individuals participating in this study.

Anonymity

Participants would remain anonymous, as there will be no identifying data as part of the survey or in the research data collection and write-up. This includes no exact quotes of their responses.

Confidentiality

Data collected during the study will be kept confidential by providing for participant anonymity, and having access of online records restricted to the research team. This will be done with the aid of password access. Any additional records to the above will be kept in a protected place that only members of the research team would have access to. On completion of the study, the primary researcher will erase these records.

Non-maleficence

Efforts to minimize triggering symptoms of coulrophobia will include: exclusion of images of clowns; explanatory statement at start of questionnaire highlighting this as well as advice to seek care from a health care professional should symptoms be overwhelming (Appendix A).

There is a low probability of causing predictable psychological harm and no risk of physical or economic harm for participants in this study.

The Human Research Ethics Committee University of the Cape Town Faculty of Health Sciences will be requested for authorization to do this study.

Should participants request the results of the study or further educational information with reference to coulrophobia, they will be provided with an email address of the primary researcher on the information sheet (Appendix A). This information will be provided at no cost.

This proposal observes the declaration of Helsinki.

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2. Chapter 2: Publication-ready Manuscript

Coulrophobia: an investigation of clinical features

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ABSTRACT

Background: Coulrophobia describes the experience of significant distress, fear and/ or revulsion when exposed to the image and/or person of a clown (Stevenson, 2010). It may start in childhood and continue into adulthood (Spratley, 2009). There is limited scientific literature on this topic despite multiple online support groups attesting to the reality of this condition.

Methods: Data collection using a self-administered online questionnaire from Surveymonkey was made available via a link on the larger of these online support groups on Facebook. It explored socio-demographic information and symptom phenomenology – symptom severity, course, duration, comorbid illnesses, and extent of psychological distress and functional impairment – in individuals who self-report coulrophobia. Fear of clowns is more commonly associated with fear (45.3%) than disgust (37.9%). The possibility that fear of clowns comprises a specific phobia was also examined. Those from the fear predominant group are also more likely to fulfill DSM-5 criteria for specific phobia. Extent of psychological distress and functional impairment were measured and compared to symptom severity and duration.

Results: There were 95 respondents to the online survey, of which 79 were female and 16 male showing it to be more common in females. The mean age of participants was

39.82 ±12.60 years, mean age of symptom onset 9.02 ±6.12 years and mean duration of 30.44 ±12.94years. It appears to have a chronic course from onset with 30.53% identifying a specific trigger and 22.11% a positive family history of coulrophobia. It is more commonly associated with fear than disgust (45.3%). Those from the fear predominant group are also more likely to fulfill DSM-5 criteria for specific phobia. The most common comorbid disorders are major depressive disorder, obsessive-compulsive disorder, panic disorder and social anxiety disorder. Use of the Kessler Psychological Distress Scale indicated a significant level of psychological distress associated with coulrophobia. The greatest area of impairment in coulrophobia was in social functioning, measured by the Sheehan Disability Scale Functional impairment was strongly associated with severity of symptoms, but not with symptom duration.

Conclusion: Coulrophobia is a phenomenon that warrants clinical attention, as it is associated with significant comorbidity, psychological distress, and impaired functioning.

INTRODUCTION

Coulrophobia refers to significant distress, fear and/ or revulsion when exposed to clowns (Stevenson, 2010). It may start in childhood and continue into adulthood (Durwin, 2004). Those who suffer from this phobia record a longstanding fear and/or disgust associated with clowns along with physical symptoms of distress and a need to escape when encountering them. This fear may be linked to the socially unacceptable qualities that clowns embody; the portrayal throughout media of the dark side of clowns throughout the 1900s, or the use of clown costumes by certain criminal groups and murderers (Durwin, 2004). Clowns may be perceived as threatening due to their subversive, deviant and at times violent behavior that is portrayed as harmless or without serious consequence (Spratley, 2009). This coupled with the combination of exaggerated features that give the sense of both real and uncanny qualities puts them on par with monsters for certain individuals (Spratley, 2009).

Although coulrophobia has been discussed in scholarly papers from the arts faculty, it is not well documented in medical literature.

An array of online support groups has emerged for those sharing similar negative experiences of clowns. This includes the popular social media site, Facebook, with over

8000 individuals identifying having either a fear or revulsion of clowns. There are links to articles, pictures and videos depicting clowns as portrayed by authors, films or criminals. The comments include references to longstanding fear; disgust and mistrust of clowns; physical symptoms of distress (such as emesis), and a need to escape when encountering clowns.

Although coulrophobia has been discussed in scholarly papers from the humanities, it is not well documented in medical literature. One possibility is that coulrophobia is a specific phobia; in this case its sociodemographic and clinical characteristics would overlap with those of other specific phobias. There are, however, many gaps in our knowledge. First, although specific phobia is more common in women, gender differences in coulrophobia are not well documented. Second, in specific phobia there are multiple comorbidities, and panic attacks may occur. These have only rarely been noted in coulrophobia (Durwin, 2004). Third in specific phobia there are elements of fear and of disgust. Although such elements are apparent in some writing on clowns, the medical literature has not explored this distinction in coulrophobia.

This study aims to expand the knowledge on a phenomenon that is underreported in scientific journals despite its apparent widespread occurrence in thousands of individuals. The following were evaluated: socio-demographic variables, precipitants, family history, symptom severity and duration, comorbid illnesses, extent of psychological distress and functional impairment. Additional questions were asked: if onset and gender are reminiscent of other specific phobias such as animal and situational phobias (Res & Vol, 1996); whether the participants fear clowns or are disgusted by them; and whether fear of clowns resembles a specific phobia. Associations between the fear versus disgust groups and functional impairment, severity and duration of symptoms are also described.

METHODS

a) Sample

A survey of adults (18 year and above) who self-identified as having a fear or disgust of clowns and were part of the Facebook community (in online support groups for others who identified as having fear or disgust of clowns) was conducted. There were approximately 8000+ members on these groups and 95

questionnaires were completed, resulting in a response rate of approximately 1.2%.

b) Questionnaires

A self-administered online questionnaire comprising socio-demographic information and phenomenology – symptoms, symptom severity, course, duration, comorbid illnesses, and extent of psychological distress and functional impairment – in individuals who self-report to have coulrophobia was used. It also included a section on DSM-5 criteria for specific phobia to evaluate if coulrophobia resembles a specific phobia. Two scales were used to measure extent of psychological distress and functional impairment:

- The Kessler Psychological Distress Scale (K10)
- The Sheehan Disability Scale (Sheehan & Sheehan, 2008)

c) Statistical analysis

Frequencies of categorical variables were calculated and chi-square tests were undertaken to assess group differences. Means of continuous variables were calculated and t-tests were undertaken to assess group differences. Those with predominantly fear of clowns and those with predominantly disgust of clowns were compared on the following variables: average duration of symptoms, and average time thinking about clowns were evaluated using an independent samples t-test. Spearman's rank correlation coefficient was calculated to evaluate associations between scores of experience of anxiety, duration of symptoms, and average time thinking about clowns.

RESULTS

a) Demographic features

A higher portion of respondents were female (83.2%) than male (16.8%) with an age range of 19 to 65 years (mean=39.8; ±12.6). 54% of respondents were married or in a domestic partnership while 29% were single and never married. 59% had a University or college level of education and 17% completed up to high school. 59%

were employed full time, 8% were retired and 6% were completing further studies with a further 6% being homemakers.

Figure 1: Proportion of respondents according to gender

Gender	Freq.	Percent	Cum.
Male	16	16.84	16.84
Female	79	83.16	100.00
Total	95	100.00	

Figure 2: Employment status

Employment status	Freq.	Percent	Cum.
Completing further studies	6	6.32	6.32
Employed, full time	59	62.11	68.42
Employed, part time	5	5.26	73.68
Out of work but not currently looking f	2	2.11	75.79
Homemaker	6	6.32	82.11
Retired	8	8.42	90.53
Receiving disability or unable to work	4	4.21	94.74
Other	5	5.26	100.00
Total	95	100.00	

Figure3: Highest level of education reached

Highest Level of Education	Freq.	Percent	Cum.
University/college or equivalent	59	62.11	62.11
Intermediate between high school and un	19	20.00	82.11
High school	17	17.89	100.00
Total	95	100.00	

b) Clinical features

1. Precipitants and family history

69.5% did not identify a specific experience triggering their coulrophobia. Of the 30.5% who identified a specific trigger, 7.4% identified the film “IT” as the precipitant, 3% noted a clown at the circus and a further 3% noted a clown in their personal space. 75.8% experience symptoms only when they see a clown, whereas 24.2% experience symptoms constantly. 22.11% of respondents identified having a relative with coulrophobia.

2. Duration and persistence

Symptom onset ranged from age 1 to age 35 years (mean=9.02 ±6.12). The duration of symptoms ranged from 6 to 60 years (mean=30.4 ±12.9). 89.5% of respondents noted no remission in symptoms from initial onset, with only 10.5% having a period of remission since symptom onset. 3.2% of those experiencing a remission had a 10-year decrease in symptoms. Respondents spent an average of 1.3 ± 3.5 hours per week thinking about clowns. 3.2% of respondents experience coulrophobia once per day, 21.1% once per week, 24.2% once per month, 45.3% once per year and 5.3% less than once per year.

Figure 4: Age of Onset and Duration of Symptoms

variable	N	min	mean	p50	max	sd
Q2_Age	95	19	39.82105	37	65	12.59684
Q9_AgeFirs~l	95	1	9.021053	8	35	6.117604
Q12_Durati~l	95	6	30.44211	29	60	12.94482

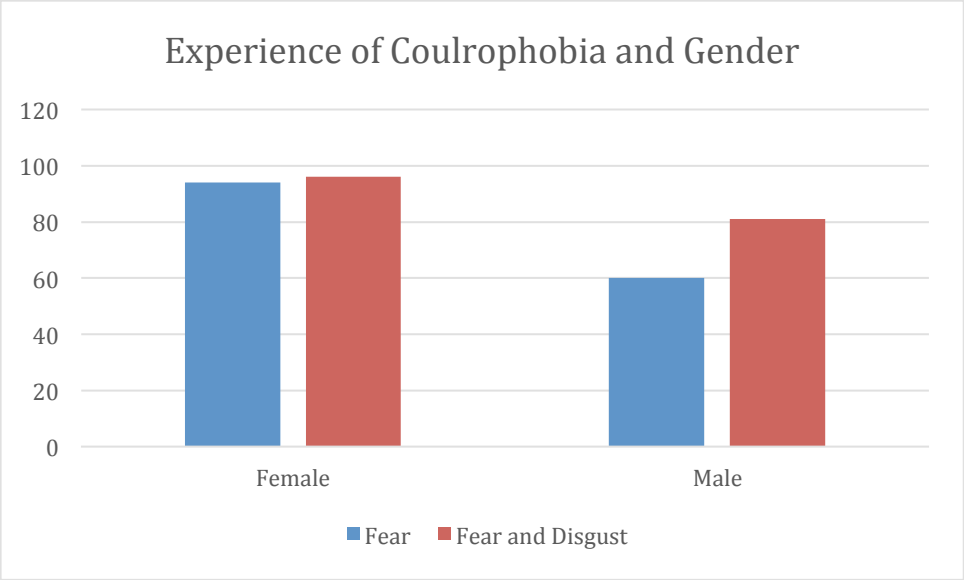
3. Male vs female

Males made up 5.9% of the only fear group, 40% of the only disgust group, 3.9% of the mostly fear but also disgust group, 19.1% of the mostly disgust but also fear group and 25% of the equal fear and disgust group. Females made up 94.1% of the only fear group, 60% of the only disgust group, 96.1% of the mostly fear but also

disgust group, 80.9% of the mostly disgust but also fear group and 75% of the equal fear and disgust group.

Results from the Fisher's exact test (p= 0.021) showed that there is an association between experience of coulrophobia and gender. A larger proportion of female respondents indicated fear only (94.12%) or fear and disgust (96.15%) compared to the male respondents (60% and 80.95% respectively).

Figure 5: Association between experience of coulrophobia and gender



4. Treatment

The majority of respondents (96.8%) had not received any treatment for their coulrophobia, 1.05% have received counseling and 2.15% report receiving other forms of treatment. Of those who received treatment for their coulrophobia none identified it as helpful.

3.2% of respondents spent on average 1 hour per week on an online support group for those with coulrophobia, 2.1% spent in the region of 2 hours per week on an online support group and 1% spent up to 4 hours per week on an online support group for coulrophobia. 10.5% identified online support groups for coulrophobia as helpful.

5. Severity

7.4% reported experiencing severe anxiety with panic attacks from exposure to clowns.. 7.4% experienced severe anxiety without panic attacks, 29.5% experienced moderate anxiety, 46.3% experienced mild anxiety and 9.5% reported experiencing no anxiety. Of the respondents reporting panic attacks related to their coulrophobia, 8.4% had 1-2 per month while 1.1% had more than 10 per month.

Of the predominantly fear group: 5.9% experience no anxiety related to their coulrophobia, 23.5% experienced mild anxiety, 41.2% experienced moderate anxiety, 17.6% experienced severe anxiety without panic attacks and 11.8% severe anxiety with panic attacks. Of the predominantly disgust group: 9.5% experienced no anxiety, 52.4% mild anxiety, 33.3% moderate anxiety and 4.8% severe anxiety with panic attacks.

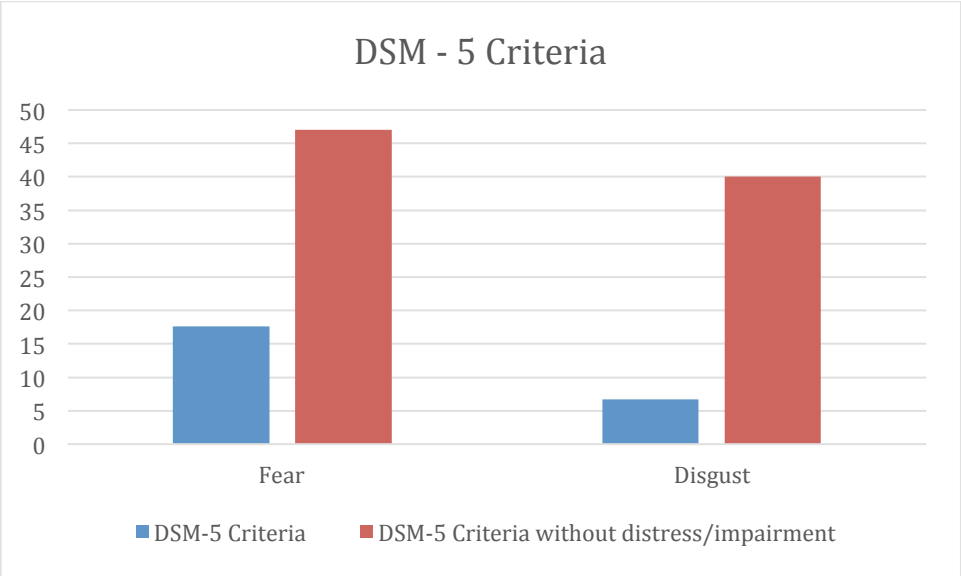
6. Associated features

When exposed to clowns, 43.9% experienced palpitations, 27% experienced shortness of breath and 14.2% felt nauseous. 14.9% of respondents identified feeling humiliated by their coulrophobia.

c) Specific phobia

Using the DSM-5 criteria for specific phobia, 9.5% of respondents fulfilled criteria for a specific phobia involving clowns, and 42.1% fulfill DSM-5 criteria for a specific phobia other than the distress/impairment criterion.

Figure 6: Proportion of fear versus disgust groups fulfilling DSM-5 criteria for specific phobia, with/without distress/impairment criterion

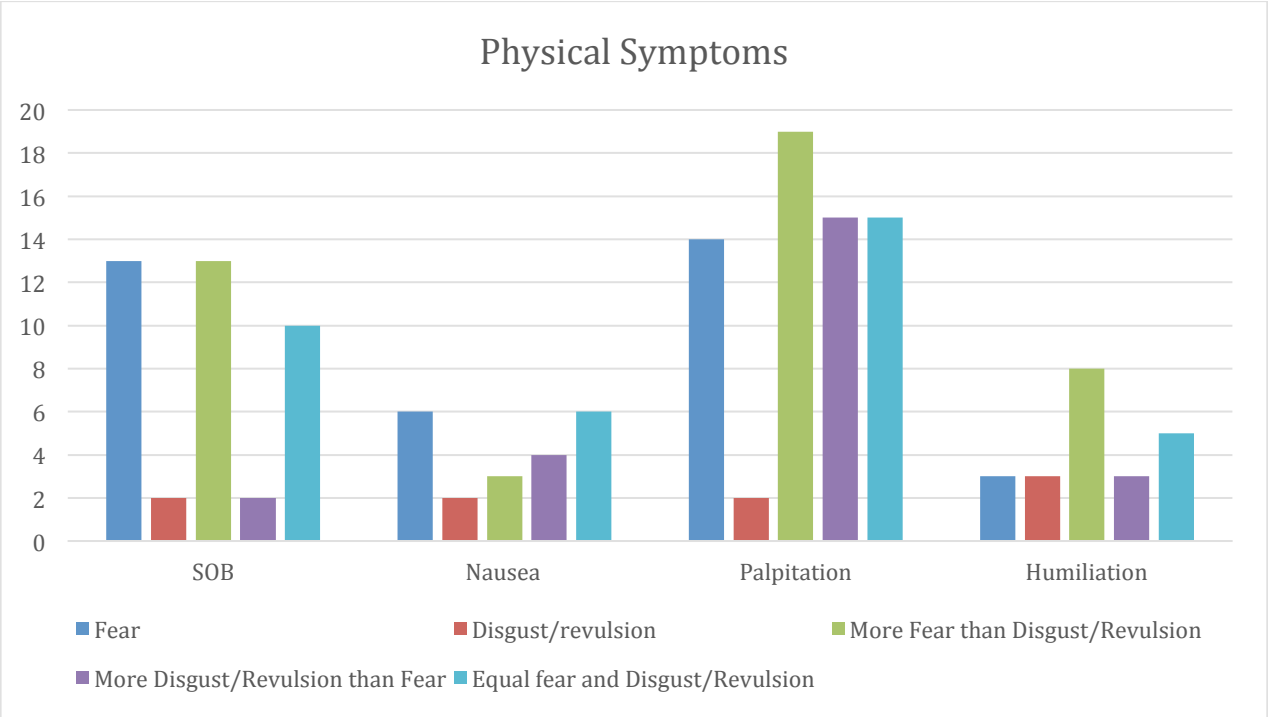


Fear vs disgust

It is unclear whether those who self-report to have coulrophobia are scared of clowns because of their appearance or fear associations, or are disgusted (Durwin, 2004). In this sample 17.9% of respondents report only fear associated with clowns, whereas 27.4% experience mostly fear but also disgust. 15.8% experience only disgust associated with clowns and 22.1% experience mostly disgust but some fear. 16.8% experience equal amounts of fear and disgust on exposure to clowns.

Of those who experience only fear associated with clowns, 76.5% report shortness of breath, 35.3% nausea and 82.4% palpitations. Of those who experience only disgust associated with clowns, 13.3% each experience shortness of breath, nausea and palpitations. Whereas of those who experience mostly fear but also disgust associated with clowns, 50% experience shortness of breath, 11.5% nausea and 73.1% palpitations. Of those who report mostly disgust but also fear associated with clowns, 19.1% experience shortness of breath, 16.7% nausea and 71.4% palpitations.

Figure 7: frequency of physical symptoms of panic in the different fear versus disgust groups



Fear and disgust groups were compared in terms of hours thinking about clowns and mean duration of symptoms using independent samples t-test with unequal variances. On average the disgust group had a longer duration (M=37.93, SD=15.46) compared to the fear group (M=25.59, SD=10.42); t(24.09)=-2.6126, p=0.0152 indicating a statistically significant result. On average the fear group spent more time thinking about clowns (M=3.53, SD=6.79) compared to the disgust group (M=0.13, SD=0.35); t(16.0973)=2.0583, p=0.0561, which was not statistically different.

Those who fulfilled DSM-5 criteria for specific phobia associated with their coulrophobia symptoms comprised 17.6% of the only fear group and 6.7% of the disgust group. Those who fulfill DSM-5 criteria for specific phobia without the distress/impairment criterion comprise 47.1% of the only fear group and 40% of the only disgust group.

d) Comorbidity

9.5% of respondents have a diagnosis of major depressive disorder and 6.3% suspected having undiagnosed major depressive disorder. 5.3% have a diagnosis

of obsessive compulsive disorder, whereas 14.7% suspect having undiagnosed obsessive compulsive disorder. 2.1% have a diagnosis of bipolar mood disorder and a further 2.1% suspects having undiagnosed bipolar mood disorder. 3.2% of respondents have a diagnosis of panic disorder and another 3.2% a diagnosis of social anxiety disorder, while 9.5% suspect having undiagnosed generalized anxiety disorder, 4.2% suspect having undiagnosed panic disorder and 6.3% suspect having undiagnosed social anxiety disorder. 1% have being diagnosed as having a specific phobia (other than coulrophobia) and a further 1% suspect having a specific phobia (other than coulrophobia). 72.6% have never had a diagnosis of a psychiatric disorder and 47.4% do not suspect having a psychiatric disorder.

Of those with a specific phobia other than fear of clowns, 24.1% identified the source of their phobia to be animals (e.g. snakes or spiders); 21.2% identified the natural environment (e.g. heights) as the source; 8% identified blood, needles or invasive procedures; 32.8% identified specific situations (e.g. airplanes, elevators) and 13.9% noted other causes as the source of their specific phobia. 15.9% of respondents fulfilled DSM-5 criteria for specific phobia and 29% fulfilled DSM-5 criteria excluding the distress and interference in function criterion.

e) Impairment

Psychological distress using the K10 test

Using the K10 test to report level of psychological distress irrespective of diagnosis, 62.1% identified experiencing minimal psychological distress, 13.7% experiencing mild distress, 9.5% moderate distress and 14.7% severe psychological distress.

Functional impairment using the Sheehan Disability Scale (SDS)

Using the SDS to measure functional impairment in work, family or social sphere (score of 5 or more in any one of these spheres indicating severe dysfunction): 6.3% experienced severe disruption of work or school functioning; 13.7% experiencing severe impairment in their social functioning and 9.5% severe disruption of family life due to their coulrophobia. 1.1% reported missing work or inability carrying out daily

duties over the preceding week as a result of the impairment caused by the coulrophobia. 1.1% reported reduction in productivity at work or studies for a duration of at least 2 days of the preceding week as a result of their coulrophobia and 2.1% a reduction in productivity for a period of 5 days during the preceding week.

Associations

There were small correlations between each of the subsets of SDS and subjective experience of anxiety that were not statistically significant. Similarly there were small, statistically insignificant correlations for duration of symptoms and each subset of SDS.

There were small to moderate correlations that were statistically significant between time thinking about clowns and each of the subsets of SDS, with the strongest correlation between disruption of school/ work and time thinking about clowns (Spearman rho=.3215, p=.0015).

There was no association between the degree of impairment in the only fear and the only disgust group (p=.229).
For both duration of symptoms and severity of symptoms the Spearman rho estimates are small, but they are smaller with duration of symptoms showing a slightly stronger association with severity of symptoms.

DISCUSSION

The major findings of this study show that 1) coulrophobia on average has an onset in childhood, with a largely unremitting course thereafter, and nearly a third of those with coulrophobia have a specific trigger and nearly a quarter a positive family history of coulrophobia. It is more common in females. 2) It is more commonly associated with fear than disgust (45.3%), with those from the fear predominant group being more likely to fulfill DSM-5 criteria for specific phobia. Other findings include 3) The most common comorbid disorders are major depressive disorder, obsessive compulsive disorder, panic disorder and social anxiety disorder; 4) the data suggests a significant amount of

psychological distress associated with coulrophobia with the greatest area of impairment comprising social functioning.

The study findings show a larger proportion of those with coulrophobia to be female, married, have a tertiary education and employed full time. Nearly a third (30.5%) identified a specific trigger, with the most common precipitant noted to be film “IT”, followed by a clown at the circus in their personal space. Nearly one quarter (22.11%) identified having a relative with coulrophobia. Of those who identified as having a specific phobia other than coulrophobia, the majority identified specific situations as the trigger, followed by animals. This may link to the precipitant of a clown in one’s personal space or as other than human due to the combination of exaggerated features that give the sense of both real and uncanny qualities putting them on par with monsters for certain individuals (Spratley, 2009).

For the majority of participants, onset of coulrophobia was spontaneous (69.5%); only on encountering a clown (75.8%) and unremitting from onset (89.5%). It mostly starts in childhood (mean=9.02 years) with 21.1% experiencing it once per week, nearly a quarter (24.2%) once per month and 45.3% once per year. A large proportion experience moderate to severe anxiety (44.3%) and of the 7.4% experiencing severe anxiety with panic attacks. Of those who identified having panic attacks, the majority reported 1-2 per month.

While both disgust and fear are associated with coulrophobia, there was a slightly larger proportion that experienced fear (45.3% experiencing only or mostly fear versus 37.9% reporting only or mostly disgust). The fear predominant groups also report a greater severity of physical symptoms of panic (shortness of breath, palpitations and nausea) and are more likely to fulfill the DSM-V criteria for specific phobia (17.6% versus 6.7% of the predominantly disgust groups), particularly when removing the impairment criterion (47.1%). This suggests that fear is more commonly associated with coulrophobia then disgust and that further research may be warranted on coulrophobia as a specific phobia.

Data from the study confirmed an association between experience of coulrophobia and gender with a larger proportion consisting of females noting the experience of fear (94.12%) or fear and disgust (96.15%) compared with the males in these groups (at 60%

and 80.95% respectively). This is in keeping with the literature showing that in general specific phobias are more common in women than in men (Res & Vol, 1996) and that there is a gender bias in women toward increased anxiety and fear related disorders (McLean & Anderson, 2009)

The main comorbidities identified in this study in order of decreasing frequency include: 9.5% with major depressive disorder; 5.3% with obsessive compulsive disorder; 3.2% with panic disorder; 3.2% with social anxiety disorder and 2.1% with bipolar mood disorder. This suggests that screening for mood and anxiety disorders in those with coulrophobia would be beneficial.

Over a third (37.9%) of participants experienced moderate to severe psychological distress on the K10 psychological distress scale. The main area of severe impairment was social functioning (13.7%) followed by disruption of family life (9.5%). Functional impairment was strongly associated with severity of symptoms, but this was not the case for duration.

The limitations of this study include possible low external validity with difficulty generalizing the results as the study population consists of individuals with self-reported coulrophobia from online support groups, which may not be a representative sample of the general population. This would include poor availability and accessibility of online participation, due to low socio-economic status or educational level (Leng, 2013). However, it has been suggested that an online population is likely to be more representative as it accesses an international group of people with a broader demographic distribution (Reips, 2002).

Self-selection bias may also be present from a low response yield, possibly indicating a perceived threat of privacy from the imposition of a researcher into a support group's online community (Eysenbach & Till, 2001). In spite of this, electronic surveys have been shown to reach a considerable numbers for a research population in an efficient way (Cook et al., 2000).

Validity of respondents' answers from an online support group may be compromised by desire to appear acceptable with what they consider to be the group norms (Leng, 2013).

The anonymity and voluntary nature of survey completion is likely to have aided in addressing this (Reips, 2002). They may also be careless or deceptive in their responses.

CONCLUSION

To conclude the data from this study suggests that coulrophobia is a phenomenon that has a chronic course with a specific trigger, beginning in childhood. It is more common in women and is largely a phenomenon associated with fear, as opposed to disgust. It is associated with psychological distress and impacts largely on social functioning. It is a phenomenon that warrants further research into its aetiology, pathogenesis and management as it causes significant distress in those who suffer from it and has associated comorbidities and negatively impacts on functioning.

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3. Appendices

Appendix A: Questionnaire

For the purposes of this questionnaire, coulrophobia is defined as the fear of clowns/aversion (disgust) toward clowns.

- **Do you have a fear of clowns, or find them aversive?**
- **Are you 18 years of age or older?**

If the answers to both of the above are yes, please feel free to proceed.

A. Socio-demographic detail

1. **How old are you?**

2. **Are you male or female?**
- Male
- Female
- Other

3. **In which country were you born?**

4. **In which country do you currently live?**

5. **What is the highest level of education you have completed?**
- University/college or equivalent
- Intermediate between high school and university (e.g. technical training)
- High school
- Primary school only (or less)

6. **What is your current marital status?**
- Single, never married
- Married or domestic partnership
- Widowed
- Divorced
- Separated

7. **Employment status: Are you currently…?**
- Still in school
- Completing further studies
- Employed, full time

- Employed, part time
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- Retired
- Receiving disability or unable to work
- Other

B. Duration, course and severity

8. **How old were you when you first experienced coulrophobia? Please answer in years.**

9. **Did you have a bad experience involving clowns in the past that you think might have caused your coulrophobia?**
- Yes
- No

10. **If your answer to question 9 is yes, please tell of your experience briefly. Otherwise continue to question 11.**

_____

_____

11. **How many years have you suffered from coulrophobia?**

12. **Following the onset of your coulrophobia, have you had times where your coulrophobia has cleared up?**
- Yes
- No

13. **If your answer to the above question is yes, how long did these times (when you have been free of coulrophobia) last? Please answer in months. If your answer to the above question is no, please proceed to question 14.**

14. **I experience coulrophobia…**
- Only when I see clowns. The moment I look away I am not bothered by them any longer.
- Even when I am not looking at clowns. Thoughts about them keep bothering me even when I look away from them, or I fear coming into contact with them.

15. **How many hours per week, on average, do you spend thinking or worrying about clowns?**

16. **How often do you experience coulrophobia?**
- At least once a day

- At least once a week
- At least once a month
- At least once a year
- Less than once a year

17. **When looking at an image of clowns, which of the following describes your experience the best?**

I experience only fear
I experience only disgust/ revulsion
I experience mostly fear, but also disgust/ revulsion
I experience mostly disgust/ revulsion, but also fear
I experience the same amount of fear and disgust/ revulsion

18. Do you experience shortness of breath when you look at clowns?
- Yes
- No

19. Do you experience nausea when you look at clowns?
- Yes
- No

20. Do you get palpitations when you look at clowns?
- Yes
- No

21. Do you feel embarrassed or humiliated by your coulrophobia?
- Yes
- No

22. How severe would you rate your coulrophobia?
- No anxiety
- Mild anxiety
- Moderate anxiety
- Severe anxiety without panic attacks *(a panic attack is a sudden surge of intense fear or discomfort that reaches a peak within minutes, and during which time 4 (or more) of the following symptoms appear: pounding heart or fast heart rate, sweating, trembling or shaking, a feeling of shortness of breath or smothering, feelings of choking, chest pain or discomfort, nausea or stomach discomfort, feeling dizzy or faint, feelings of chills or heat, feelings of numbness or tingling, feelings of unreality or of being detached from yourself, fear of losing control or going crazy, fear of dying)*
- Severe anxiety with panic attacks that are caused by your caulrophibia?

23. If you do suffer from panic attacks related to your coulrophobia, how many panic attacks do you get, on average, per month? If you don't suffer from panic attacks, please proceed to question 24.

- 1-2
- 3-4
- 5-7
- 8-10
- >10

24. Have you ever received any of the following treatments for your coulrophobia?

Councelling
Cognitive Behavioural Therapy (CBT)
Exposure therapy
Medication
Other
No, I have never received treatment for my coulrophobia

25. If you have received treatment, have you found it to be helpful? If you have never received treatment, please skip this question and proceed to question 26.

- Yes
- No

26. How many hours per week, on average, do you spend on an online support group for coulrophobia?

27. On a scale from 1-5, how helpful do you find an online support group for coulrophobia (1= not helpful at all, 5 = extremely helpful)?

- 1
- 2
- 3
- 4
- 5

28. Do you have any blood relatives (close family members) also suffering from coulrophobia?

- Yes
- No

C. Coulrophobia as a specific phobia (DSM-5 based questions)

29. Do you have fear of, disgust toward or anxiety about clowns?

- Yes
- No

30. Do clowns almost always immediately cause fear, disgust or anxiety?

- Yes
- No

31. Do you actively try to avoid clowns?

- Yes
- No

32. Do you think your fear, disgust or anxiety is out of proportion to the actual danger posed by clowns?

- Yes
- No

33. Has your fear, disgust, anxiety or avoidance of clowns lasted longer than 6 months?

- Yes
- No

34. Does your fear, disgust, anxiety or avoidance of clowns make you very upset or does it interfere with important areas of your daily life (for example your work, social life or relationships)?

- Yes
- No

D. Comorbidities:

35. Have you ever been diagnosed with one of the following psychiatric disorders, recently or in the past? You may choose more than one option.

Major depressive disorder
Dysthymic disorder
Bipolar mood disorder
Schizophrenia
Obsessive compulsive disorder *(apart from obsessions/compulsions related to your coulrophobia)*
Specific phobia *(apart from your coulrophobia)*
Generalized anxiety disorder
Panic disorder
Social anxiety disorder
Seperation anxiety disorder
Other psychiatric disorder
No, I have never been diagnosed with a psychiatric disorder.

36. **Have you ever suspected that you may suffer from one of the following psychiatric disorders, even though you have not been diagnosed? You may choose more than one option.**

Major depressive disorder
Dysthymic disorder
Bipolar mood disorder
Schizophrenia

Obsessive compulsive disorder *(apart from obsessions/compulsions related to your coulrophobia)*
Specific phobia *(apart from coulrophobia)*
Generalized anxiety disorder
Panic disorder
Social anxiety disorder
Seperation anxiety disorder
Other psychiatric disorder
No, I do not suspect that I have any psychiatric disorder, apart from coulrophobia.

D.1. Specific phobia screen (DSM-V based questions)

37. Do you have a fear or anxiety about …

a) Animals (e.g. spiders, insects or dogs)
- Yes
- No

b) Natural environment (e.g. heights, storms or water)
- Yes
- No

c) Blood/injections/injury (e.g. needles, injury or invasive medical procedures such as blood transfusions)
- Yes
- No

d) Certain situations (e.g. airplanes, elevators or enclosed spaces)
- Yes
- No

e) Other specific things (*excluding fear of clowns*)
- Yes
- No

If your answer to *a, b, c, d or e* is yes, **please continue to answer questions 38 to 42**. **Please answer in relation to the thing you are most afraid of, whether it is a,b,c,d or e.** If your answer to all of the above is No, please proceed to **question 43**.

38. When you are exposed to *a, b, c, d or* e, do you almost always immediately experience fear or anxiety?
- Yes
- No

39. Do you avoid a, b, c, d or e, or otherwise endure facing it with intense fear and anxiety?
- Yes
- No

40. Do you think your fear or anxiety is out of proportion to the actual danger posed by a, b, c, d or e?
- Yes
- No

41. Has your fear, anxiety or avoidance of a, b, c, d or e lasted longer than 6 months?
- Yes

- No

42. Does your fear, anxiety or avoidance of a, b, c, d or e cause you distress or does it interfere with important areas of your daily life (for example your work, social life or relationships)?
  - Yes
  - No

D.2. K10 Test

These questions concern how you have been feeling over the past 30 days. Tick a box below each question that best represents how you have been feeling over the past 30 days.

43. During the last 30 days, about how often did you feel tired out for no good reason?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

44. During the last 30 days, about how often did you feel nervous?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

45. During the last 30 days, about how often did you feel so nervous that nothing could calm you down?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

46. During the last 30 days, about how often did you feel hopeless?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

47. During the last 30 days, about how often did you feel restless or fidgety?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

48. During the last 30 days, about how often did you feel so restless you could not sit still?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

49. During the last 30 days, about how often did you feel depressed?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

50. During the last 30 days, about how often did you feel that everything was an effort?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

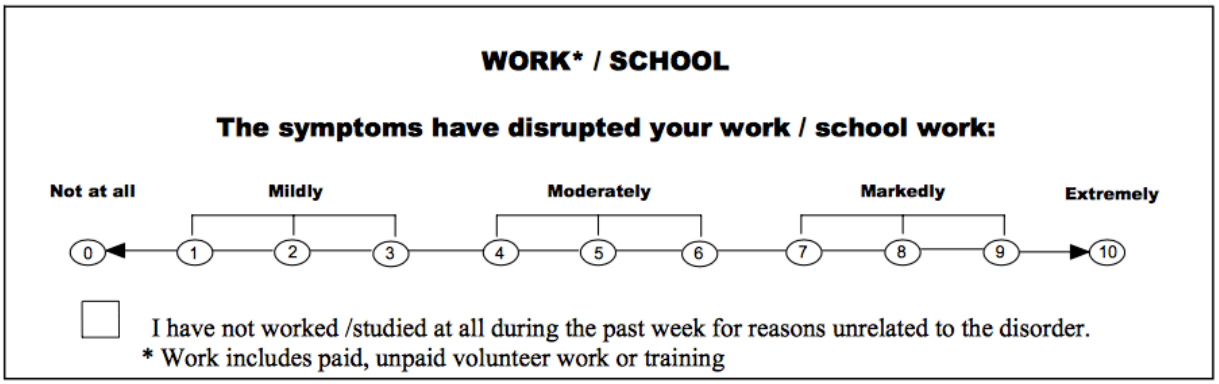
51. During the last 30 days, about how often did you feel so sad that nothing could cheer you up?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

52. During the last 30 days, about how often did you feel worthless?				
1. None of the time	2. A little of the time	3. Some of the time	4. Most of the time	5. All of the time

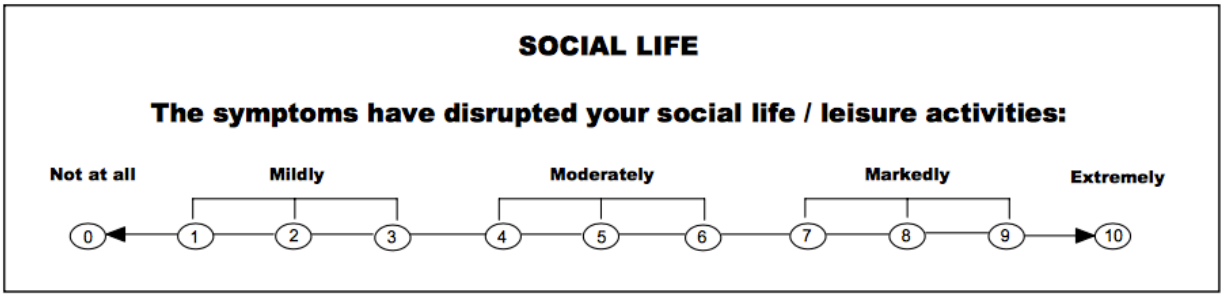
D.3. SHEEHAN DISABILITY SCALE

Please mark ONE circle for each scale, RELATED TO YOUR COULROPHOBIA

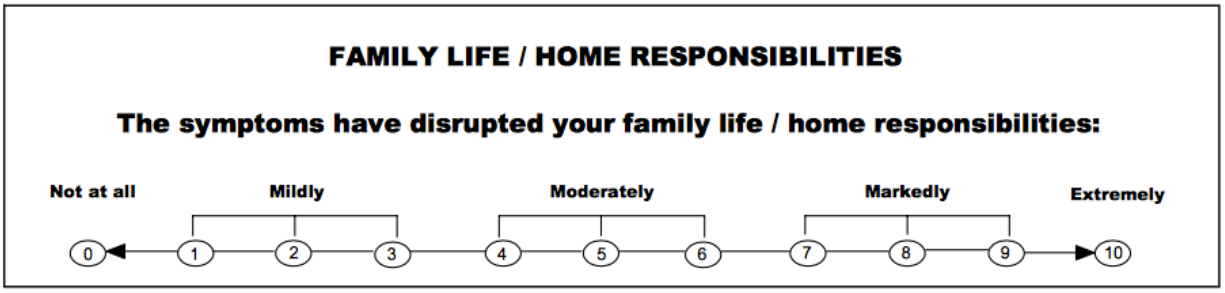
53.



54.



55.



56. DAYS LOST

On how many days in the last week did your coulrophobia cause you to miss school or work or leave you unable to carry out your normal daily responsibilities? _____

57. DAYS UNDERPRODUCTIVE

On how many days in the last week did you feel so impaired by your coulrophobia, that even though you went to school or work, your productivity was reduced? _____

Appendix B: Information sheet and Consent form

Dear participant,

This study is to aid in the understanding of coulrophobia, with the possibility of inspiring further research for it to become a recognized condition in scientific literature. Thank you for your time and participation in aid of this endeavor.

Survey Overview:

The survey consists of a questionnaire comprising type of symptoms experienced. No identifying information will be required as it is an anonymous survey.

If you wish to omit answering certain questions please click “next” to proceed to further questions. **Please try answer all questions** as it will help in obtaining a fuller understanding..

The questionnaire consists 57 questions in total, with the majority being multiple choice. It is estimated to take 15 – 20min to complete.

There will be no remuneration for participation in this study and there are no anticipated risks in participation.

The outcome of this study may aid in the understanding of coulrophobia as a recognized clinical phenomenon; though there will not be a direct benefit to you in participating.

You **must be 18 years or older to participate in this study** and only complete the questionnaire once.

No images that may trigger symptoms of coulrophobia are included in the questionnaire.

Privacy and Confidentiality

All information obtained from questionnaires will be kept confidential and remain anonymous. No identifying or contact information will be required.

The information obtained from questionnaires will be stored in a secure database, accessible only to members of the research team. Questionnaires will be deleted on completion of the research project.

Contact Information and Queries:

This study will be used in the process of obtaining a degree in Psychiatry by Dr Talia Planting (Registrar in Psychiatry at the University of Cape Town, South Africa) under the supervision of Professor Dan Stein (Head of Department of Psychiatry at the University of Cape Town, South Africa).

Should you have any queries arising during or following completion of this survey you are welcome to email Dr Talia Planting at taliapsychiatry@gmail.com.

If you experience distress from your symptoms please contact your local health care provider for assistance.

If there are inquiries as to the ethics of this study you are welcome to make contact directly with Professor Marc Blockman (Head of the Human Research Ethics Committee at the University of Cape Town): Marc.Blockman@uct.ac.za.

Clicking the "agree" button below indicates:

You have read and understood the above information and voluntarily give consent (agree) to participate in this study. It also indicates that you understand that closing the web browser will result in termination of the survey and that you are at least 18years of age or older.

- **Agree to consent**
- **Disagree to consent**

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E53-46 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: sumayah.arlefdien@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

12 April 2017

HREC REF: 122/2017

Prof D Stein
Department of Psychiatry & Mental Health
J-Block
GSH

Dear Prof Stein

PROJECT TITLE: CAULROPHOBIA: AN INVESTIGATION OF CLINICAL FEATURES (MMed-candidate- Dr T Planting)

Thank you for your response letter, addressing the issues raised by the Human Research Ethics Committee (HREC).

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30 April 2018.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

We acknowledge that the student, Dr T Planting will also be involved in this study.

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval before the research may occur.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE

Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP), South African Good Clinical Practice Guidelines (DoH 2006), based on the Association of the British Pharmaceutical Industry Guidelines (ABPI),and Declaration of Helsinki (2013) guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

HREC 122/2017