Obrela JOURNAL Dialogues in Clinical Neuroscience & Mental Health

e-ISSN: 2585-2795 • p-ISSN: 2654-1432
DOI: 10.26386/obrela.v5i4.245
p. 167-184

Do adults with irritable bowel syndrome exhibit a lack of existential defence mechanisms against the awareness of death?

Nefeli Abastado

Northumbria University, UK

Abstract

The purpose of this qualitative study was to investigate whether irritable bowel syndrome (IBS) patients present a lack of existential defence mechanisms against the awareness of death. Three female and four male IBS-suffering participants were selected from an opportunity sample. Participants were interviewed on a 1:1 basis and were asked open-ended questions on how IBS affects their lives and how they feel about mortality and death. In the thematic analysis of the data, three key subthemes were identified: "Stress sources", "Mortality Salience" and "Self-image". The study revealed that IBS restricts participant's lives to the extent that it can hold them back from self-actualisation, it harms their self-esteem and causes additional existential stress. Participants were found to experience self-conflict, to not affiliate strongly with their cultural worldview and to not demonstrate a strong sense of neutral acceptance towards death. Since successful existential defence mechanisms against the awareness of death are based on self-esteem, self-actualisation striving and cultural worldview bolstering, this study concludes that participants present a lack of existential defence mechanisms against the awareness of death. The findings of this study offer an opportunity for further research that will investigate novel ways of employing targeted therapeutic techniques that strengthen self-esteem, self-actualisation striving and cultural worldview affiliation in IBS patients with the aim of alleviating IBS-related mental and physical distress.

Keywords

Irritable Bowel Syndrome; IBS; Death anxiety; Existential stress; Existential defence mechanisms; Terror management theory; Mortality salience; Death awareness; Attitudes towards death

Corresponding author: Nefeli Abastado, abastadonefeli@gmail.com

Introduction

Irritable Bowel Syndrome (IBS) is one of the most prevalent functional gastrointestinal disorders among otherwise healthy individuals, estimated to affect around 10 to 22% of the population [1]. It is largely categorised in three subgroups; diarrhoea predominant (IBS-D), constipation predominant (IBS-C) and mixed IBS in which, the two complications alternate between them (IBS-M) [2]. Apart from drastic changes in bowel habits, IBS is also characterised by relapsing and debilitating symptoms that often must be managed for a lifetime, such as abdominal pain, bloating, and strong reactions to food which patients try to manage through restrictive diets. It is also known to cause insomnia, fatigue and anxiety [3].

As there is no specific biomarker examination for diagnosing IBS and physical examinations come back normal, a series of other diagnoses must be eliminated first, something that draws out the diagnosis period of IBS and tires, as well as worries the sufferer. When a diagnosis is finally obtained, patients are often left disappointed as there is no 'cure' for their condition, rather an extended trial-and-error period of altering one's diet and empirically attempting to find the golden ratio of what is to them a successful, often lifelong, management of their condition [4]. The range of manifestations, unreliable diagnosis and insufficient treatment of IBS [5] have a significant negative effect on people's quality of life across physical, psychological, social and environmental aspects [6] and the condition has routinely been linked to symptoms of depression, especially with IBS-C patients [2].

The argument that arises, is that IBS affects patients across all five tiers of Maslow's hierarchy of needs [7; 8]. Physiologically, IBS patients feel as if their body is ailing due to pain and irregular bowel movements. Sleep, food and drink intake, libido and body image are seriously affected [3]. Their sense of safety is diminished by the volatility of symptoms that cause health scares and fear of embarrassment [3]. The social restrictions imposed by IBS affect the innate human need for belonging and interpersonal relationships. IBS patients have an unusually large number of social hindrances to transcend in order to connect with others; key ones are embarrassment and missing out on being sociable [9]. Due to the aforementioned obstacles, IBS patients present lower self-esteem [10]. The relentless management of IBS symptoms along with the worry, fear and feelings of isolation lead to perceived poor personal achievement and independence [11]. Since fulfilment of physiological needs, sense of safety, belonging and sociability and self-esteem are compromised, achieving self-actualisation by reaching one's full potential [12] can be a challenge for IBS patients and this difficulty could render them anxious and distressed.

IBS has also been connected to generalised anxiety disorder (GAD). IBS patients are five times more likely to exhibit GAD than non-IBS-suffering individuals. At the same time, IBS is 4.7 times more prevalent among GAD sufferers than among people that do not exhibit GAD symptoms. Individuals that exhibit IBS and GAD comorbidity appear to be more impaired than IBS-only sufferers [13].

GAD is a common but persevering disorder, in which the individual experiences unfocused worry and anxiety that has no connection to stressful events in present time [14]. Interestingly, this definition seems to effortlessly align with Søren Kierkegaard's explanation of anxiety as an "unfocused fear", that is not directed towards specific object(s) in the world but is brought about in the face of oneself as a free being [15]. Kierkegaard calls for the individual to embrace the matter of their existence because not doing so while anticipating death, will bring anxiety. For Kierkegaard, the terror of the inevitability and unpredictability of death can be counteracted through the realisation of its true existence and through passionate living [16]. At this point a parallel could be drawn between 'passionate living' and 'self-actualisation' and argue that not striving for self-actualisation could cause unfocused fear/ GAD.

Although it is hard to distinguish between generalised anxiety and death anxiety, any person in a restricted activity condition is likely to feel anxious about the fact that they cannot fully pursue and act on their goals and impulses [17]. IBS patients report similar frustration about the restrictions imposed by their condition [18]; therefore, a claim that can be made is that generalised anxiety and death anxiety overlap. When talking about the impact of salient mortality, prolonged stress can wear down individuals and increase weakening before the end phase of life. Individuals who are not dying become overconsumed by the conscious or unconscious idea of mortality [17]. This is described as the "frazzle" which is defined as the effect of long-term experience of stress, pain, insomnia and lethargy that leads to exhaustion [17]; interestingly, all of the aforementioned are symptoms of IBS [3]. To be frazzled means to be incapable of pursuing life with confidence and energy. Although otherwise healthy, the frazzled individual might feel closer to death because of their restricted activity [17].

Self-esteem is constructed and validated mainly via living up to cultural values [19]. Furthermore, when trying to cope with the awareness of death, individuals form defence mechanisms that vary in their degree of success based on how sound their self-esteem is [20]. The three models of coping strategies against death awareness are those of *escape, approach or neutral death acceptance*. However, among those three, only neutral death acceptance is the product of self-esteem striving through the pursuit of meaning and offers the ability for the development of successful coping mechanisms against the awareness of death [21; 22].

One such successful coping mechanism is symbolic immortality as a product of meaningful pursuits [23; 24]. Unsuccessful ones are repression, fantasising, seeking intense experiences, often through substances abuse, sex or unhealthy associations with other people or causes and, although they offer some relief, they negatively influence one's psychological adjustment, emotional well-being, and interpersonal relationships [25]. Extending one's identity beyond life through symbolic immortality (a meaningful life that ends in a culturally accepted legacy) is a transcendental ability that no other living organism possesses other that humans but the mortal side of this advanced mammal, and specifically defecation, is a constant reminder of decay and death [26]. When individuals are re-

minded of humans' animalistic side and excretions, they feel existentially threatened as these stimuli bring forth vulnerability towards the concept of death [27]. IBS patients are constantly reminded of defecation and bodily excretions due to the symptoms of IBS; therefore, they could be more prone to experiencing their own embodiment as an existential threat.

Aims

The scope of this thematic analysis study is to examine whether IBS patients:

a) *Are restricted from striving towards self-actualisation.*
b) *Are impacted by death anxiety, possibly because of said inability to self-actualise and take up the issue of their existence before their inevitable death.*
c) *Present a difficulty in coming to terms with death.*

Research question

Do IBS patients present a lack of existential defence mechanisms in coping with the awareness of death?

This study is taking a first step for a novel approach to the treatment of IBS by investigating patients' ability, or lack thereof, to form successful coping strategies towards the idea of mortality. The goal of this study is to inform future research that will be focusing on helping patients holistically by offering targeted therapy that will aim at equipping IBS patients with successful coping mechanisms against death anxiety, helping them find meaning in life and strengthening their self-esteem in order to reach their full potential and self-actualisation despite the restrictions imposed by IBS and with the ambition to also diminish the manifestations of it.

Previous research has investigated the use of various psychotherapeutic interventions for the treatment of IBS such as psychoeducation, which focuses on building on the relationship between doctor and patient and making the patient fully aware of their condition; self-help supported by consultation on how to manage symptoms and develop coping strategies; cognitive behavioural therapy (CBT) targeted at easing the discomfort caused by the symptom and at anxiety management; psychodynamic psychotherapy focused on intra- and interpersonal conflicts and how they contribute to the development and maintenance of symptoms, hypnotherapy, relaxation therapy and more [28]; however, no other study has attempted to investigate death and mortality awareness in IBS patients. Capturing themes in the views of IBS patients towards death can offer a novel way to intervene in helping individuals with this chronic and debilitating disorder.

Method

Driven by the research question, this study sought to identify the thoughts, feelings and experiences of living with IBS, the underlying sources behind the manifestations of anxiety and the personal attitudes towards death which participants could have been unconscious of. In order to reach depth and detail in concepts that are idiosyncratic to each individual, a qualitative approach was used to explore whether IBS patients present a lack of existential defence mechanisms against the awareness of death.

Participants

The participant selection process consisted of three selection criteria. Participants had to be:

1. Over the age of 18.
2. Medically diagnosed with IBS or to fit the Rome III - IBS criteria.
3. Free of any other clinical diagnoses for bowel or mental disorders that could interfere with the aim of the study.

Participants were drawn from an opportunity sample with the help of a recruitment ad (see Appendix B) that was shared on social media.

Primary data consisted of interviews from 8 adults (3 women, 5 men) who were medically diagnosed as IBS patients with varying severity of symptom. One male participant's interview was excluded as, upon analysis, it became apparent that their IBS symptoms were directly connected to a lower back pain issue, and the stress that resulted from it. It was determined that they no longer fit the selection criteria of the research. The 7 remaining participants were aged 32 to 52 with a mean age of 40.7 and had English as their first language or bilingual proficiency.

Diversity among participants was purposefully rich to reflect a wide range of IBS severity, of cultural worldviews that help formulate self-esteem, as well as of attitudes and beliefs towards death so as to offer the ability to extrapolate generalised study results. As the Rome III and Rome IV diagnostic criteria for IBS do not offer a symptom severity classification, symptom severity among IBS patients is defined empirically based on the symptom intensity and frequency, and the level of disability or impairment that patients experience [29].

Participant background

AE is a 42-year-old Australian male, working as a marketing writer and writing a book manuscript in his free time. He describes himself as a well-travelled person, is married to a European female and has no children. He has master's level education. He follows Buddhist teachings. He suffers from IBS-D which manifested in severe symptoms for almost 2 years, then symptom severity faded and has been under control since.

BB is a 42-year-old British female living in the UK and working as a qualified teacher. She is married with two children. She has master's level education. She is experiencing ongoing IBS-D of medium to high symptom-severity. She did not express any religious affiliation.

BL is a 35-year-old Cypriot female living and working in the UK as a clinical psychologist. She is in a committed relationship and has no children. She has doctorate level education. She comes from a Christian background. She suffers from IBS-M which manifested in mild to severe symptoms in the beginning and transitioned to scarce, mild symptoms in present time.

BF is a 32-year-old Greek male living in Greece and is currently unemployed. He is in a relationship and has no children. He has BA level education. He suffers from IBS-M which first started off with severe symptoms, then faded and is currently manifesting in severe symptoms once again. He identifies himself as an atheist.

DG is a 47- year-old British female living in the UK. She is a qualified teacher but, by choice, was not employed at the time of the interview. She is married with 5 children and has master's level education. She identifies as Christian. She suffers from IBS-M which started 10 years ago and has been causing symptoms of medium severity.

HO is a 35-year-old female originally from South Africa, owning a law firm in Greece. She is in a long-distance committed relationship and has no children. She has BA level education. She suffers from IBS-C which started off with severe symptoms and is now managed, causing symptoms of medium severity. She did not express any religious affiliation.

RK is a 52-year-old American male living and working in the state of California as a building construction manager. He is married with his second wife, has 3 children and is a US army veteran. He pursued undergraduate studies but was not awarded a degree. He identifies as Christian. He suffers from IBS-D which has been causing severe symptoms since its onset.

Data collection and Materials

Interviews with the participants took place on an online conferencing platform (Zoom) on a 1:1 basis and were recorder and verbatim transcribed. The interview schedule included two parts. One covered IBS-related material in the form of open-ended questions such as, "Could you talk about a situation or period in your life where IBS has seriously affected you?". The other part included prompts adapted into open-ended questions, such as, "Do you care about being remembered after death?", that were inspired partly by the Death Attitude Profile-Revised (DAP-R) [30], a valid and reliable instrument which measures a spectrum of attitudes towards death, and partly by the premise of Terror Management Theory [19] . The questions of the interview schedule sought to understand how participants are affected by IBS symptoms, how they manage pain and IBS related discomfort in everyday life, as well as their outlook on mortality and life's meaning. Due to the semi-structured nature of the interviews, the interviewer was able to urge participants to elaborate and add depth to their responses.

Procedure

Ethical approval was obtained from the Research Ethics Committee in the School of Health and Life Sciences, University of Northumbria. Participants were provided with an information sheet and a consent form and informed consent was established before conducting the interview. Ensuring confidentiality, subjects' names were concealed and fake initials were assigned. Upon completion of the interview, participants were provided with a debrief sheet, mentioning the researchers' contact details, describing the aim of the research and reiterating the data protection and confidentiality policies and their right to withdrawal. The debrief sheet also included links to IBS and death anxiety helplines, in case any of the participants found the topics distressing. No time constraints were imposed on the interviews, however they lasted around 50 minutes.

Qualitative Approach

Guided by the research question and what came forth from the content of the data, thematic analysis was applied as it is a versatile approach that can be used across a range of epistemologies and research questions [31]. Data was approached using the critical realist approach by which language both constructs and is shaped by reality. This epistemological standpoint was preferred in order to define participants' acknowledged attitudes towards cultural inferences on life and mortality as well as attitudes that are denied or ignored.

Analysis Strategy

The six-step process of thematic analysis was followed to analyse the data. To familiarise with the data collected, the interviews were read through in detail. Then, themes and subthemes were identified in the patterns that arose in the participants' answers. Using the software NVivo, these themes and subthemes were labelled, stored and linked to excerpts from the transcriptions. Examples of the subthemes are: "IBS restricts life" and "Attitudes towards death and afterlife".

Results and Discussion

This study explored IBS patients' experience of living with their disorder and their attitudes towards life, mortality and death. The thematic analysis revealed three key themes: Stress Sources, Self-Image and Mortality Salience. A thematic map was created to offer a visual representation of how the themes and subthemes are related to the research question.

Stress Sources

The subthemes in this theme were identified both through taking into consideration what the participants described as stress-inducing aspects of their lives but also through observable emerging ideas in their answers that could potentially explain phenomena related to their IBS and to the research question.

IBS diagnosis process

First and foremost, the IBS diagnosis process is in itself a source of anxiety as the condition first appears with an amalgam of symptoms that will cause stress and will eventually make the sufferer seek medical advice.

"Then I knew I was dealing with something and I didn't know what so I went to the doctor and started this process with a doctor and I think I went back to him, we did some tests, we did heaps of tests actually, umm... And I think that was over another period, at least a month or a month and a half and then sort of told me that he thinks I have IBS and it's a big kinda mystery topic." – AE

Figure 1. Thematic Map displaying the impact of IBS and the participants' attitudes towards mortality.

"…at that point I went back to the doctor one more time but then I went and saw a naturopath." – AE

"I went to my GP after eh… first going to a couple of well-being centres who have tests for UTIs and things like that or and get, you know, antibiotics thinking I had diverticulitis […] then I went to my GP and he said it was a probable IBS diagnosis but also referred me to a specialist […] I think I also had X-rays to makes sure there wasn't anything else like cancer…" – BL

"…the GP did kind of referrals and you get sent away a few times and then you go back and I think it was only at the point where I was, obviously, losing a lot of weight, I couldn't kind of get through a meal, that they then said, "Right, we'll refer you on". Once they had done the test to say that, "Actually, there's nothing physically wrong with you" it was very much, "That's it. You're dismissed. You got this. The diagnosis is IBS". They had this strange thing at the time where they gave you something called fibre gel [...] In reality it just made it worse. […] It was very much, "You're okay, of you go"!" – BB

"It's quite difficult to get the help as well at the minute cause it's hard to get to see a GP or to... the waiting list is for serious things, it's difficult to get seen at the minute." – DG

BB and DG's quotes demonstrate how much IBS is seen as a nuisance and patients are send off with limited information and reassurance around their condition to make time for "more serious cases".

"I started with my general doctor and he tried multiple different approaches and then he referred me to a specialist in gastroenterology and I went to him and he did a number of tests and then, with Covid he started being non-responsive […] I started with a new specialist […] and I've been, one: trying to get a diagnosis, which I've been trying to get for some time and then, two: hopefully, get some relief which, I haven't had any success there yet […] The first guy I went and saw […] started me on the medicine […] it's called Viberzi, it did nothing for me. It's kinda been like sprints all along with all the doctors and they're trying me on different things and nothing, nothing, nothing at all has worked for me." – RK

RK's exasperated emphasis on nothing having worked to ease his IBS discomfort is a characteristic illustration of how trapped IBS patients can feel in their journey of trying to manage this syndrome.

"…when the doctor told me, "Okay, you have to change the way you live […] I was a bit shocked because I realised that you don't take a pill and it goes away, you don't do something and it goes away, it's that, basically, total mental health and psychological issue so that's when I really freaked out." – HO

Although BF did not comment on the challenging process of the diagnosis, he nevertheless, pointed out that the healthcare practitioner was among the few people who listened respectfully and showed understanding. This recount points towards potential isolation and lack of understanding from the rest of his social or family environment, confirming the notion that IBS patients are used to not receiving the appropriate attention regarding their problem [32].

"I thought that it was one of the first times that I could speak openly to a person about that and not feel guilty or ashamed or just bad. He actually helped me." – BF

Participants reported that the IBS diagnosis was time-consuming and their complaints were often dismissed as a nuisance because other physical examinations would come back normal. Desperation, shock, exasperation and disappointment was a constant in their recounts. Participants' experiences included being referred from one doctor to the next, having to try diverse approaches, not being taken seriously and being asked to do many health checks that, to their disappointment, did not yield any results. They also reported receiving unhelpful advice that, in some occasions, exacerbated the symptoms. Being asked by medical practitioners to make lifestyle alterations and engage in a lifetime trial-and-error management was also not a reassuring experience for the participants. As a result, the journey for these IBS patients began by leaving them feeling isolated and trapped, as none of them (with the exception of BF) felt that they have medical staff or medication on their side in the ongoing management of IBS. As reviewed in the introduction [3; 4; 5] these are common problems faced by IBS patients. This subtheme is time-limited to the beginning of a patient's journey with IBS, yet it marks the beginning of an alteration in lifestyle and self-image as well as an effort to manage discomfort and negative emotions that come with IBS.

IBS restricts life

This subtheme covers all the aspects of life that are affected by IBS. All 7 participants report, in consistently similar ways, how IBS negatively impacts their life. In order to avoid repetition, quotes from selected participants will be demonstrated. Physically, participants report pain restricting their activity and impacting their mood.

"With the pain, when I know it's a full... Everything is loose and upset, then at that point it is kind of like, I need to hold on to something, it's really painful at that point! Had two children, not too sure which one is worse sometimes (laughs). Cause it's like, you hold your breath and you just need to wait for this cramp to pass but it is excruciating, it does feel almost like something is cut from the inside." – BB

Furthermore, faecal incontinence is a symptom that disrupts participants' everyday activities as they experience urgency to use the toilet multiple times a day. Also, sleep deprivation and the subsequent low energy levels are impacting their quality of life, holding them back from working or enjoying activities in the way that they would like to.

"After I eat, I'll be like, "Oh, no! Here we go!" and I'll go back to the bathroom and I'll probably be there for forty-five minutes. And then, and that won't be all! I'll come back and sit down and start working and the whole process it seems like it's a few-hour-process every morning to get passed this stage until I'm back into a normal routine." – RK

"…from the pain, I couldn't sleep and it was the beginning of my holiday and I was like, "Help!", you know? I was getting up at four o'clock, five o'clock in the morning and I couldn't sleep. It was too much and that was annoying cause I couldn't rest and it was very difficult. - HO

"I started noticing symptoms I didn't know were in IBS, like insomnia." – BF

"I'd be so exhausted in the evening and sluggish, I couldn't do any other exercise and things." – DG

Finally, all participants report having to restrict their diet as various foodstuffs can be triggers for symptom exacerbation. The frustration that results from this is evident in their recounts as they cannot eat many products that they enjoy but more importantly since food-sharing is a common social catalyst, it detrimentally affects their social life and contributes to the social isolation that IBS causes.

"I'm very restrictive of my diet but I mean, that kinda takes the joy out of things you know, there's hardly anything I can eat, sometimes I feel like water and air is that all I can have?" – RK

Socially, the aforementioned physical difficulties isolate participants.

"Work, it can be difficult sometimes. Occasionally, I've said I need to go home, I can't be here anymore." – *BB*

"And I was losing money I guess, Yeah, you could say I was losing money cause I wasn't pursuing the freelance work that I had on the side so I was choosing not to do that so my money, my salary for the year, it was being impacted." – AE

Work performance and earnings are affected as we see from BB and AE's quotes. Findings here are consistent with previous research which has established that IBS patients report IBS-related interference with work, as well as financial losses [18].

Participants feel that they are missing out on social events and relationships with friends and family are seriously affected. The abdominal pain caused by IBS ruins the patients' mood and leads them to opt out of social activities. Social life is further impacted by the inability to share food and the need to use the toilet frequently which is both impractical and causes social embarrassment.

"It was the third date with my partner. I think we had a long day, spent it all together and then we had to wait for a while to eat so queued for an hour or something, so that's another trigger if I haven't eaten for a long time, so I hadn't eaten and eventually, like, we ate and yeah I think again I ate a trigger food and it triggered it and I remembered I kind of finished the day early, a bit abruptly because I was in a lot of pain and I wanted to go home." – BL

"It has definitely ruined visiting my grandkids across the country and I've not gone to visit them because […] they eat a lot of red meat, drink a lot on a social setting but I know the moment I go there there's nothing that I can have to eat and it's like I don't want to be there with them spending my day in the bathroom when the grandkids they want to spend time with their grandpa, they want to do stuff and so it's prevented me from going and visiting like I want to." – RK

Managing IBS and the unpredictability of symptoms cause social embarrassment as seen in the quotes below.

"I'd put in special requests for the chef. I felt like such a fool, you know but I didn't feel like I had an option." – AE

"… in the past it was terrifying. I think we all know that feeling of… insecurity, is a good word. I was insecure. Nowadays, that I'm feeling that I'm controlling it and having an Imodium in my backpack all the time, it's better. I'm not as constricted by IBS as I used to be. Geographically (laughs) and socially." – BF

"Some people are able to nip out and do a poo and come back again you know, like a normal person would do, like I would do a wee, you know, for me not being able to take my time, it would ruin the whole day." – DG

Phrases such as *"like a normal person would do"*, *"felt like such a fool"* or *"insecurity"* demonstrate that IBS is causing participants to feel isolated, embarrassed and anxious and they seem to be distancing themselves from what they perceive as "normal" behaviour.

The above findings confirm previous research which has established that IBS socially isolates patients, causes frustration due to a lack of control over the symptoms and creates social embarrassment [2; 3; 6; 9].

IBS affects participants mentally as the cognitive preoccupation that revolves around IBS, the sleep deprivation and the social isolation are anxiety-provoking and have an impact on their overall mood.

"Lots of things that you don't even think about, I kind of think about […] I can probably tell the location of toilets between my house and work, where they all are (laughs) at work, which one won't be busy […] it's all a bit micromanaged as it were." – BB

"I guess you could say nervous and anxious cause you've got a few things to consider that you wouldn't normally consider." – AE

"…you can't sleep from like four am to seven am and then you have to go to fucking school and hate everyone." – BF

The unpredictability of IBS makes the participants feel as if their body is working against them and forces them to tread carefully with apprehension as to what might be thrown at them [33]. Health anxiety is also likely to be developed.

"Sometimes it makes me worry that it's something else, especially if I google something or... obviously it always says you have cancer or something really serious." – BL

"It's too much to think about or it's too much effort and just embarrassing, like not knowing if you're going to eat something it's going to react on you, it's going to hurt your body." – AE

"I used to do a lot of social stuff too. I was involved in stuff in the community, social dinners and things like that and I really don't want to do any of that stuff anymore because I never know how I'm going to feel, specifically in dinner type settings." – RK

The findings in this subtheme agree with previous research reviewed in the introduction [3; 9; 13; 18] and indicate that indeed IBS symptoms cause anxiety and limit participants across all tiers of Maslow's hierarchy of needs [12]. The IBS-imposed restrictions indeed seem to keep participants from pursuing a passionate life [16; 17] and lead to isolation [11].

Positive feedback loop

Stress and IBS seem to exist in a positive feedback loop. The participants recognise that the symptoms themselves, as well as trying to manage them, bring stress which then leads to exacerbated symptoms, creating a vicious circle.

"I think, looking back now, primarily stress and anxiety and a bit of a negative loop in thinking, right? Because anxiety takes you in this place where you created this physical reaction in your stomach, but then the physical reaction in your stomach produces negative energy or negative thinking or stressful thinking that just sort of compounds the situation." – AE

AE refers to the phenomenon as a "negative loop", however, it is worth noting that it is a positive one as it turns to spiral away from equilibrium and amplify the negative effects of stress and IBS.

"I've noticed a pattern but certainly it's likely that if I got a big event coming up that I know I'm going to be nervous, that I'm going to have loose bowels, then probably a day or so before, if I'm going to have a panic attach, it's likely that's going to happen." – BB

"If the symptom is (laughs) eager, I take a pill. If the symptom is just there, I try not to think about it as much, like, if you focus on it, it focuses on you. If you think, "Oh my god this is happening, it's happening", I think it's a type of anxiety attack, so I try to think of something else…" – BF

"Probably, the main thing is I try not to over-focus on it. To think this is just how my gut works and I try to... I don't really focus on it very much." – BL

"And you are having things reminding you, like when you eat something and you're in pain and you know it's because you can't relax, it makes you more anxious, I think. Cause you realise that it isn't what you're eating but it's how you're thinking and how you're stressing yourself, so that's making you more stressed, so it's like (laughs) you know, a circle, a vicious circle." – HO

In some cases, participants do not actively acknowledge the positive feedback loop, but a catastrophising thought process can be observe as participants view one symptom as a potential cause of stress and of more symptoms to follow.

"But it's just uncomfortable. It would probably create anxiety about... That feeling of like... I wouldn't be able to, like, I don't know, feeling like if I haven't been able to go to the toilet I'll feel ill later on or whatever." – DG

"I was in pain the whole time in my vacation. It was terrible. I was like, "Okay, you won't be able to do anything properly. Now you're going to be in pain!" – HO

The findings in this subtheme agree with previous research as stress has been shown to exacerbate IBS symptoms and there is a strong correlation between reported stress and gastrointestinal symptoms [34]. Stress has also been shown to induce alterations in the gut flora, leading to dysbiosis of bacteria in the gut microbiome [35]. These studies indicate that IBS does not only cause stress, but stress can exacerbate or even cause IBS too. The literature along with the findings of this study demonstrate the difficulty of IBS patients to cope with the inescapable conditions formed by the positive feedback loop of stress and IBS.

Existential anxiety

Existential anxiety was identified as the next stressor in the participants' lives which is to be expected as a lessened self-esteem due to not living up to personal and cultural standards will deplete the self of one of its existential anxiety buffers [19].

"I feel this pressure you know, like, in my head you wanna live a good life, be a good person and I think that influences what happens in the afterlife. I've tied those two ideas together and so I think it creates a certain anxiety because I wanna be a good person, I wanna do good things and in this life to progress. I see it as an element of the soul kind of progresses, so yeah, a bit of

existential anxiety, yeah! Why not (laughs) […] you still got a life in front of you and you got to make the most of it so... How do I feel? It's like a cold shower, like having a cold bucket of water over your head. It's a wakeup call, it wakes you up but it's also a bit like ugh... Puts you out of your romantic ideas or your... So maybe a little bit confronting?" – AE

"I always want something else though. I'm always looking up the steps and I think I like to set goals and achieve them but I'm always thinking what's the next thing after this" – BB

"I guess I would not want to leave the world in a worse state and I care about that. I already feel like it's a lot worse, I feel quite helpless in changing that..." – BL

"I think I thought the world was, broadly, a good place and now I feel like, no, there's like a lot of really awful, selfish people in the world and... am I one of them? I mean, I'm not immune of some of these traits myself cause you're wired to kind of look up to survive and kind of look after yourself." – DG

When asked if he feels on the right trajectory to achieve what he wants before death, BF replies:

"I don't know if I know what it is what I want so, maybe? […] I'm okay with that. I'm okay with that. I probably am a bit anxious…" – BF

Admittedly, this 'not knowing' causes a certain level of anxiety in terms of choosing a meaningful path. On the same question, RK replies:

"You know, I think I... I feel like I probably was more before this IBS stuff kicked in because I was able to do more things. This has really put a... It has cramped my lifestyle. Like I told you, I haven't been up to visit in a few years because I don't know if I'm up to it." – RK

Feeling robbed from being able to successfully pursue his potential due to IBS, RK admits the uncomfortable feelings that arise.

While HO is very clear on the meaning that she derives from her work as a lawyer, the lack of work-life balance she experiences could be leading to some existential anxiety.

"I think my work setting is basically okay. Going up the ladder and having more responsibilities, brings more anxiety, obviously. But I think it's mostly the personal anxiety." – HO

The existential anxiety identified in participants' recounts could be brought about by the inability to live passionately through taking up the matter of one's own existence as Kierkegaard suggests, which, as reviewed in the introduction, can bring forth unfocused fear [15; 16] or in psychological terms, Generalised Anxiety Disorder [13]. The difficulty of an IBS sufferer in attaining self-actualisation (or passionate living) can lead to an unsuccessful existential defence mechanism formation against the fear of death. Furthermore, the aforementioned IBS symptoms and the frazzle it is accompanied by, bring anxiety on an existential level due to the inability of the individual to pursue said passionate living [17].

Under the subtheme of Existential anxiety, two subordinate themes were identified: 'Self-conflict' and 'Time as a limited resource'

Self-conflict

Firstly, self-conflict is expressed by the participants as an inner struggle with moral dilemmas or as living against their personal and/or cultural standards. Some of the participants even attribute the arrival of IBS in their lives to the imbalance created by living against their standards.

"If I look at the IBS, when it started and the job that I was doing it wasn't for me and it wasn't making me happy and it was the wrong direction for me." – AE

"I'm still trying to make sense of it but part of me thinks that the IBS happened because I was on the wrong path, I was sacrificing myself and my body was going like, "Hey! You idiot! What are you doing?" (laughs) It was trying to hold me back or something." – AE

"… a trajectory that I felt was not right and being on the right one now, I feel like I'm closer to the right one, I feel like I'm definitely facing in the right direction now, but I still have a few more steps to take to be really on this set of train tracks." – AE

"I used to feel very certain like I was meant to be doing what I was doing and I was meant to be where I was and that this is my place and this is who I am but I feel less certain about that now, that's weird." – DG

"When I set out to do teacher-training, I thought I'd be a head-teacher one day and now I can't think of anything worse." – DG

For RK, self-conflict appears in the form of not living up to the standards laid out by his faith. He believes in them but consciously deviates from them and the unease is evident.

"I won't say that in this stage in my life it comforts me in the sense that I have not been the best of Christians, you know, I have not really gone to church for a while except maybe some of the big... like Christmas and things like that, I've been very hit and miss in the vigil of late... I used to be very dedicated... So, I don't really think I'm in the best place for... (laughs) being comforted because I have not really practiced it." – RK

Similarly, BL expresses a sound belief system, not religious this time, but through principles of practicing mindfulness, compassion and pursuing activism in order to lead a meaningful life. The conflict that results from deviating from those principles admittedly creates anxiety.

"…working long hours might be more because I'm kind of greedy and I want to earn more money or that might take me away from other things that are important, like standing up for things or activism so I think I am in autopilot sometimes or trying to make ends meet or make money and that distracts me from living a consciously compassionate life, so I'm not sure if I'm on the right trajectory (laughs) […] Living life consciously in the best way we can, not being in a state of dissociation all the time, yeah I think that is more anxiety provoking for me than death itself or living life to the full […] Yeah that's a bit of a waste, being not so conscious, not living life to my values, just kind of being brainless." – BL

For BB and HO, self-conflict appears in the form of ignoring their self-protection, their internal natural defence against

mental and physical depletion [36], which admittedly makes the body protest and leads to psychosomatic manifestations of stress.

"I'm a very calm person and nothing really phases me, but I think it comes out in other ways so even though I don't feel like I stress physically or like other people would say, "Oh, I can't cope", I think it just comes out in other ways." – BB

"I think I do live up to [my values]! I think a lot! And sometimes at the expense of my health (laughs) because these values are the reasons I made myself work a lot. I always used to see those values in contrast with my individuality […] Basically, it was about giving a lot and not taking a little but I never used to ask for anything, I never used to think that I might have needs, I never used to have priorities in considering myself, so, basically, there wasn't any balance. So, here comes the acknowledgment of my needs." – HO

Finally, BF, when recounting the period of his life when IBS was most prominent, he expresses a direct conflict between his sense of self and his family's sense of who he was. Not being aware or capable of dealing with this conflict at the time, led to increased anxiety and coincided with the onset of IBS.

"Like, the last two or three years of school, when, you now, exams were happening and family pressure was on and I had to be someone for someone else, if you understand me, like, especially over the two last years of high school, like, the first exams, the symptoms were very bad, very noticeable […] Eh, parents, man. I had to, you know, fulfil expectations and desires that weren't my own and that, let's say, that was translated through school performance and exams." – BF

During the interview, BF describes himself as a "*semi-elitist*" and presents stiving as a value that is important to him:

"I'm semi-elitist. Semi! In the way that I believe that people should do the best they can think of, in a way. You know what I mean? Like, as far as their mind gets, they should go there, and that's it. That's my elitism. These are my standards." – BF

However, the self-conflict arises from the fact that he states that he is unemployed at the moment and, as a result, not pursuing the "*best that he can*" which seems to bring forth anxiety and an IBS relapse.

"Yeah, man. I think I told you like four times; I want a job. I don't want to rob anyone and I don't want a bag of money, I don't give a fuck about money, I just want to be creative in a good environment. That's what I want, that's it. And that makes me experience IBS nowadays." – BF

Interestingly, later, the self-conflict appears again unbeknown to him when he is asked if there is anything holding him from reaching his full potential and he contradicts his belief in personal striving by saying:

"Well, What's my potential, man? What is that?" – BF

The responses in this subtheme indicate that participants may suffer from low self-esteem. Along with the IBS that harms their self-esteem due to isolation and embarrassment [10], self-conflict also acts as a self-esteem reducer. The fact that participants present both anxiety and low self-esteem, leads us to the conclusion that they might also suffer from a lack of defence mechanisms against death related concerns. This notion is backed by existing research since self-esteem is formulated when believing in and actively endorsing one's cultural worldview and when one is living up to the standards that are part of that worldview. In this way, one can feel like a valuable contributor to a meaningful universe. When living against those standards, self-conflict is created and self-esteem cannot operate as a buffer against anxiety and death related concerns [19; 20]. Living with self-conflict harms self-esteem and therefore doesn't allow for the development of healthy coping mechanisms against the idea of death, leading to more anxiety and, as established earlier [13], greater likelihood of IBS manifestations.

Time as a limited resource

The second subordinate theme is "time as a limited resource". The concept of time was experienced as an entity that exists beyond participants' existence and is anxiety-inducing.

For AE, IBS is to blame for losing precious time from pursuing a meaningful life.

"Cause with IBS it's like a loss of time, in a way and you lose a part of yourself, or you lose a part of what you thought was yourself […] but I'm mixed up with this concept of time, so I feel like I'm running out of time, so I try, before that death happens or whatever, I guess I'm trying, you know? […] For me it's the loss of time even though I've always had time, I've lost a lot of time and lost ideas of what I thought I should be doing or imagined myself doing […] I've been sick a fair bit so I've lost time, time in a way even though you never lose time but..." – AE

Again, the concept of inevitability to take up the matter of one's existence leading to unfocused fear/ anxiety [15; 16] can be observed in this segment.

"NA - And do you feel that there's anything that keeps you from reaching your full potential?

BF - Eh... Time? That's it. If I use my time the right way, I think... Well, What's my potential, man? What is that?"

"I do get frustrated with myself because I do want to enjoy everything I have now but I'm always thinking what would I do after this, what are the next steps?" – BB

BL touches on time from a few different perspectives. First, she is aware of time from the viewpoint of female fertility.

"I think I would like to be a parent one day, but I worry that I'm thirty-five and, like, I don't take for granted that I can be a parent, as in, biologically, so there's a part of me that feels like, if that didn't happen, I would be, I would feel kind of sad. I think if I was fifty and you asked me that question, I might have said yeah "being a parent"." – BL

She also acknowledges the need for relaxing and not always striving; however, she feels that time spent unproductively is a cause for anxiety.

"I have an app that sells second-hand clothes and I probably spend more time on it than I'm consciously aware just scrolling through clothing items, I think that's one thing I'm less happy about […] if you showed me data of how long I actually spend doing that daily, I don't know if it's an hour or two, then that's too long. If you times it by seven, then that's fourteen hours of my week just scrolling through on a clothes app!" – BL

"I guess I feel like as I'm getting older, you have a limited amount of years in you when you can confidently travel and get

the most out of travel and the thought of being robbed of these two -three years because of covid is a bit distressing really." – DG

While DG is aware of the passing of time and the consequences of aging, HO's recount allows for the interpretation that she is on a race against the clock as she seems upset about having to *"make time"* to eat breakfast as a means to managing her IBS.

"I make myself eat breakfast, I started eating breakfast. That really annoyed me because I didn't have time in the morning to eat breakfast and now, I had to make time and okay, it does affect me thinking about it." – HO

Finally, RK's attitude towards the passing of time is related to that of death.

"…as a young man you can still feel invincible […] but once you start getting in your fifties and higher it's […] it definitely is on my mind, you know?" – RK

This heightened consciousness of time creates fear of not living passionately and not pursuing self-esteem striving among participants and is a contributor to the existential anxiety suffered by them.

Ultimately, in this theme it has been identified that the reduced quality of life, inability to self-actualise and inaction caused by IBS, the awareness of temporality and the diminished buffering potential of a low self-esteem could be the culprits of an unsuccessful formation of existential defence mechanisms.

Mortality Salience

The subthemes in this theme uncover the attitudes of participants towards mortality.

Attitudes towards death

In the first subtheme, their attitudes towards death and afterlife were analysed.

"I know I'm going to die someday; I don't want to die (laughs) but I know it's gonna come at some point so…" – AE

"How I feel about death? I think I'm trying to get to this point where I just give into death. Where it's just accepting that you are just one of billion, seven or eight billion people on this planet that was here for a moment and then gone, and that's life […] I find, if I accept things as they are, that's where there's a divinity and I don't want to get too religious but there's something divine about accepting just things as they are and not trying to push and prove and create value for yourself in the one life you've got." – AE

"I've watched too many crappy or fun or romantic nineties' movies where they had angels and the afterlife. […] I just don't think we die completely. […] But yeah, I think that, essentially, the spirit lives on." – AE

"I feel like I'm very aware that death happens and people die, I'm not naive in that way and I've kind of seen people close to me die […] I don't want to die and I certainly don't want the... dying seems horrible if it's a horrible death…" – DG

"I would say I'm a Christian, so I do believe there's something more after death. […] In the Bible there's talk of heaven and hell and I like the thought of peace […] I'm not imagining like pearly gates and people singing on clouds and harps or something like that, I don't know, it feels like there's more." – DG

"Obviously, I don't want to die, you know, at my age it has become something that definitely crosses my mind more frequently now, unlike when we... when you're young and you think you're invincible" – RK

On one hand, AE, DG and RK's answers reflect that they are aiming towards neutral acceptance; they are aware and accepting of mortality, neither fearing it, not welcoming it, and they recognise the steps that must be taken to reach true neutral acceptance [21; 22]. On the other hand, however, their attitude could also be seen as approach acceptance which is correlated with religiosity and afterlife beliefs. Belief in life beyond death eradicates mortality salience through self-esteem striving and does not offer a buffer against death-related concerns [37].

"I think, I don't worry about dying very much. I probably see dying as a positive thing […] Sometimes I think it would be better for the world if we just didn't live […] I was suicidal when I was in my late teens, early twenties; I think there is a lot of freedom in realising that you can die. You can literally kill yourself and I find this quite liberating. Like I don't have to be alive, so I think that's quite liberating that being alive is a choice." – BL

BL's comment on death being a kind of freedom points towards escape acceptance. The fear of a life under certain circumstances is greater than the fear of death, a notion often held by suicidal or depressed individuals [22]. BL is open about having felt suicidal in the past and this attitude towards death reflects this emotional progression.

"I think that's it. I think you just don't exist. Certainly, I don't believe in any kind of afterlife or anything fluffy […] I think, if I think normally and rationally, I think it's sad and I think of all the things I won't be able to do anymore but I understand that that's the natural order of things and I suppose you just hope that you've lived a long and full life before it happens but it doesn't fill me with dread, as it were." – BB

"Strange... it's the fact that I won't exist and it's really bizarre and then, when my husband was watching one of the space programs, it triggered [a panic attack], as actually before I existed, as well, which is really odd. But now that's sometimes fixed in, that when I'm having these panic attacks, I not only feel the impending doom that I won't exist but also it can be that there's a time before I existed and I have no idea (laughs) why! But it seems to be because I can't do anything about it, I can't control that in any way, but yeah... So… If I said, "Well, realistically everybody grows old hopefully before they die", that doesn't bother me, but I have strange panic attacks at the fact that I'm not going to exist." – BB

Consciously, BB is also oriented towards a neutral acceptance of death; subconsciously though, she seems to not have come to terms with personal death.

Below, excerpts from BF's interview offer a full picture of his answers to death-related questions:

NA - We will now touch the concept of death and your attitudes towards its acceptance.

BF - Great! I love death! (laughs)

NA - (laughs) Alright! So, I'd like you to describe the feelings that go through your head when you think of your own death.

BF - Eh... Indifference. Like, when I die, I actually don't give

a fuck. I care more about people that I love dying, than me. I'm going to be just fine, I'm fine, whatever. Honestly.

NA - How often do you think about your own death.

BF – Rarely, maybe never. I told you, I don't give a fuck, man! The thing that frightens me is getting very old. Not dying, I don't care about dying. I don't give a fuck! It's like taking a piss. It happens.

Man, when I die, I don't give a fuck. I told you before, I don't give a fuck.

From the attitude and the choice of language, BF appears to not be engaging with the question, and does so unusually, forcefully and repeatedly. This could potentially reveal a repression of the idea of death, a lack of an acceptance mechanism and a denial of the fear of death which can lead to anxiety [25].

"I don't think of my own death. For some reason, I don't. I don't know why (laughs)." – HO

"Nothing. I believe that when a person dies, they don't exist so you can't feel anything. You can't feel anything about something that you won't live, if you get what I'm saying. It affects other people but you can't really control it and you can't know and you don't live it so you can't have an experience on that." – HO

HO admits to never think of her own death, pointing towards possible repression (Firestone, 2015), but also shows signs of possible neutral acceptance.

A neutral acceptance towards death would correlate with finding meaning in life, reducing death anxiety and achieving self-actualisation [22].

In conclusion none of the participants demonstrate strong neutral acceptance and therefore are more vulnerable to death anxiety.

Effect of loss

The next subtheme investigates the effect of loss on mortality salience.

"I've got only one close person to me and a couple of pets. They were pretty devastating, all of them, they did affect me at the time, like, you know, momentarily, at that time, very much, very negatively…" – BF

"…having almost lost my sister, I don't know if that is why, I'm aware of other people's fragility around me…" – BL

"…once you start getting in your fifties and higher it's... I have friends now that have died already, people I went to school with, so it definitely is on my mind, you know?" – RK

"My mum died when I was two and I know that I've always been aware that because I exist, she is remembered so I think there's a little bit of that. I think with my own children, and I think I always wanted to have children because a part of me always thought I kind of carry on […] if I could go back to losing my mum, I know that I have had quite bit of time where I thought that I have the honour of being alive, so make it count so I do think that this stems from something early on, so I do kind of think from early childhood, I remember thinking that, actually, if I get to be alive I should probably make it count." – BB

"As my mum died, I really wanted to feel alive, I really felt that sense of like, life is really short and I needed to do things to feel alive, so I started doing things like sailing and I really wanted to push myself out of my comfort zone, so, like travelling by myself and I guess wanting just to just feel like you're making the most of every minute. I got a bit exhausted, really. I maybe even like, engaged a bit in some risky behaviours because I just wanted to feel alive, it was just that... just aware of any minute you can... your health or your normality can be snatched away or grabbed away quite quickly, that was very real, but it made me go a little bit manic." – DG

Thinking of the death of a loved one, has, to a smaller degree, similar effects on worldview defence as pondering on personal death. These effects are produced due to individuals being reminded of their own death [38]. Participants appear to have negatively been affected by loss and to be reminded of their own as well as other people's mortality.

Especially in the case of BB and DG who both lost their mother at different stages in their lives, loss has triggered interesting responses. For BB it led to existential stress in the necessity to find meaning in life whereas in DG it manifested as a need to feel a sense of immortality by engaging in intense peak experiences. These responses triggered by mortality salience can lead to increased death anxiety [25].

Symbolic immortality

In the next subtheme, participants exhibit a need for being remembered through symbolic immortality schemes as a means to cope with the physical death.

"That's a very good question for any writer […] I want this life to mean something or be of worth that is beyond my own worth, beyond my own existence […] I wanna leave, yeah... I guess the fear, if I flip it on its head, the fear of dying and not having done anything to contribute to life beyond your own life." – AE

For AE, writing a book is the context within which he believes he could acquire value or self-esteem, however, it is deduced that this endeavour could be a means to an end or is in itself anxiety-provoking.

"I like thinking that if you've got a chance to live then you should contribute something, so I like the acts of kindness and I quite like doing things for friends and colleagues and... We've got pigeon holes at work so I put little gifts in for different people sometimes in there, and obviously we've got friends but I kind of take it on a bit further […] I suppose it's part of the teaching as well that you're thinking that I'm helping the next generations and giving to them and I suppose you do get a little bit immortalised, don't you, because in everything they then do, there's a little bit of, carrying of... So, I suppose that's where I get my purpose as it were. […] My mum died when I was two and I know that, I've always been aware that because I exist, she is remembered so I think there's a little bit of that. I think with my own children, and I think I always wanted to have children because a part of me always thought I kind of carry on." – BB

Continuing her life or identity through children and students as well as being remembered fondly is important for BB.

"I do believe humans are interconnected so I think that sometimes we underestimate what we have with people so I try and kind of, remind myself that what I do can have an impact or can matter and try and be responsible about that […] I don't know if it's about making an impact after death. Just remembering we are all interconnected and what I do has consequences." – BL

For BL, symbolic immortality is ushered through the transcendence of individual actions into collective significance and through living responsibly up to her values, something that, in other points of the interview, is conflicted.

"My partner was also ill a few years ago, we really tried to get our house in order, like our shit together, like updating our will, making sure that like, the provision if we dies so we have like taken some practical steps to make sure that if we died things wouldn't be distressing to the people we've left behind sort of thing that things are in good order, working towards that really, just making sure that, like, yeah we're definitely going to die at some point, hopefully not now, but making sure that life is in order for the people that we have to leave behind especially having a dependant, cause obviously our other children are older but we still got a fourteen year old child, like, if something happened to us knowing that she's just... that way it would all be more secure, there would be minimum distress." – DG

At this point, DG appears to be in good terms with personal death as she is able to rationally consider the consequences of her passing and make arrangements for her family. This stance could indicate, either rational thinking in the face of adversity, or a sound coping mechanism system against the idea of mortality.

"I think yeah, and I think I would like to write a novel. I think I would, yeah. I think, I guess I'm not going to be remembered for my art so I like, but I still, I would like to try and write something even if it's just for the sake of it." – DG

DG pitches the goal higher by aiming to write a novel and then brings it back down to more basic cultural requirements for symbolic immortality, such as being remembered fondly.

"…being remembered even within your family is pretty important like living in the memory like my grandparents and good friends are still alive in you in a way because of the impact they had in your life, that still has value... I mean that is a big value that kind of umm... that you… even if it's in a small way, to your friends, to your family, you are remembered like something you did or said or a recipe or something you could go on…" – DG

"I think that I want my loved ones and the young generation, my nephew to remember me and talk about me as I do for my grandma. It's important to have people that you remember in everyday things. I want to be remembered in my work, you know, that I was a good lawyer or that I was, you know, a person that helped as much as they could in human rights issues but the most important is for people that are around you that remind themselves of you and of how you lived and how you made their everyday life better." – HO

"I've always been into ancestry and my family and I've done a lot of research and I try to remember my ancestors and I tell stories about them to my kids and to my grandkids and I have pictures of them, and you know, talking about my grandma and my grandpa and what wonderful people they were and they had a huge impact on my life and they left their mark on me and so I hope to do the same, I hope my kids and grandkids do the same and remember me and think "I was fortunate to have him as my father", you know?" – RK

"You know, I would say, God. I definitely have seen the hand of God throughout my life, I know he has blessed me probably more than I deserve." - RK

The only participant who didn't express a symbolic immortality scheme was BF who, when questioned whether he wants to be remembered after death, replied:

"Man, when I die, I don't give a fuck. I told you before, I don't give a fuck." – BF

Once more BF is observed to not be engaging with the question and forcefully dismissing it, stirring us towards the assumption that he may be repressing the thought of death. As discussed in the topic of afterlife, here too, participants present a formation of symbolic immortality, this time through cultural legacy (book writing), continuity through children or experiential transcendence and human interconnectivity [23; 24; 26]. Participants seem to experience the buffering effects against death anxiety through the schemes of symbolic immortality they have developed. However, only symbolic immortality via pure self-esteem striving is considered the most successful coping mechanism against death related concerns [37]. In this case, it is not clear whether the symbolic immortality schemes adopted by participants are a product of pure self-esteem striving and whether they are an adequate coping mechanism against death anxiety.

Therapeutic mindset

Last on the theme of Mortality salience, is the subtheme of therapeutic mindset. Participants expressed ways that they have found in coping with IBS, anxiety and even death, either independently or with the help of a therapist.

"So, I meditate and I, you know, I've been to Buddhist schools and stuff like that […]

I'm going into a Vipassana retreat so I'm still, I'm still looking in, I guess you could say, and I'm still processing…" – AE

"…there's positive emotions as well so and the positive would be a relief, in a way, do you know? Feeling a sense of relief and just say I'm one of seven billion, like I can be... I can happily be just another dot on the planet and go about my life. […] like a kind of peace or, yeah... that I'm trying to work on more (laughs)." – AE

"Yeah, we all have faults. Like, I told you, just told you before, I can be a cunt and that's not my choice, that's my feelings, so it would be good if I could control my feelings a bit more, that's it. That's why I go to therapy, by the way. That's it." – BF

"Thinking that what I'm doing is right I suppose. I think there's a little bit of listening to your internal voice and thinking is this right or wrong. I like to think that I'm following the voice inside that's saying, "Okay, that's a good thing to do", so that probably gives me a bit more comfort." – BB

"I think, sometimes, meditation […] that kind of connection with myself, some quiet time with myself, or just checking in with myself, or speaking kindly to myself, or being with my emotions, or accepting how I am in the moment or how I'm doing, not having too inflexible standards, just allow myself to not have to do great all the time." – BL

"I think something's really shifted in me the last few months […] it's about doing exercise for well-being and health rather than being thinner. […] trying to do exercise because I like it and because it's good for my mental health […] Slow down a bit really, like, walking […] thinking about people who are really positive for you and trying to be round more people who are more posi-

tive rather than people who are stressy or negative or just even bad to be around […] I feel like where I am now, I want peace more, I want calm. […] Maybe I'm looking for more balance. It's ok sometimes to just watch stuff on telly and just really enjoy it or like mindfully cook a meal or read…" – DG

"The therapist didn't tackle the issues but tried to help me to generally calm down. He gave me a few tips on how to control my anxiety or more like how to recognise my anxiety cause my problem was that although I was very anxious and very stressed, I did not at all show it. So, I appeared as a very calm person and very under-control person with huge anxiety issues that never, ever surfaced so, he said, "See the anxiety. Second step is control it", in a way but the first was, "Recognise it as an anxiety issue". And that's why I think it came out physically because it didn't come up in any other way." – HO

"I lived a lot up to [my] values and now I have to, you know, find a way to make things more balanced. To balance also the other parts of my individuality. It's also very important." – HO

"I enjoy reading some of the stoic philosophers and some of the stoic beliefs and trying to only worry about those things that we have control over […] it's not my business what people think about me, I can't, I can't, that's their own problem. I can't control that; I have no control over what people think." – RK

"I can't go back in time and make different choices, it's something I have to deal with." – RK

All participants talk about controlling their anxiety through meditation, adopting a stoic approach to life and regulating their emotions; consequently, they have, independently, naively or with professional help (BF and HO), discovered the same pillars that CBT is founded on; Stoic, Buddhist, Taoist, and Existentialist philosophies [39] which, as mentioned in the introduction, is a commonly used treatment therapy for IBS [28]. This need for balance through a CBT-like mindset could be related to the imbalance created by the unpredictability of IBS and/or to the existential anxiety brought forth by the lower self-esteem and subsequent inability to form coping mechanisms against death related concerns.

Self-Image

The subthemes identified in this theme uncovered the formulation and orientation of self-esteem and its death anxiety buffering potential.

Taking ownership of IBS

Participants seem to be taking ownership of IBS, mainly by ignoring food restrictions or carrying through regardless of pain. From these responses, is it evident that participants acknowledge IBS as a part of them, but they try not to let it define them.

"But yeah, sometimes I still eat it cause it's easier or I know the effect won't be too bad but as long as I keep it down to a really low level and I might have a bit of gluten once a week, I'm cool with that […] sometimes I just go, okay I'll eat it now but not for another week or something." – AE

"…these days if I get super bloated cause of that, stressed and super bloated, I just don't think about it. Like, I know people who are like, "Oh my god, I'm so bloated! I'm super bloated!" I don't give a fuck and I'm not even gonna say no to having a beer or anything like that cause I'm bloated and I'm gonna get more bloated. I just ton't give a fuck. You know what's gonna happen? I'm just gonna live my life." – BF

"…probably the main thing is I try not to over-focus on it. To think this is just how my gut works and I try to... I don't really focus on it very much." – BL

"I guess you just want to eat what you want to eat broadly and kind of what's convenient. I haven't got the time or energy to be fussing around food too much but it does affect what I wear […] it's about the way I feel about myself and the look of my stomach, say, and I guess I think I just accept it really but it might be because of my personal circumstances like I'd just rather eat bread I kind be bothered not to eat bread even though I know it probably will make me bloated or whatever you know […] I haven't let it affect my food choices so much because I don't have the energy for it but it certainly does affect how look in clothes, the look of my body" – DG

"I think at the end of the day, you do what you have to do. Even when you're in pain. I hate pain but I can endure it so I do what I have to do but in a different way, I think." – HO

"…coffee always does me in but I like my coffee, I still haven't been able to give it up!" – RK

Trying to take ownership of IBS is not as liberating for RK as the consequences are impossible to ignore.

"I know when I eat something I'm not supposed to and I make a conscious decision and next thing I know I'm miserable afterwards." – RK

Earlier, it was established that the use of CBT-like techniques to help participants manage anxiety and IBS. CBT facilitates the formation of identity in chronic pain sufferers and the emotional regulation against encounters with mortality [40]. It is possible that participants' self-developed CBT-like mindsets have helped them in taking ownership of IBS.

Relationship-derived meaning and self-esteem

In this subtheme it was identified that relationships reinforce participants' cultural and personal worldviews and consequently their self-esteem.

"What makes me feel proud of myself is, I think, my courage and the fact that I'm there for my friends, my family, they can rely on me and that I have, for example, a way to understand people and listen to people and understand them more than what is asked of me." – *HO*

"Making people happy, around me. Making them progress, being good to them and giving some... anything, to anyone, is good for me. Anything, anything. Like, fifty cents to the guy washing your windshield, to... you know." – BF

When asked about what makes BF feel secure in himself, other than relationships, he replies, *"My dog"*, which is a relationship too, making the argument of deriving self-worth from the external source of relationships, even stronger.

"I probably care more about making an impression on my family, making my parents proud so, if I kind of have some... I don't know if notoriety is the word, you know if I, for one reason

or another, I've done something that is publicly acknowledged, the first person I would say, is my dad. So, most of the times it's making my parents proud." – BL

"I think there's probably, which it shouldn't be (laughs), other people's opinion! I think we're all a bit like that though, aren't we? But I think I probably worry a little bit too much that people think that I'm a good person if I'm very honest and I think... I suppose there's a bit of wanting people to feel like they can come to me, that I am a nice helpful person so I think that's quite important to who I think I am and I probably think about that too much, I probably am trying to see myself through their eyes a bit too much." – BB

For BL and BB, self-worth is heavily derived through others' validation and for BB and BF, being helpful is key in deriving meaning in life. Although relationships are expected to offer security and stability, being overconsumed by the goal of being likeable can make people deviate from their internal standards and may ultimately undermine self-worth [41].

"My wife is a big part of that cause she's very solid in her values and her values align with my... true ones, my true ones that I value for self-esteem and self-respect. There's good alignment there so, there's good influence there." – AE

"…the friends I try to have or the people I try to associate myself with are people that can discuss and we can talk about any topic openly and hopefully help each other grow and to become wiser." – RK

For AE and RK, close relationships in their life reinforce their values and act as a reflector that strengthens self-esteem.

Positive evaluations from relationships strengthen both self-esteem and belief in cultural worldviews and could act as defence mechanisms against death anxiety [19]. However, with the exception of HO who mentions being proud of her courage, for all participants self-worth and meaning is focused almost exclusively on relationships, making it not as sound since it is based on external sources of validation which can be unreliable [42]. It also does not allow for self-esteem striving in other domains, therefore, a successful development of coping mechanisms against the idea of death cannot be formed [19].

Affiliation versus uniqueness

In this next subtheme, the participants' association with their cultural background and how this affects them, can be observed in their responses.

"But I feel like I've made good progress and I've detached myself from that cultural influence cause for a long time I was not influenced by the environment and the cultural values that I was born in. I fought them hard and won most of the time but since coming back from Europe I've been captured by them again." – AE

"I've always been an outsider in any... Even within my family..." – AE

AE not only considers cultural influence as an obstacle; he even believes it is to blame for his IBS exacerbation.

"I considered parts of myself, who I was and my wishes to blend in with my environment to accept or make a concession that that's just how life is and I think the body was almost protesting." – AE

BB feels equally disassociated from his cultural background, almost expressing anger at the notion of fitting in.

"I don't give a fuck about my country or anything." – BF

"I kinda feel like I'm an anachronism in today's day and age. […] I believe in integrity, I believe in honour, I believe in hard work, I believe in respect, I believe in the traditional morals and morality, you know, my word is my bond, you know? And I find many of those concepts, I find lacking in the modern world, today. Sometimes I feel like an old soul trapped in a modern world so that's a bit frustrating but still I live by my own values and those are my values, you know? […] what Americans used to be about, I won't say they're like that anymore […] Now, it seems like greed and everybody for themselves and everybody is a narcissist and they only care about themselves and it's just sad.

I'm in California and it's pretty crazy the direction this state is going. […] so, it's frustrating for me cause I definitely don't fit in, in this state, in this particular state, like I used to." – RK

RK also expresses disassociation with current cultural worldviews and for him standing out is the only option. Similarly, for DG, society contradicts her values and religion does not offer a sense of belonging anymore.

"I think Christianity has been kind of tainted as a way of living in the way that people understand what that means. It's not broadly good because of the way that other people live it, or people live it, say... I think the last few years the way things have changed politically as well, the world feel depressing, the broad socialism isn't something that's gonna really happen and you sort of have to think of yourself a bit more just to survive and that's making me a bit uncomfortable but you have to... in a world where every... like is inherently selfish, the only way to survive is to be more selfish yourself. That's uncomfortable for me really I'm not really happy with that way of being." – DG

BB does not focus on standing out but expresses a yearning for fitting in so as to validate her values and self-esteem.

"I suppose there's a bit of wanting people to feel like they can come to me, that I am a nice helpful person so I think that's quite important to who I think I am and I probably think about that too much, I probably am trying to see myself through their eyes a bit too much. […] And I suppose I probably notice when I do [receive positive feedback from others] and it reinforces that I do it, yeah." – BB

"I think it's also cultural because in South Africa, we went through a political phase when I was growing up that was really something that made me change a lot and made me become a very different person. I saw what solidarity was, I saw what freedom and being equal was and I saw a very big part of the community getting rights and having a struggle with different things and it made me much more vulnerable to those facts and made me much more… fair and just towards, you know, different issues so that shaped me as a character." – HO

"I think the world is quite unfair and so I try to impact the world so it becomes more fair, more compassionate. I think that coming to coming in contact with a lot of distressed people, sometimes that makes me despair and so I want to do something about that." – BL

Even though BL and HO nourish their internalised cultural worldview through their work as clinical psychologist and

lawyer respectively, HO refers to a culture she experienced in a different time and place. Whether her values coincide with her current cultural worldview is undefined. Equally, BL talks about the world being unfair separating herself from what she sees as the majority of other people, much like RK and DG. Not fitting in with the cultural worldview can be the reason for frustration, anxiety and, as a result, exacerbation of IBS symptoms. Internalised cultural values feed on external validation and when this does not exist, self-esteem is negatively affected [19]. Today, access to a variety of beliefs and values makes is possible to question one's immediate cultural worldview or recognise internalised values as not valid. This leads to anxiety because of a need for constant bolstering of self-esteem and validation of one's own worldview [43].

Positivity in the face of adversity

Finally, participants express positivity and a sense of perspective in the face of the adversity that IBS presents. Some even recognise IBS as an opportunity for learning or as an incentive for positive change.

"IBS started this journey for me where I'm learning, I'm learning that I have an anxiety issue." – AE

"I was exercising but I exercise more after [the onset of IBS] because I was like, "Ah, I need to exercise more regardless of my stomach, it's good for anxiety." – AE

"IBS certainly was a turning point in waking up to them and see that something has to change and now I feel like I've detached myself from them, almost completely but not completely yet […] I think IBS for me was a really big, really bit learning curve about how stuck I was in that mindset of giving part of myself to these cultural influences and ideals, these societal ideas, submitting to these ideas and how brainwashed I made myself, I guess you could say. So, I feel like I've definitely distanced myself and I feel more myself." – AE

"Yeah! Cause I had to take care of myself and that had to be done, you know? By doctor's orders so (laughs) so it's something that I think that, when you don't take care of yourself, at the end of the day, you're in pain so it was something that I had to do […] as soon as I realise that something's going to stress me out in the near future, I plan things better so I won't be totally stressed." – HO

"I started fixing my body, my nutrition and my life, meaning that I escaped the stress and started doing what I wanted, what I liked. It's getting better and better […] Without IBS maybe I wouldn't be working out, or cooking! Even cooking! I consider cooking one of my favourite activities. It helps me be more relaxed, creative, I love it. Maybe without IBS I wouldn't be cooking at all." – BF

AE, HO and BF view IBS as the alarm that informed them of their self-conflict and urged them to take control of their existence. BF and BL acknowledge the benefits of adopting a healthier lifestyle and finding new interests.

"I guess more like a lifestyle, I try and move, do yoga, meditate…" – BL

"…My husband when we first met at work together, he actually has IBS […]so, it was one of the things that we bonded over […] Strange bonding experience! (laughs). "– BB

IBS has been a bonding catalyst for BB and her husband.

"Cause it's like yeah massive farts and then everyone, like my partner is just okay with that really (laughs). I would just fart walking along the village and stuff (laughing) and if people hear, if I walked past a house and then people heard like a loud fart, they would assume it was a man (laughing)." – DG

IBS has urged DG to transcend embarrassment

"I guess, I could take the pessimistic way and say, "Yeah, I'm not satisfied because of this stuff that I'm dealing with", but I know, again, hearkening back to my time in the military and having been around the world, even in this situation of battling this stuff that I am, I'm far better off than most people on the rest of the world so I really, I don't have anything to complain about, I don't, I... I'm still fortunate and I'm still blessed even though I'm battling some chronic health issue that I have not been able to manage yet. But despite that, I get up every day, I have food to eat, I've got my own home that I'm able to fix up and make the way I want, I have got the wilderness up my back yard and I've got a wonderful wife and wonderful kids and a dog, in spite of this chronic health stuff, I'm still pretty damn fortunate." – RK

RK demonstrates a sense of perspective despite the imposed limitations.

In the participants' responses, it is evident that in their effort to alleviate IBS, they became aware of their anxiety management issues, their lack of existential defence mechanisms against mortality and their inaction towards taking up the matter of their existence. Developing a CBT-like therapeutic mindset to cope with anxiety equipped participants with coping mechanisms against negative thinking and learned helplessness; evidence that their identity does not entirely centre around the difficulties of IBS. They appear to possess a predisposition or ability for self-healing which could be utilised in interventions around death anxiety management and self-esteem striving.

Strengths and limitations

One of the strengths of this study was the diversity of participants. Diverse samples ensure an accurate representation of the population [44]. The fact that this research was based on data attained from only seven participants, presents a limitation. Although a number of participants ranging from 5 to 50 is considered an adequate number in qualitative research [45], a larger sample would provide more reliable results in this research. Another strength was the enquiry-based nature of the interviews because participants were free to elaborate and the researcher was allowed to deviate from the interview schedule to explore interesting points made by the participant. This technique offers the chance to clarify inconsistencies in the participants' responses, to help them remember experiences and to develop on answers given. At the same time, this characteristic can also be a limitation as participants could deviate from their response and rumble [46].

This research can be used to inform a follow-up replication which would include a larger number of participants and would also incorporate questions that explore the relationship between participants and their body as well as their feelings towards defecation. This increased scope of research could be used to identify if an increased exposure to thoughts of defecation due to IBS leads to thoughts of decay and death and therefore increases death anxiety [26; 27].

Most importantly, the findings of this study direct the research towards a follow-up investigation which would focus on CBT-like interventions for IBS patients that would be aimed at reinforcing self-esteem striving and making use of symbolic immortality as a cognitive tool to construct self-direction against death anxiety. The aim of this future research would be to investigate whether such interventions enhance IBS patients' quality of life and result in reduction of IBS symptoms and their severity.

This study could inform future research that will consider how death anxiety relates to other long-term conditions, disorders and autoimmune diseases with acute symptoms, such as fibromyalgia and endometriosis and their requisite mental health effects, in order to observe how chronic pain and lifelong management of restrictive symptoms affect the formation of existential defence mechanisms against death awareness.

Conclusion

The aim of this qualitative study was to investigate whether IBS patients present a lack of existential defence mechanisms against the awareness of death. From conducting a thematic analysis on the data, three key themes were identified. First, on the subtheme 'IBS restricts life' it was established that IBS can hold participants back from self-actualising and living passionately because of physical, social and mental hindrances. The existential anxiety apparent in participants is evidence of self-conflict arising from living against personal and cultural standards and from the lack of existential buffers due to an affected self-esteem.

Secondly, on the subtheme of 'Mortality Salience' it was established that none of the participants presented a strong neutral acceptance towards personal death, potentially due to a belief in afterlife and/or a lack of ability to reach self-actualisation. They also presented a weak self-esteem striving, being overly reliant on external validation. Loss seemed to remind participants of their own death, increasing the likelihood of death anxiety. Participants did exhibit symbolic immortality schemes as a means to be remembered after death which can act as a coping mechanism against death awareness.

Third, on the subtheme of 'Self Image' it was established that participants derived meaning and strengthened their self-esteem mainly through relationships which, being an outside source, is unreliable. Participants did not feel strongly affiliated with cultural worldviews which in turn does not bolster self-esteem, leading to an absence of coping mechanisms against death.

It was also noted during the study that participants seemed to be helped by stoic, Buddhist or CBT-like mindsets and they maintained a sense of identity, irrespective of the disruptive role of IBS in their life.

A diminished self-esteem and the existential pressures identified in participants, point towards a poor development of successful existential defence mechanisms against the awareness of death. However, using stoic, Buddhist or CBT-like mindsets, participants were successful in, partially, maintaining positivity and a sense of identity. This demonstrates that participants were not entirely exposed to the existential threats of death anxiety.

The findings of this study offer the potential for a better understanding of IBS and the ways in which it negatively affects self-esteem and the ability to self-actualise since they provide an angle of examining the effect of these hindrances in relation to death anxiety. This presents the opportunity for further research that would aim at the development of novel, applicable interventions for the management of the mental health of IBS patients from the angle of reducing death anxiety. Strengthening positive feedback through one's cultural worldview and boosting self-esteem can help IBS patients achieve self-esteem striving and develop sound existential defence mechanisms against the awareness of death. Furthermore, the ability to self-heal using a stoic, Buddhist or CBT-like frame of thinking, which was observed in participants, could be used as a tool to cognitively intervene and strengthen their existential defence mechanisms. The symbolic immortality schemes they independently developed can also be used as a cognitive device in order to reinforce meaning that comes from self-esteem striving. The improved psychology of IBS patients, along with dietary advice and monitoring of physical symptoms, can lead to reduced death anxiety and simultaneously less frequent and less severe IBS manifestations in IBS patients.

References

1. Chang, L. (2004). Review article: epidemiology and quality of life in functional gastrointestinal disorders. *Alimentary Pharmacology & Therapeutics.* 20. 7:31-9.
2. Mokhtar, N.M., Bahrudin, M.F., Abd Ghani, N., Abdul Rani, R. & Raja Ali, R.A. (2020). Prevalence of Subthreshold Depression Among Constipation-Predominant Irritable Bowel Syndrome Patients. *Frontiers in Psychology.* 11:1936. doi: 10.3389/fpsyg.2020.01936
3. Farndale, R. & Roberts, L. (2011). Long-term impact of irritable bowel syndrome: a qualitative study. *Primary Health Care research and Development*. 12(1):52-67. doi: 10.1017/S1463423610000095.
4. Lacy, B.E. & Patel, N.K. (2017). Rome Criteria and a Diagnostic Approach to Irritable Bowel Syndrome. *Journal of Clinical Medicine*. 26;6(11):99. doi: 10.3390/jcm6110099.
5. Gwee, K.A. (2005). Irritable bowel syndrome in developing countries – a disorder of civilization or colonization? *Neurogastrenterology & Motility*. Vol 17:3 p. 317-324. https://doi.org/10.1111/j.1365-2982.2005.00627.x
6. Verma, K.K., Aswal, S., Prakash. S., Singhal, A., Behari, M. & Joshi, A. (2013). Quality of Life in Gastrointestinal Disorders. *Indian Journal of Biological Psychiatry.* 1:1. doi: 10.0000/www.researchgate.net/259937066

7. Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-96.
8. Maslow, A. H. (1954). Motivation and personality. *New York: Harper and Row*.
9. Shorey, S., Demutska, A., Chan, V. & Siah, K.T.H. (2021). Adults living with irritable bowel syndrome (IBS): A qualitative systematic review. *Journal of Psychosomatic Research*. 140:110289. doi:10.1016/j.jpsychores.2020.110289.
10. Ali, H.S., Ibrahim, Y., Saati, A., Esam-Eldin, E., & Alharbi, M. (2016). Prevalence of Irritable Bowel Syndrome and its Relation to Self-esteem, Depression, and Quality of Life of Female Students in Health-Related Faculties at Umm Al-Qura University. *Journal of American Science*. 12. 91-102. 10.7537/marsjas120216.10.
11. Grodzinsky, E., Walter, S., Viktorsson, L., Carlsson, A.K., Jones, M.P. & Faresjö, Å. (2015). More negative self-esteem and inferior coping strategies among patients diagnosed with IBS compared with patients without IBS: A case-control study in primary care. *BMC Family Practice*. 28;16:6. doi: 10.1186/s12875-015-0225-x.
12. Maslow, A. H. (1987). Motivation and personality (3rd ed.). *Delhi, India: Pearson Education*
13. Lee, S., Wu, J., Ma, Y. L., Tsangà, A., Guo, W. J. & Sung, J. (2009). Irritable bowel syndrome is strongly associated with generalized anxiety disorder: a community study. *Alimentary Pharmacology & Therapeutics.* Vol. 30, p. 643–651. http://doi:10.1111/j.1365-2036.2009.04074.x
14. Tyrer. P. & Baldwin, D. (2006). Generalised anxiety disorder. *The Lancet*. 16;368(9553):2156-66. doi: 10.1016/S0140-6736(06)69865-6. PMID: 17174708.
15. Beale, J. (2010). A Confusion of Categories: Wittgenstein's Kierkegaardian Argument Against Heidegger. *Philosophical Writings* (Special Issue):15-26.
16. Miladinović, A. (2020). The philosophy of happiness, existence and death as a Source of anxiety. *University of Vienna – seminar paper.* Retrieved from: https://scholar.archive.org/work/fcya6rkgn5bbvja3zdmhwbtjti/access/wayback/https://s3-eu-west-1.amazonaws.com/pfigshare-u-files/25139009/a_miladinovic_seminar_paper_Thephilosophyofhappiness_existenceanddeathasaSourceofanxiety.pdf
17. Kastenbaum, R. (2009). Should we manage terror--if we could? *Omega (Westport)*. 59(4):271-304. doi: 10.2190/OM.59.4.a.
18. Corney R.H. & Stanton R. (1990). Physical symptom severity, psychological and social dysfunction in a series of outpatients with irritable bowel syndrome. *Journal of Psychosomatic Research*. 34: 483– 91. doi: 10.1016/0022-3999(90)90022-v
19. Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin*, 130, 435–468.
20. Maxfield, M., John, S. & Pyszczynski, T. (2014). A Terror Management Perspective on the Role of Death-Related Anxiety in Psychological Dysfunction. *The Humanistic Psychologist*. 42. 35-53. 10.1080/08873267.2012.732155.
21. Gesser, G., Wong, P. T., & Reker, G. T. (1988). Death attitudes across the life-span: The development and validation of the Death Attitude Profile (DAP). *Omega: Journal of Death and Dying, 18*(2), 113–128. https://doi.org/10.2190/0DQB-7Q1E-2BER-H6YC
22. Neimeyer, R. (2005). Grief, loss, and the quest for meaning. *Bereavement Care.* 24. 27-30. 10.1080/02682620508657628.
23. Lifton, R.J. (1979) The Broken Connection: On death and the continuity of life. *American Psychiatric Association Publishing.*
24. Lang, F.R., & Carstensen, L.L. (2002). Time counts: Future time perspective, goals, and social relationships. *Psychology and Aging, 17*(1), 125–139. https://doi.org/10.1037/0882-7974.17.1.125
25. Firestone, R.W. (2015). The Ultimate Resistance. *Journal of Humanistic Psychology*. 55(1):77-101. doi:10.1177/0022167814527166
26. Becker, E. (1973). The Denial of Death. *New York: Free Press*
27. Cox, C.R., Goldenberg, J.L., Pyszczynski, T. & Weise, D. (2007). Disgust, creatureliness and the accessibility of death-related thoughts. *European Journal of Social Psychology*. 37: 494-507. https://doi.org/10.1002/ejsp.370
28. Hetterich, L. & Stengel, A. (2020). Psychotherapeutic Interventions in Irritable Bowel Syndrome. *Frontiers in Psychiatry.* Vol. 11 https://doi.org/10.3389/fpsyt.2020.00286
29. Emmanuel, A., Goosey, R.W., Wiseman, G., Baker, S. & Törnblom, H. (2020). Impact of symptom severity in patients with diarrhoea-predominant irritable bowel syndrome (IBS-D): results from two separate surveys of HCPs and patients with IBS-D. *BMC Gastroenterology* 20, 127. https://doi.org/10.1186/s12876-020-01252-9
30. Wong, P.T.P., Reker, G.T. & Gesser, G. (1994). Death Attitude Profile – Revised: A multidimensional measure of attitudes toward death (DAP-R). In R. A. Neimeyer (Ed.), Death anxiety handbook: Research, instrumentation, and application (pp. 121-148). *Washington, DC: Taylor & Francis.*
31. Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa
32. Drossman, D. A., Morris, C. B., Schneck, S., Hu, Y. J., Norton, N. J., Norton, W. F., Weinland, S. R., Dalton, C., Leserman, J., & Bangdiwala, S. I. (2009). International survey of patients with IBS: symptom features and their severity, health status, treatments, and risk taking to achieve clinical benefit. *Journal of clinical gastroenterology*, *43*(6), 541–550. https://doi.org/10.1097/MCG.0b013e318189a7f9
33. Håkanson, C., Sahlberg-Blom, E. & Ternestedt, B.M. (2010) Being in the Patient Position: Experiences of Health Care Among People with Irritable Bowel Syndrome. *Qualitative Health Research*. 20(8):1116-1127. doi:10.1177/1049732310369914
34. Blanchard, E.B., Lackner, J.M., Jaccard, J., Rowell, D., Carosella, A.M., Powell, C., Sanders, K., Krasner, S. & Kuhn, E. (2008). The role of stress in symptom exacerbation among IBS patients. *Journal of Psychosomatic Research*. Vol. 64, Issue 2, 119-128, https://doi.org/10.1016/j.jpsychores.2007.10.010.
35. Rengarajan, S., Knoop, K. A., Rengarajan, A., Chai, J. N., Grajales-Reyes, J. G., Samineni, V. K., Russler-Germain, E. V., Ranganathan, P., Fasano, A., Sayuk, G. S., Gereau, R. W., Kau, A. L., Knights, D., Kashyap, P. C., Ciorba, M. A., Newberry, R. D., & Hsieh, C. S. (2020). A Potential Role for Stress-Induced Microbial Alterations in IgA-Associated Irritable Bowel Syndrome with Diarrhea. *Cell Reports Medicine*, *1*(7), [100124]. https://doi.org/10.1016/j.xcrm.2020.100124
36. McGuigan, R. & Popp, N. (2007). The self in conflict: The evolution of mediation. Conflict Resolution Quarterly, 25: 221-238. https://doi.org/10.1002/crq.205
37. Dechesne, M., Pyszczynski, T., Arndt, J., Ransom, S., Sheldon, K., Knippenberg, A.D. & Janssen, J. (2003). Literal and Symbolic Immortality: The Effect of Evidence of Literal Immortality on Self-Esteem

Striving in Response to Mortality Salience. *Journal of personality and social psychology*. 84. 722-37. 10.1037/0022-3514.84.4.722.
38. Greenberg, J., Pyszczynski, T., Solomon, S., Simon, L., & Breus, M. (1994). Role of consciousness and accessibility of death-related thoughts in mortality salience effects. *Journal of Personality and Social Psychology, 67*(4), 627–637. https://doi.org/10.1037/0022-3514.67.4.627
39. Diaz, K. & Murguia, E. (2015). The Philosophical Foundations of Cognitive Behavioral Therapy: Stoicism, Buddhism, Taoism, and Existentialism. *Journal of Evidence-Based Psychotherapies*. 15 (1):39-52. doi: 10.1111/j.1365-2036.2004.02183.x.
40. Coren, S. (2016). Growing through pain: An integrative approach to treating chronic pain and emotional distress. *Journal of Psychotherapy Integration, 26*(4), 394–406. https://doi.org/10.1037/int0000041
41. Park, L.E., Crocker, J. & Vohs, K.D. (2006). Self and Relationships: Connecting Intrapersonal and Interpersonal Processes. *Guilford Publications.* Retrieved from https://ubwp.buffalo.edu/selfandmotivationlab/wp-content/uploads/sites/91/2018/05/Park-Crocker-Vohs-2006.pdf
42. Crocker, J. & Knight, K.M. (2005). Contingencies of Self-Worth. *Current Directions in Psychological Science*. 14(4):200-203. doi:10.1111/j.0963-7214.2005.00364.x
43. Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S., & Lyon, D. (1990). Evidence for terror management theory II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology, 58*(2), 308–318. https://doi.org/10.1037/0022-3514.58.2.308
44. Allmark, P. (2004). Should research samples reflect the diversity of the population? *J Med Ethics*, 30:185–189. doi: 10.1136/jme.2003.004374
45. Dworkin, S.L. (2012). Sample Size Policy for Qualitative Studies Using In-Depth Interviews. *Archives of Sexual Behavior*, 41**,** 1319–1320. https://doi.org/10.1007/s10508-012-0016-6
46. Bariball, L. & While, A. (1994). Collecting data using a semi-structured interview: a discussion paper. *Journal of advanced nursing,* 19, 328 – 335. https://doi.org/10.1111/j.1365-2648.1994.tb01088.x