



**MSc in Clinical Psychology**

Long-COVID: Behavioral and emotional responses to symptoms

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### Forewords and acknowledgements

This thesis was written for my MSc degree in clinical psychology and is intended to shed a light on the symptoms and psychological factors involved in long-COVID. This research topic is interesting because COVID-19 has only recently emerged, and little is known about prolonged symptoms of the disease. Therefore, it is of utmost importance to research the phenomenon in order to better understand it and thus, facilitate help for those who suffer from these symptoms.

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### Abstract

The COVID-19 pandemic has had an immense effect on everyday life around the globe. The disease has severely affected many of those who contracted the virus, of which some continue to experience prolonged symptoms of the disease months after recovery. Such symptoms have been named long-COVID and little is known about them. This study examines psychological factors and behavioral patterns which might play a role in long-COVID. Long-COVID symptoms share similar factors to persistent physical symptoms (PPS) and long-term conditions (LTC), which could prove useful in the understanding and treatment of long-COVID. Fourteen patients seeking rehabilitation due to long-COVID symptoms at Reykjalundur rehabilitation centre in Iceland took part in the study. Psychological processes, such as appraisals and activity patterns were identified as possible maintenance factors of long-COVID symptoms. These factors were similar to psychological processes known to play a role in the maintenance of PPS. Behavior and activity patterns seem to play an important role in long-COVID and can impact patients' well-being. These factors could prove vital in the treatment of long-COVID, which could then in turn help patients manage their symptoms and improve their quality of life.

*Keywords:* COVID-19, long-COVID, persistent physical symptoms, PPS, PPS model, long term conditions, LTC, qualitative study

### **Long-COVID: Behavioral and emotional responses to symptoms**

In late 2019, a mysterious new virus emerged in China, which then rapidly spread across the globe, causing the coronavirus pandemic (Ali & Alharbi, 2020; Velavan & Meyer, 2020). This virus was named Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) and it causes the coronavirus disease (COVID-19) (Ali & Alharbi, 2020; Giurgea et al., 2020). The COVID-19 causes flu-like symptoms, such as a sore throat, dry cough, breathing problems, and a high fever (Ali & Alharbi, 2020). Additionally, symptoms such as loss of taste, loss of smell, lack of energy or strength, joint pain, chest pain, and diarrhea have been reported (Aiyegbusi et al., 2021; Carvalho-Schneider et al., 2021; Kamal et al., 2021; Mahase, 2020). In serious cases, pneumonia, kidney failure, and acute respiratory distress syndrome (ARDS) have occurred (Ali & Alharbi, 2020; Tzotzos et al., 2020). In May of 2022, over 513 million people worldwide had contracted the disease, of which more than six million lost their lives (Ali & Alharbi, 2020; World Health Organization, 2022b).

Many of those who contract SARS-CoV-2 continue to experience prolonged symptoms of COVID-19 months after recovery, often with debilitating effects (Carvalho-Schneider et al., 2021; Goërtz et al., 2020; Kamal et al., 2021). The presence of COVID-19 symptoms so long after initial infection is a condition called “long-COVID” (García-Abellán et al., 2021a; Goërtz et al., 2020; Islam et al., 2021; Mahase, 2020; Mendelson et al., 2021; Sudre et al., 2021), and is prevalent, with up to 90.3% of recovered COVID-19 patients still experiencing prolonged symptoms of the disease, months after recovery (Carvalho-Schneider et al., 2021; García-Abellán et al., 2021a, 2021b; Goërtz et al., 2020; Kamal et al., 2021; Mahase, 2020; Sudre et al., 2021; Taquet et al., 2021). The most common prolonged COVID-19 symptoms include fatigue, shortness of breath, continuous headache, loss of taste, and loss of smell, as well as a lack of

energy and strength (Carvalho-Schneider et al., 2021; Goërtz et al., 2020; Kamal et al., 2021; Mandal et al., 2021; Mendelson et al., 2021; Sigfrid et al., 2021). Other prolonged symptoms include, but are not limited to, cough, muscle pain, joint pain, dizziness and lightheadedness, chest pain, tinnitus, changes in menstrual cycles, and digestive disorders (Carvalho-Schneider et al., 2021; CDC, 2022b; Goërtz et al., 2020; Kamal et al., 2021). The probability of long-COVID has been found to increase with factors such as greater comorbidity of physical symptoms during illness, severity of illness, female gender, and the presence of post-traumatic stress symptoms (García-Abellán et al., 2021b; Mendelson et al., 2021; Poyraz et al., 2020; Sigfrid et al., 2021; Sudre et al., 2021).

The symptom presentation in long-COVID shares some similarities with persistent physical symptoms (PPS) and symptoms that accompany many long-term conditions (LTC). Long-COVID, PPS and many LTC are characterized by somatic symptoms that impair patients' lives, such as pain and fatigue (Henningsen et al., 2018; Kube et al., 2020; Nimnuan et al., 2001; Raveendran et al., 2021). Somatic symptoms that accompany LTC are explained by their respective medical conditions, such as diabetes, multiple sclerosis (MS), and heart conditions, and require continuous management (Harrison et al., 2015; National Health Services, 2022). PPS, however, are not explained by medically recognized conditions, and various PPS have been defined as syndromes, such as fibromyalgia, chronic fatigue syndrome, and chronic pain syndrome (Edwards et al., 2010; Harrison et al., 2015; Henningsen et al., 2018; Kube et al., 2020; Scope et al., 2021; Taylor et al., 2012). Long-COVID symptoms are similar to ones portrayed in both many PPS and LTC, and are explained by a recently recognized illness, COVID-19 (Harrison et al., 2015; Mahase, 2020; Sudre et al., 2021). Management for PPS and LTC require both medical and psychological treatments (Harrison et al., 2015; Salkovskis et al., 2016). Psychological factors play

an important role in both conditions, influencing patients' interpretation of their symptoms, as well as their perception of their disability and experience of quality of life (Salkovskis et al., 2016). Given the similarities between PPS, LTC and long-COVID, such psychological factors may also play an important role in long-COVID.

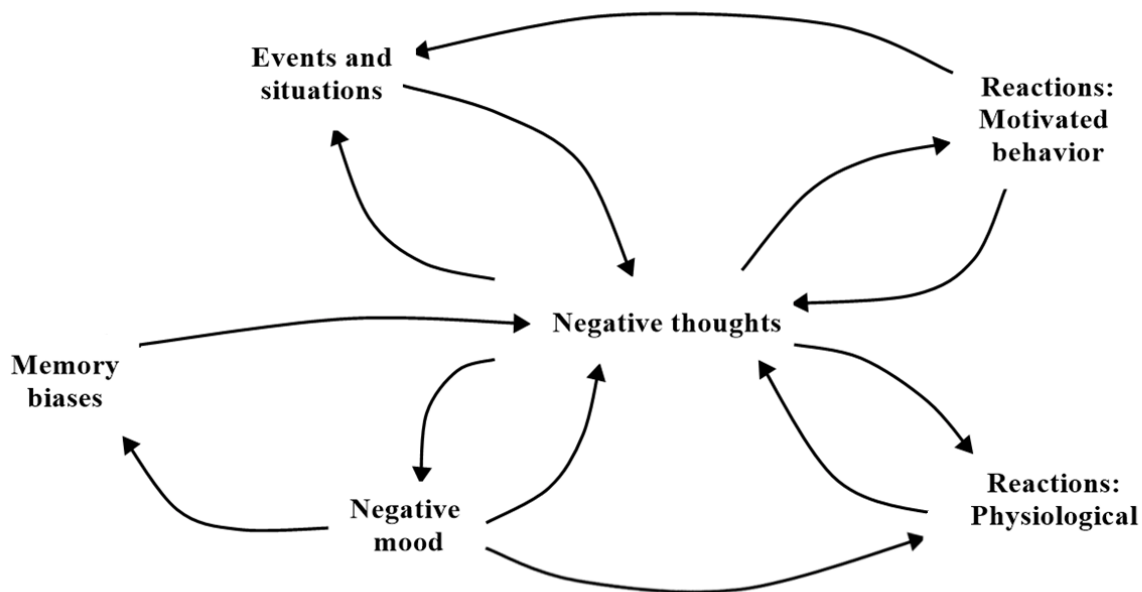
Persistent symptoms, such as those portrayed in LTC, PPS and long-COVID, are common and research has found that 18% - 50% of people who seek help from general practitioners report such symptoms (Edwards et al., 2010; Henningsen et al., 2018; Kube et al., 2020; Scope et al., 2021; Taylor et al., 2012). PPS are distressing for patients and can be difficult to manage (Chalder et al., 2019, 2021; Kirmayer et al., 2004; Kleinstäuber et al., 2019; Mayou, 1991; Salkovskis et al., 2016; Scope et al., 2021). They have been known to occur following viral infections, much like the SARS-CoV-2, and people must often endure prolonged symptoms for months or years after initial infection, as has also been the case with long-COVID (Archer, 1987; CDC, 2022b; Goertz et al., 2020; Komaroff, 1988; Kube et al., 2020; Nimnuan et al., 2001; Raveendran et al., 2021; Scope et al., 2021). Thus the presence of COVID-19 symptoms so long after initial infection emphasizes additional and perhaps different healthcare needs of long-COVID patients (Goertz et al., 2020).

In order to aid those who suffer from long-COVID symptoms, an increase in knowledge and understanding of the phenomenon is essential. Salkovskis and colleagues (2016) developed a transdiagnostic model for PPS presentations and LTC (see Figure 1), based on Padesky and Mooney's (1990) model, which is used in Cognitive Behavioral Therapy (CBT). Due to the similarities between PPS, LTC, and long-COVID, Salkovskis and colleagues' (2016) model may be useful when conceptualizing long-COVID symptoms during treatment. Salkovskis et al. (2016) argue that PPS can be maintained by interactions between various factors, such as negative

thinking, memory biases, negative mood, behavior reactions, and physiological reactions. These factors all serve as maintenance factors for PPS, in the form of feedback processes, or vicious cycles. Thus, by targeting these factors in therapy, long-COVID symptoms might be decreased (Salkovskis et al., 2016).

### Figure 1

*PPS model as depicted by Salkovskis et al. (2016)*



As with other distressing and debilitating conditions, sufferers of PPS often alter their behavior to combat or prevent their symptoms (Chalder et al., 2021; Creed & Funder, 1998; Thieme et al., 2005) and long-COVID patients seem to do the same (Wright et al., 2022). As thoughts, emotions, and behavior are known to influence one another, changes in behavior can affect emotions and experienced distress due to symptoms, often in a negative way (Kleinstäuber et al., 2019; Padesky & Mooney, 1990; Salkovskis et al., 2016; Scope et al., 2021; Thieme et al., 2005). Research has found that patients with PPS often exhibit unhelpful behaviors, such as

avoidance, as well as catastrophizing thoughts, which can negatively affect their emotions and increase focus on symptoms and the negative effects they may have (Chalder et al., 2019; Deary et al., 2007). In turn, negative emotions are known to be associated with increased tiredness, loss of energy, and concentration difficulties (Bhowmik et al., 2012; Gonzalez et al., 2011), further adding to the physical symptoms and negative feedback processes. It has also been found that behavioral therapy for patients with PPS is helpful in decreasing symptoms and increasing patients' quality of life (Chalder et al., 2021; Kleinstäuber et al., 2019; Scope et al., 2021). Such behavioral interventions have also been found to be effective for other illnesses, disorders, and distressing conditions (Brosnan & Healy, 2011; Chalder et al., 2019; Covin et al., 2008; Creed & Funder, 1998; Padesky & Mooney, 1990; Salkovskis et al., 2016). Therefore, behavioral interventions may be suitable for long-COVID patients.

Psychological models predict that behavior is an important maintenance factor in both mental disorders and PPS, influencing emotions and negative thoughts and beliefs (Padesky & Mooney, 1990; Salkovskis et al., 2016). That further amplifies the importance of examining whether behavior plays a role in the maintenance of long-COVID. In this study, we will examine psychological factors associated with prolonged symptoms of COVID-19, focusing on behavior and behavioral patterns exhibited by long-COVID patients. Consequently, we will examine thoughts and emotions associated with long-COVID symptoms and behavioral patterns.



## Method

### Participants

Semi-structured, in-depth interviews were conducted with a purposive sample of 14 participants. All participants were inpatients at Reykjalundur rehabilitation centre in Iceland, who were admitted due to prolonged symptoms of COVID-19. All interviews were recorded via digital voice recorder and were conducted between 12th October 2021 and 3rd November 2021. All patients that were admitted during the week of the onset of the study were invited to participate by one of the researchers. Participants received information about the study and those who wished to participate signed an informed consent form. A total of 17 patients agreed to participate in the study, of which three participants discontinued participation. Thus, a total of 14 participants completed participation. An exact number of patients admitted to Reykjalundur due to long-COVID symptoms is not known. Participants' age ranged from 35 to 73 years ( $M = 53.79$ ) and included nine females and five males.

### Procedure

Participants were interviewed by a clinical psychologist or a master's student in clinical psychology. Both interviewers followed an interview guide developed for the study (Appendix A). The guide was constructed to ensure that information used in conventional formulation of psychological distress would be gathered (e.g. Padesky & Mooney, 1990; Salkovskis et al., 2016). It included questions about thoughts, behavior, and feelings related to participants' prolonged COVID symptoms, as well as questions about life before and after their diagnosis of COVID-19, their current symptoms of long-COVID, and how their symptoms affected their lives. Participants were also asked about the effects that their symptoms might have on their

thoughts, behavior, and mental well-being. Lastly, the interviewer asked questions about a specific incident where the participant's symptoms had negatively affected them. Interviews lasted an average of 59 minutes, the shortest being 38 minutes and the longest being 1 hour and 17 minutes.

### *Coding and data analysis*

All interviews were transcribed and then coded and analyzed using QCAmap, a qualitative content analysis software. A codebook was created which was then revised three times following intercoder reliability calculations. A finalized codebook (Appendix B), post-revision, consisted of 62 codes, which covered background variables, such as marital status, occupation, long-COVID symptoms, and routine of life before and after SARS-CoV-2 contraction. Additionally, codes were created inductively, which resulted in five additional codes, leaving the final codebook consisting of 67 codes.

Prior to coding, intercoder reliability was calculated. Two of the study's authors independently coded interviews and compared the results post-coding. Intercoder reliability was calculated three times, and the codebook and coding principles were adjusted dynamically. Intercoder percentage agreement was 95%, 96% and 97%, respectively. Interviews were then coded whilst researchers regularly convened to further increase reliability of coding.

After all interviews had been coded, data was analyzed using thematic analysis, a widely used and flexible qualitative analytic method used to identify, analyze, and report patterns or themes within data (Braun & Clarke, 2006). Both inductive and theoretical thematic analysis was used, to interpret data and identify any themes related to psychological processes associated with long-COVID, as well as to examine if and how psychological processes were concurrent with

Salkovskis et al.'s (2016) model. Data and themes were analyzed at a latent level to further examine underlying thoughts and meanings in the data.

## Results

Participants' physical symptoms included immense fatigue, pain and aches, breathlessness, physical exhaustion, sleep disturbances, lack of strength, loss of balance, loss or change of smell and taste, and neurological symptoms such as tinnitus and restlessness, as seen in Table 1. Psychological symptoms reported included inactiveness or difficulty initiating any activity, anxiety, depression, mental exhaustion, and emotional sensitivity. Participants experienced between two and six symptoms each, with the majority experiencing three or more symptoms ( $M = 3.57$ ).

At least nine participants fell severely ill when they contracted the COVID-19 disease and six of them had to be hospitalized. At least two participants required intensive care, of which one came close to dying, and hospital staff had begun preparing his immediate family for that possibility. Six participants had underlying illnesses or disorders, such as Parkinson's disease, sleep apnea, attention deficit hyperactivity disorder, post-traumatic stress disorder, post-concussion syndrome, arthritis, and kidney disease, of which one had also recently beaten cancer. Ten participants had other additional stressors in their lives, such as occupational difficulties, history of or recent trauma, and raising children with disabilities. Only five participants had children under 18 years of age, as seen in Table 1.

**Table 1***Demographics and types of symptoms*

Part. no	Age	Gender	Marital status	No. of children	Symptoms
1	53	Female	Divorced	1	Fatigue, pain
2	58	Male	Married	3	Fatigue, pain
3	50	Female	Married	2 <sup>a</sup>	Fatigue, pain, lack of strength
4	47	Male	Single	3 <sup>a b</sup>	Fatigue, lack of strength
5	43	Female	Single	2 <sup>a b</sup>	Fatigue, pain, change of smell
6	73	Male	Married	3	Lack of strength, loss of balance
7	68	Male	Married	6	Fatigue, loss of balance, sleep disturbance
8	51	Female	Married	2 <sup>a b</sup>	Lack of strength
9	61	Female	Married	<sup>c</sup>	Fatigue, pain
10	35	Female	Married	0	Fatigue, pain, lack of strength, restlessness
11	61	Female	Married	2	Fatigue, lack of strength, breathlessness
12	62	Female	Married	3	Breathlessness, lack of strength
13	40	Male	Cohabitation	3 <sup>b</sup>	Fatigue, lack of strength, pain, exhaustion, tinnitus
14	51	Female	Single	1 <sup>a b</sup>	Change of taste and smell, fatigue

*Note.* <sup>a</sup> children with disabilities

<sup>b</sup> children under 18 years

<sup>c</sup> Unknown

As depicted in Table 1, the most common long-COVID symptom was fatigue (N = 10), followed by pain (N = 7) and lack of strength (N = 7). Participants' long-COVID symptoms had a negative effect on all participants' ability to partake in activities and duties, and all but one participant's emotional well-being. All participants reported altering their behavior to some extent, in order to combat their long-COVID symptoms, which in turn altered participants' activity patterns. Three activity patterns were identified, which were decrease in activity, fast pace, and boom and bust. Decrease in activity was defined as participants consciously decreasing participation in various activities and duties, such as work, household chores, or leisure activities. The activity pattern of fast pace was defined as being constantly on the move, doing many things at a time, and having little down time. For example, working 12 to 18 hours a day while also trying to partake in demanding past-time activities, working full-time as well as balancing a second job or volunteer-work and a home, or working full-time while also receiving higher education and being a single parent. Boom and bust activity pattern was defined as a pattern of behavior where activity was increased for a short period of time, followed by a longer period of complete inactivity and rest. All three activity patterns were associated with negative thoughts and emotions. All participants engaged in these activity patterns at some point, and ten participants engaged in more than one type of activity pattern, interchangeably.

### **Effect of symptoms on participants' behavior**

#### ***Activity pattern 1: Decrease in activity***

All of the participants reported they felt forced to decrease the amount, frequency, pace, or duration of activities they had participated in prior to contracting COVID-19, due to their long-COVID symptoms. However, there was great variation in how much participants decreased

their activity. Nine participants had difficulty with everyday activities, such as completing household chores or attending to personal hygiene. Four participants completed most of their daily tasks, but still decreased or opted out of other activities such as sports or social gatherings, as described by participant 6, “and the Christmas celebrations for [an organization], my daughter will handle that now, because I cannot do it anymore. [...] I had organized that for the last 37 years” (male, 73). One participant continued to partake in all previous activities, such as work, bicycling, hiking, or other sports, but at a slower pace, for a shorter duration, or with added rest time during the activities. She described, “and I biked to work. It took me 25 minutes longer [...] but I did it. [...] And I cross-country skied. I just went a short distance, and back. [...] but I did it all” (P12, female, 62).

Participants experiencing a prolonged symptom of fatigue often felt the need to decrease activity in order to conserve energy for activities they deemed most important or refrain from activity altogether. They described uncertainty of whether activity would increase their symptoms and whether it would be worth it. Participant 2 explained, “now I have to anticipate that I might be exhausted after a while. And sometimes I can’t be bothered [to perform an activity], because I don’t want to take the chance” (male, 58). Participants were also uncertain whether their symptoms would even prevent them from fully partaking in the activity, as described by participant 5, “to be, you know, to not even be able to [go somewhere with her child] without almost nodding off. It’s just ridiculous” (female, 43). Participants experiencing pain or other neurological symptoms reported decreasing activity to reduce the severity of their symptoms, as they experienced amplifications of symptoms during activities, “if I would play football or other kind of physical scuffle, the next day would be more difficult, regarding pains and aches” (P2, male, 58). Two participants reported inability to plan ahead due to their

symptoms, as they did not know how severe their symptoms would be at the time. Participant 6 described, “I cannot make a longer plan than that [a month]. Then I will just have to see” (male, 73).

Due to the fact that participants felt they were forced to decrease activity to combat their symptoms, they felt they had to prioritize their activities. They felt they did not have the energy to do everything they wanted to do, and therefore had to choose tasks or activities that were most important to complete, as participant 3 described, “when you wake up in the morning the charge of the battery is 50%, and then when you get home it’s 0% [...]. I never go into the day a 100%” (female, 50). Seven participants prioritized work and duties above social and past-time activities. Therefore, pleasant activities, such as meeting with friends and family, going to concerts, or playing sports, were the first to be decreased. Meanwhile, they still remained working or participating in often stressful responsibilities. Participant 2 described, “I would never be able to do everything I wanted to do. [...] To not be able to play football once a week with the guys, that was something I looked forward to every single day. That’s maybe the only thing I’ve stopped doing” (male, 58). Participant 12 described her past time activities, “I was forced to reduce, you know. [...] Even if I did it [...] at my own pace and on my own terms, it is not comparable with how it was before” (female, 62). Two participants reported they did little more than work, as they did not have the energy for anything else, “so daily life, it has kind of just been work and not much else, you know. Work and rest” (P1, female 53), “I go to work, do what I have to do [...] and then I don’t do anything else” (P3, female, 50).

Three participants prioritized themselves and their family above occupation, as participant 5 described, “[I] just had to pick and choose. Am I going to tend to my job and not my home and children? Which, of course, is not possible. [...] I could not do both”, (female, 43).

Participant 4 decided to stop working, as he wanted to focus on regaining his health, “I just made a decision, I’m not going to work for the rest of the year. Because I can. I’m just going to get well. [...] I think that’s more important than, you know, [...], and just, maybe having to end up back at the starting point” (male, 47). Three participants were unsure that decreasing their activity level was the right choice and wondered whether they could have done something else to improve their symptoms, “It was an experiment, and then, maybe... I don’t know, maybe it was unnecessary. Maybe I should have just powered through, or you know”. (P1, female, 53), “maybe I could have done it differently, somehow in a way that would have been even better” (P4, male, 47).

### ***Activity pattern 2: Fast pace***

Six participants had lived a fast-paced lifestyle prior to infection. When they attempted to return to their previous fast-paced lifestyles after being discharged from COVID-19 isolation, it proved to be too much for them, as participant 5 explained, “I didn’t know what was wrong. I felt ashamed [...]. Just, what is wrong with me? Why can’t I do this? [...] I tried to come back to work, just 50%, and I couldn’t even do that. I really tried [...] because mentally I was so ready.” (female, 43). They had lived a life of high-stress and constant activities which was impossible for them to return to, post-infection.

Three participants that were classified as living at a fast pace before contracting COVID-19 reported that they had been steps away from burn-out. Thereof, one participant had recently returned to the job market after a sick leave due to burn-out, as she reported “when I was diagnosed [with COVID], I was coming back from leave due to exhaustion [burn-out]. [...] And that’s when I get sick” (P9, female, 61). Two participants thought they were close to burning out



due to too much prolonged stress, as participant 5 described “because I was just about to crash at that point. [...] And I thought it [long-COVID] was burn-out [...] because these were all the symptoms of burn-out. That I had got burn-out after COVID. [...] I’ve just done too much and got COVID. [...] Which could well be, because as I say, too much stress, before” (female, 43). Participant 2 wondered whether his fast-paced lifestyle had factored into his prolonged COVID symptoms, and whether COVID-19 had simply pushed him over the edge towards burn-out, ”and surely, as someone asked the other day, whether the COVID hadn’t just been the last straw” (male, 58).

One participant reported that she would have liked to decrease her work more but was afraid to ask for a doctor’s note, and thus, kept going at her regular fast pace “I go back to work [...] and hit a wall. [...] Then I push myself [for three more months] which is when I go to see my doctor and ask for a 20% sick leave. I was afraid to ask for more. [...] It is the most difficult thing I have ever done. I just do what I have to do, and I never slack off. [...] It is difficult just working 80%. It’s this endless guilt; I’m not performing well enough” (P3, female, 50).

### ***Activity pattern 3: Boom and bust***

This behavioral pattern was similar to both fast pace and decrease in activity, in the sense that it combined the two. Participant 14 described “I can be full of energy and then just all of a sudden, it’s as if the balloon has burst, [...] and I just absolutely have to rest” (female, 51). This pattern was often experienced by participants who had previously exhibited a fast pace activity pattern. When they attempted to continue their original fast pace activity pattern, they eventually experienced an activity crash, which led to a prolonged period of rest. Participant 8 described, “I try to do what I can, but I hit a wall, and then I cannot do anything else, maybe for the rest of the

day. [...] I just, the lack of energy, or [...] all these symptoms” (female, 51). Participant 9 said, “I came back [from vacation] completely replenished on body and soul. And after three days of stress at work, just boom. [...] It was an incredible shock. Because I had thought that I had recharged so well” (female, 61).

Eight participants reported experiencing such boom and bust when they attempted to perform an activity they had been used to perform prior to COVID, which then resulted in increased intensity of long-COVID symptoms and a long period of rest. Participant 8 described, “after COVID, I always made myself go to the gym, because that’s what I’m used to doing. Then I went home and just depleted the tank. And then the rest of the day was just kind of in a fog. I did very little. Ignored things that I had to do. [...] It’s so strange. It’s taken me such a long time to realize that by going hardcore for just an hour, I’m just depleting myself” (female, 51). Two other participants reported they did not discern their activity pattern at first and needed some time to recognize it, “and the first weeks I was always just doing everything, because that is what I could do before, and I hadn’t come to terms with it. So, I kept crashing. Again, and again and again and again” (P13, male, 40). Participant 5 explained “and then [my son] said something that I hadn’t realized, just you’re so often tired on Sundays. And I thought, yeah, you’re right. Maybe I’m doing something on a Saturday and then I’m just really resting, you know” (female, 43).

### **Effects of symptoms on participants’ thoughts and emotions**

All participants reported having negative thoughts when they experienced inability to continue their previous activity patterns, and all but one participant reported negative emotions. They felt they were no longer able to keep up with their lifestyle, duties, and leisure activities, which affected their thoughts and emotions. Participants tried and did their best at keeping up

with their old lifestyles and experienced negative emotions, such as disappointment, guilt, and shame, when they could not. Participant 13 explains, “because this is what I could do before, and hadn’t come to terms with [...]. I just had to lay down in bed in the fetal position, but incredibly disappointed, that I couldn’t do what I could before” (male, 41). Similarly, they reported feeling shameful and guilty for not being able to take part in housework or occupational duties, “I’m kind of ashamed for not being able to, that I’m not performing well enough” (P2, male, 58). Participant 5 described “I felt like a little baby, who had to take a nap at noon and just sleep for two or three hours. That did not have a good effect. I felt bad. I didn’t know what was wrong. I felt ashamed” (female, 43).

Eleven participants reported negative thoughts about themselves, when they felt they were unable to keep up with their responsibilities due to their symptoms. Participant 2 described that he felt as if he was a loser, for not being able to work as hard as he had previously worked, “I think that first I had thought that I was a bit of a loser, you know” (male, 58). Other participants had similar negative thoughts about themselves when they experienced similar situations. Participant 3 reported she felt useless, she described this as “I feel as if I am, just like, yeah, just good-for-nothing, just a loser” (female, 50), and participant 7 stated that “if I was the wife, I would have returned me already. [...] Sometimes I get the feeling and the thought that I’m just a \*\*\*\*\* loser”, (male, 68). Such negative thoughts were usually paired with negative emotions, such as sadness and hopelessness, in an apparent negative feedback process of thoughts, emotions, and long-COVID symptoms, as seen in Figure 2.

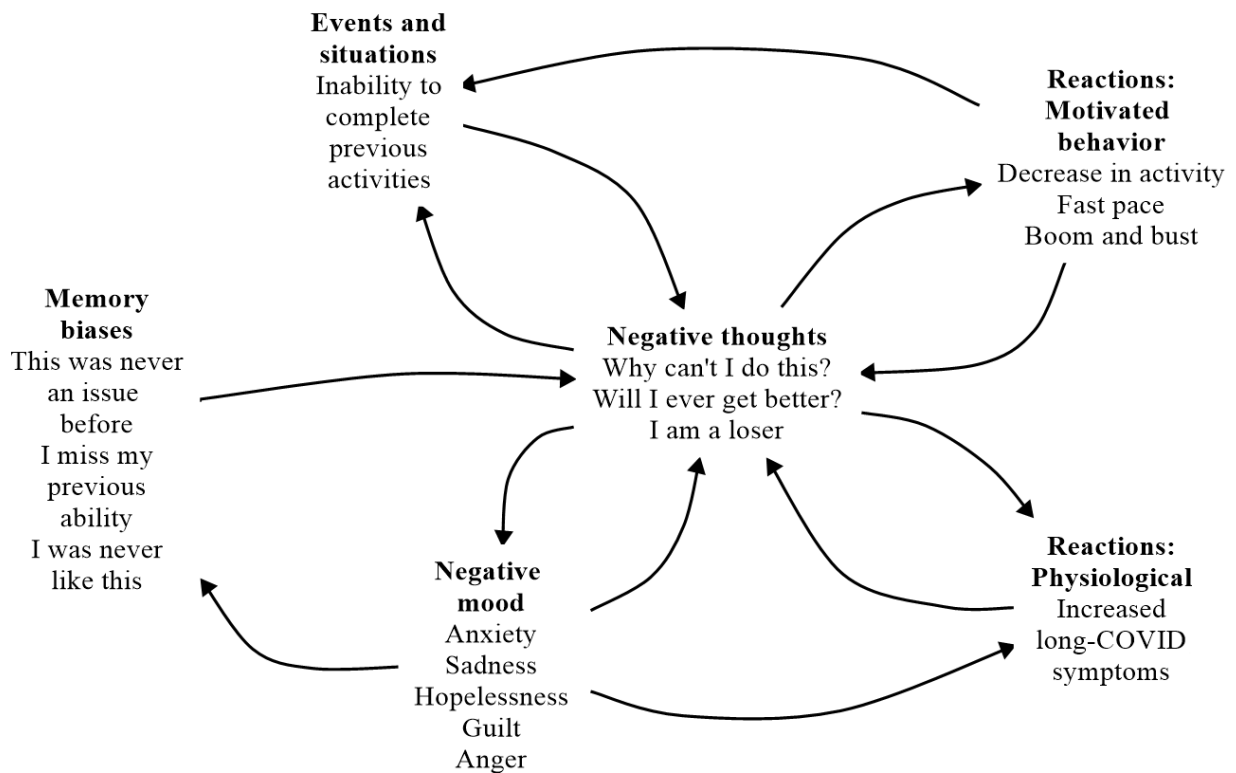
Participant 10 described that she felt a lack of happiness due to her symptoms, “I think I just kind of miss the joy in life [...]. I think it’s just, not being able to do the things I’m used to. Having difficulty keeping the home clean, and having difficulty just, doing the most normal

things in the home” (female, 35). Participant 13 described this as “the most difficult thing was reconciling with not being able to do what I wanted to do and had been doing [...]. It was just, you know, disappointing [...]. It was like a mix of some sort of hopelessness, and frustration and anger. And I just thought, now we don’t know anything [about long-COVID], and that just adds to the hopelessness” (male, 41). Similar to participant 13, ten other participants experienced anger and frustration towards themselves and their symptoms over not being able to perform activities they were used to performing, “I just, f\*\*\*. [...] Why can’t I, you know. [Pass a ball] 20 meters, which was never an issue, you know, before” (P4, male, 47).

Three participants reported anxiety and fear of becoming ill again, and how that might affect them or those around them. Participant 5 reported that she felt anxious about her health because “I think I’m just so afraid of becoming so sick that I won’t be able to take care of my children” (female, 41), whereas participant 7, who had to go to hospital due to heart complications, seemingly did not want to think the thought through, “If I catch this again, oh my [...] If I fall that ill. [...] Maybe the heart has a better chance now. [...] That was a nasty time” (male, 68). Further, three participants reported that due to their symptoms, they felt as if they were going crazy. Participant 7 described, “it really surprised me. I was not indifferent to it, if I’m being honest. To grab something frozen and feel as if it is warm, I thought I was going mad” (male, 67). Other participants doubted their own symptoms and believed they were less severe than they experienced, “it’s always at the back of my head, this pain that I feel, maybe it’s just nothing. [...] I thought maybe I would just be sent home with pain killers. That I was just a loser that had thought differently” (P2, male, 58). As shown in Figure 2, conceptualization of the thoughts, emotions, behavior, and long-COVID symptoms described by participants, is possible using the model described by Salkovskis et al. (2016).

**Figure 2**

*Cognitive conceptualization of participants' long-COVID symptoms using Salkovskis et al.'s (2016) model*



All but one participant reported experiencing negative emotions whilst partaking in activities they had formerly found quite easy and enjoyable but found difficult post-COVID. Participant 5 described, “there is sadness, depression, and just, you know, a bit of frustration [...]. Just frustrated about the situation.” (female, 43). Similarly to what participant 5 experienced, prevalent emotions among eleven other participants were sadness, grief, and sense of loss, specifically loss of former self, “I think I just miss the old me” (P10, female, 35), “and I miss it. The person who is fun, and everyone wants to be around. That was me, you know? And I

miss her, because I want to be that person again” (P8, female, 51), and loss of former ability, “what I miss most is being able to do things the way I could before” (P4, male, 47). Participant 7 stated that he felt he was such a different person post-COVID, that he often referred to himself as “[participant’s name] before COVID and [participant’s name] after COVID” (male, 68). Even participants that managed to remain the most optimistic felt some loss of their former abilities, “I did [the activity] anyway. [...] I wasn’t going to back down. But of course, I missed my previous ability” (P12, female, 62). Another prevalent emotion was anxiety, as participants worried about whether they would ever regain their former abilities, “if I get better. I don’t know if I will ever get better” (P9, female, 61), and wondered if they had to make permanent changes in their lives, “I’m wondering, don’t I just have to quit [my job]?” (P1, female, 53).

Participants sometimes experienced a short spurt of improvement in their symptoms which they interpreted as a sign of recovery. They then continued with their usual activities, often leading to boom and bust. When their symptoms returned, they experienced negative emotions, such as frustration, sense of loss, disappointment, and sadness. Participant 11 reported, “and I was, just [...] angry because of this. [...] Because I thought I had somehow overcome this” (female, 61). Others were quite aware that their symptoms would return in magnitude and planned accordingly, as participant 10 described, “If I know I’m going to a party on Friday, and you know, we’re all supposed to bring something. Usually I make the same dish, but I know I’m here [in Reykjalundur] until two o’clock, I’ll just go home and take a nap and bring something from the bakery. [...] And then I know that on Saturday, I’ll just be out, you know. But it will be worth it” (female, 35).

The activity pattern of decreased activity was especially associated with negative emotions for people who flourished in social situations, as social activities were often the first to

be decreased. Withdrawal from social situations seemed to negatively affect the participants' emotional states, as participants had less opportunities to experience positive emotions, which in turn decreased participants' desire to partake in social situations, creating a negative feedback process. Participant 8 described, "I am a social being, and I think it is very invigorating to be around a lot of people. [...] That is my persona. [...] I stopped visiting. Stopped contacting [my parents]. Stopped calling. It's as if I lost so much confidence [...], I just thought I didn't have as much to offer. It's so strange. I didn't think I was an interesting person" (female, 51). They often experienced themselves as socially isolated which in turn further negatively affected their mental health, "I don't have the energy to do anything. So, I thought people didn't want me around [...]. I was more just, closing off at home [...] in just anxiety and depression, and something that, I never was before" (P8, female, 51). Participant 10 explained, "Certain social connections which were very strong before COVID [...] they're not as strong now. Simply because we don't have the energy [...]. Social connections give me positive energy. [...] I would say that I'm kind of unknowingly socially isolating. I don't have the energy for it" (female, 35).

Some participants not only felt negative emotions towards themselves and their symptoms, but also towards the community and the health care system. Three participants reported that they felt angry as they experienced lack of support after they had been discharged from the COVID outpatient clinic. Participant 10 reported that she felt "angry towards the system because we are very well cared for at the outpatient clinic. And then you're discharged, and then just poof, you're alone" (female, 35). Other participants agreed and felt that long-COVID patients did not receive the support they needed, as participant 9 described, "it's desperately needed that people are taken care of" (female, 61). One participant also noted that he felt the discussion about COVID in the community was distressing, "I became angry because I

felt that it wasn't talked about in the community. It was as if we were just an invisible group. It was just, yeah, it's a just a cold and you'll be fine. I became angry that [long-COVID] wasn't being talked about" (P13, male, 40).

### **Discussion**

The most common long-COVID symptoms participants reported were fatigue, pain, and lack of strength, which corresponds with previous research (Carvalho-Schneider et al., 2021; Goertz et al., 2020; Kamal et al., 2021; Mandal et al., 2021; Mendelson et al., 2021; Sigfrid et al., 2021). All participants experienced two or more symptoms which varied between participants, pointing out the importance of accounting for variability and multiple comorbid symptoms when treating patients with long-COVID. Similarly, most participants had underlying illnesses or disorders which may require additional treatment or management.

The majority of participants fell severely ill with COVID-19 when they contracted SARS-CoV-2. Only two participants did not fall severely ill, of which one participant barely noticed her symptoms. Some participants required intensive care at hospital during their illness, and one participant barely survived. These experiences may prove traumatic for patients and may entail post-traumatic stress, as research has shown (e.g. Hao et al., 2020; Vindegaard & Benros, 2020), which adds a factor worth acknowledging when treating long-COVID, as it may require additional treatment. Other research has found that severity of illness predicted long-COVID symptoms (García-Abellán et al., 2021b; Mendelson et al., 2021; Poyraz et al., 2020; Sigfrid et al., 2021; Sudre et al., 2021), which corresponds to the severity of illness reported by participants of the current study.



Interestingly, the majority of participants in this study were female, but female gender has been associated with higher probability of prolonged COVID-19 symptoms (García-Abellán et al., 2021b), and other post-viral syndromes (Archer, 1987). Further, a total of 35.7% of participants had children with disabilities, where research has found that commonly only 1% - 3% of children have corresponding disabilities (CDC, 2022a; Charman, 2002; Evald Sæmundsen et al., 2016; Evald Sæmundsen & Þóra Leósdóttir, 2017; Heilsuvera, 2022; Marinósson & Bjarnason, 2014; The National Institute of Mental Health, 2022; Wing, 1993; World Health Organization, 2022a; Zeidan et al., 2022). It is known that raising children with disabilities is associated with negative psychological factors such as stress and depression, but also with stigma and financial difficulties, which could serve as added stressors for parents (Falk et al., 2014; Goudie et al., 2014; Oti-Boadi et al., 2020), perhaps increasing their susceptibility to long-COVID.

Participants reported that they felt that their symptoms were distressing and often difficult to manage, which also corresponds with previous PPS research (Chalder et al., 2019, 2021; Kirmayer et al., 2004; Kleinstäuber et al., 2019; Mayou, 1991; Salkovskis et al., 2016; Scope et al., 2021). They reported that their long-COVID symptoms negatively affected their physical and mental health, as well as their ability to partake in daily activities and duties. Most participants had adapted themselves to new behavioral patterns, specifically constructed for the purpose of coping with their symptoms, and all participants had altered their behavior to some extent, in attempt to prevent symptoms or decrease their severity. Such behavioral alterations correspond with previous research on long-COVID (Wright et al., 2022), as well as sufferers of PPS, where both groups alter their behavior in order to combat their symptoms (Chalder et al., 2021; Creed & Funder, 1998; Thieme et al., 2005).

Although the motivation behind behavior change is understandable, this study's participants' behavior affected their emotions and mental well-being in a negative way. As participants decreased their activity, most ceased pleasant activities first, such as hobbies or social engagement. Meanwhile, attempting to remain at work and persisting in occupational responsibilities, which often appeared to be one of their greatest stressors, leading to fewer opportunities to experience joyful moments and activities. Some participants discussed difficulty asking for a doctor's note to decrease work, which emphasizes the importance of discussing sick leaves with patients of viral infections, as normalization of symptoms may facilitate decreasing work percentage for them and lead to a faster recovery.

All participants experienced negative thoughts and emotions when they felt they were forced to alter their activity pattern due to their symptoms. They experienced negative thoughts about their illness, themselves, and the future, which appeared to form a negative feedback process, or a vicious cycle. This concurs with previous research, which states that alteration of behavior may directly affect thoughts and emotions (Chalder et al., 2019; Creed & Funder, 1998; Kleinstäuber et al., 2019; Padesky & Mooney, 1990; Scope et al., 2021; Thieme et al., 2005). Furthermore, negative emotions are known to be associated with increased tiredness, loss of energy, and concentration difficulties (Bhowmik et al., 2012; Gonzalez et al., 2011), which further adds to the negative feedback processes. Salkovskis and colleagues' (2016) model proves useful in conceptualizing the interaction between behavior, thoughts, emotions, and symptoms in long-COVID, which appears to be promising for the treatment of long-COVID.

Interestingly, one participant (P12) did not report experiencing any negative psychological effects due to her long-COVID symptoms. She is one of two participants that did not fall severely ill, and she is the only one who did not change her behavioral pattern, but only

slightly altered her behavior when she performed activities that her long-COVID symptoms affected. She continued to partake in all activities she had performed prior to contracting COVID-19 but did so in a slower manner or for a slightly decreased duration. She utilized pacing effectively, which may have aided her recovery, but pacing has been found to be effective in rehabilitation (Gautam et al., 2020; Mathern et al., 2022; Salawu et al., 2020). This participant contrasts other participants of the study, as she did not report any negative emotions, apart from missing her former ability, and rather reported positive emotions, such as hope and acceptance. Health wise, her background is similar to other participants', as she also had underlying conditions and had just recently recovered from cancer. A seeming difference is that she is a health care professional and was very well informed regarding COVID-19 and appropriate reactions and was able to balance work and personal life effectively. She had great social support and knew where to seek help and support, both during isolation and after being discharged from the COVID outpatient clinic. She attributed her success in dealing with the illness to how well informed she was and her knowledge of appropriate actions to take. These factors may serve as protective factors and should be researched further.

Many participants reported that they felt they did not receive appropriate guidance post-discharge from the COVID outpatient clinic. They felt angry and abandoned, as they did not know where to seek help or guidance regarding their prolonged symptoms. Many participants, perhaps unknowingly, attempted pacing as they decreased their activity. However, as they were not properly informed on appropriate actions and pacing techniques, they could perhaps have fared better with guidance from health professionals. Only two participants were aware of pacing techniques and utilized them to cope with their symptoms. As participant 12 demonstrated, patients' knowledge of appropriate actions to take regarding their illness may serve as a

protective factor against long-COVID. Thus, governments may benefit from setting up post-discharge services for people suffering from viral infections.

In conclusion, the results of this study indicate likeness between long-COVID symptoms, PPS and LTC. Long-COVID patients experience a variety of symptoms that negatively affect their physical and mental well-being. Patients experience worries regarding their symptoms, whether they will improve and whether they will get back to their former selves. Thus, they try to alter their behavior and behavioral patterns in order to combat their symptoms and regain former abilities. These behavioral alterations, however, negatively affect their symptoms and psychological well-being and create vicious feedback cycles. Salkovskis and colleagues' (2016) transdiagnostic PPS model is useful in conceptualizing thoughts, emotions, behavior, and long-COVID symptoms and may also prove to be a useful base formulation for intervention and treatment for long-COVID patients.

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## Appendix A

### Interview guide

#### Kynning fyrir þátttakendum:

Þakka þér fyrir að svara beiðni okkar um þátttöku í þessari rannsókn á langvarandi líkamlegum einkennum eftir COVID-19 sjúkdóminn.

Við höfum áhuga á að ræða við fólk sem upplifir þrálát einkenni eftir sjúkdóminn, eins og hamlandi þreytu, öndunarerfiðleika, minnkaðan styrk, þráláta höfuðverki eða önnur einkenni tengd sjúkdómnum. Markmið viðtalanna er að fá betri skilning á því hvaða áhrif slík einkenni hafa á líf fólks, þ.e. líðan fólks, hugsanir þess, hegðun og getu þess til að taka þátt í daglegu lífi. Með þínu leyfi, langar mig því að fá að spyrja þig ýmissa spurninga um einkenni þín og hvaða áhrif þau hafa á þig og svo mun ég spyrja þig nánar út í afmarkað tilvik þar sem einkenni þín hafa truflað þig mikið.

#### Almennar upplýsingar fyrir þátttakendur:

##### Segja:

- Við höfum áætlað að hvert viðtal taki um 60-90 mínútur.
- Þó mikilvægt sé rannsóknarinnar vegna að við komumst yfir allt viðtalið vil ég benda þér á að þú getur tekið hlé frá viðtalinu ef og þegar þú vilt. Sömuleiðis er þér frjálst að hætta við þátttöku hvenær sem er.
- Þegar þú svarar spurningunum vil ég biðja þig að forðast já og nei svör. Svараðu gjarnan í lengra máli og segðu frá hlutunum eins og þeir koma upp í huga þér.
- Að lokum vil ég minna þig á að viðtalið verður tekið upp.

*Kanna hvort þátttakandi hafi skilið ofangreind atriði og bjóða honum að spyrja spurninga. Ef þátttakandi hefur engar spurningar er viðtalið hafið.*

#### Viðtal hafið

*Skjólstæðingi gert við vart um að viðtalið sé hafið og upptaka byrjuð.*

### Spurt út í lífið fyrir COVID

**Segja:** Mig langar að byrja á að spyrja þig um líf þitt áður en þú greindist með Covid-19. Hvernig var dæmigerður dagur eða vika?

*Ef skjólstæðingur á erfitt með að svara skal umorða spurningu:*

- Ertu til í að fara með mér í gegnum heilan dag, frá því að þú vaknaðir þangað til þú fórst að sofa?  
*Hvatning:* Hvað gerðir þú svo?

*Ef skjólstæðingur greinir frá að hann sé í vinnu eða námi:*

- Í hverju felst vinnan/námið?  
*Hvatning:* Hvaða mikilvægi hefur starfið/námið fyrir þér?
- Hvernig metur þú álagið vegna vinnu og/eða náms?

*Ef skjólstæðingur greinir frá hjúskap eða sambúð*

- Hvernig ganga samskipti á heimilinu?
- Hvernig skiptið þið með ykkur verkum? (*ef máki*).

*Ef skjólstæðingur greinir frá börnum*

- Er eitthvað í uppeldi barna sem þér hefur þótt krefjandi?

*Ef skjólstæðingur á erfitt með að svara:*

- Hefur barn/börn mætt erfiðleikum í skóla eða tómstundum?
- Er eitthvað í hegðun eða líðan barns/barna sem veldur áhyggjum?

*Ef skjólstæðingur leggur áherslu á lífstíl (t.d. hreyfingu, áhugamál, félagsleg samskipti)*

- Hversu oft sinntir þú [*lífstíll nefndur hér*]?
- Hversu mikilvægt var það í þínu daglega lífi?

*Eftirfylgni:*

**Spyrja:** Hversu mikið álag finnst þér fylgja heimilislífi, fjölskyldu og öðrum félagslegum skyldum?

**Eftir þessar spurningar:** Geta tekið saman og skrifa niður grunnupplýsingar: 1) Aldur (sjá kennitölu), 2) atvinnu og/eða nám, 3) hjúskaparstaða 4) börn (t.d. 35 ára einstæð móðir með tvö börn sem vinnur sem hjúkrunarfræðingur á Landspítalanum).

### Spurt út í COVID einkenni og áhrif á daglegt líf almennt

**Segja:** Nú þegar ég veit meira um þinn bakgrunn vil ég færa umræðuna að COVID-19 einkennunum þínum. Hvaða einkenni eru helst að hrjá þig?

*Taka fram:* héðan í frá, þegar ég spyr um einkenni á ég við þessi tilteknu einkenni.



**Segja:** Nú langar mig að spyrja þig um daglegt líf eftir að þú veiktist með Covid-19. Hvernig var dæmigerður dagur eða vika? Hvað hefur helst breyst í þínu daglega lífi?

*Hvatning:*

- Hafa einkennin áhrif á líðan þína?
- Hafa einkennin áhrif á hegðun þína? Er eitthvað sem þú sleppir að gera vegna einkennanna?
- Hafa einkenni þín áhrif á samskipti við annað fólk?

*Eftirfylgni:*

**Spyrja:** Hvað finnst þér erfiðast við þessa breytingu? Hvers saknar þú mest?

**Nánari spurningar:**

**Spurt út í líðan:** Þú segir að einkenni þín hafi valdið þér *tilfinningum X, Y og Z*. Hafa einkenni þín haft einhver frekari áhrif á andlega líðan þína?

*Eftirfylgni:*

Hvað er það við einkenni þín sem veldur þér *tilfinningu X*?

*Hér er spurt um þær tilfinningar sem þátttakandi mögulega nefnir í svari við spurningunni á undan. Endurtekið fyrir allar þær tilfinningar sem þátttakandi nefnir.*

**Spurt út í hegðun:** Þú segir að þú gerir *X, Y og Z*. Er eitthvað fleira sem þú gerir vegna einkenna þinna? En er eitthvað sem þú gerir ekki vegna einkenna þinna?

*Hér er spurt almennt út í hvaða áhrif einkenn hafa á hegðun. Þegar svör hafa fengist við almennri spurningu er spurt nánar út í hegðunina með eftirfarandi hætti. Hafi einhver eftirfarandi atriða þegar komið fram verða spurningarnar aðlagðar m.t.t. þess t.d. með því að spyrja beint út í hvað þátttakandi telji að það hafi í för með sér að gera eða gera ekki eitthvað.*

**Sérstakar spurningar um hegðun**

- Hvað gerirðu til þess að takast á við einkenni þín?
- Gerirðu eitthvað til að koma í veg fyrir einkenni þín, daga úr þeim eða koma í veg fyrir að þau hafi frekari afleiðingar?
  - Ef þú myndir ekki gera *X*, hvað telurðu að það myndi hafa í för með sér?
 

*Hvatning:* Hvað væri það versta sem gæti gerst?

    - Ef það gerðist, hvaða þýðingu hefði það fyrir þig?
- Er eitthvað sem þú gerir ekki/sleppir að gera til þess að koma í veg fyrir einkenni þín, draga úr þeim eða koma í veg fyrir/minnka afleiðingar þeirra?

- Ef þú gerir X hvað gæti það haft í för með sér?  
*Hvatning:* Hvað væri það versta sem gæti gerst?
  - Ef það gerðist hvaða þýðingu hefði það fyrir þér?

### Sértækar spurningar um einkenni og áhrif þeirra.

**Segja:** Nú langar mig að vita meira um hvað gerist þegar einkennin trufla þig mikið þ.e. hvernig þér líður, hvað þú hugsar og hvernig þú bregst við. Gætirðu gefið mér eitthvað nýlegt dæmi þar sem einkennin trufluðu þig og ollu þér vanlíðan?

*Ef „Nei“:* *Hvatning:* Gefa hugmyndir og hvetja og fara síðan í næstu spurningu.

*Ef „Já“:* Áfram í næstu spurningu

**Segja:** Þetta dæmi sem þú hefur í huga er það dæmigert fyrir einkenni þín?

**Ef „Nei“ segja:** Manstu eftir einhverju öðru dæmigerðara dæmi þar sem einkennin trufluðu þig og ollu þér vanlíðan?

**Ef „Já“**

Má ég biðja þig um að meta hversu skýr minningin er (0-100)

Hvernig leið þér (bera kennsl á tilfinningar)  
 og hversu sterkar voru tilfinningarnar (0-100)

**Segja:** Værirðu til í að deila þessu dæmi með mér?

**Ef „Nei“:** Manstu eftir nokkru dæmi sem er nokkuð dæmigert fyrir þig og einkenni þín og þú værir til í að deila með mér?

**Ef „Já“:** Halda áfram með viðtal.

**Ef mörg dæmi koma fram:** Biðja þátttakandann um að hafa í huga það dæmi sem olli honum/henni mestri vanlíðan.

### Spurt út í einstakt dæmi:

**Segja:** Fyrst langar mig að fá að spyrja þig aðeins út í aðdraganda þess að þú upplifðir X Hvað var að gerast áður en...[það sem gerðist nefnt hér]

**Spyrja:** Hvaða áhrif höfðu þessar aðstæður á þig.

*Hvatning:* Tilfinningalega? Líkamlega? Á hegðun þína?

**Segja:** Hvernig brástu við umræddum aðstæðum (hvað gerðir þú?)

**Ef segist ekki hafa brugðist sérstaklega við/haldið áfram eins og venjulega:****Spyrja:** Hvað felur það í sér að gera allt eins og venjulega?

Hvað gerðist svo?

Hvenær var það síðast þar sem þú gast gert allt „eins og venjulega“ án þess að það hefði neinar sérstakar afleiðingar?

Bregstu stundum við svipuðum aðstæðum á einhvern annan hátt?

**Ef segist hafa breytt hegðun:****Spyrja:** Ef þú hefðir ekki gert X/ ekki sleppt því að gera X hvað hefði gerst?

Ef það hefði gerst, hvað hefði verið slæmt við það/ hvaða þýðingu hefði það haft fyrir þig?

**Í lok viðtals**

Að lokum vil ég þakka þér kærlega fyrir að hafa tekið þátt í þessari rannsókn á langvarandi líkamlegum einkennum eftir COVID-19 sjúkdóminn.

Það er okkur mikilvægt að fá sem flesta til að taka þátt svo við fáum sem bestar og áreiðanlegastar niðurstöður.

Þátttaka þín skiptir okkur miklu máli.

**Viðtali lokið**

**Appendix B**

## Finalized code book

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Code number	Code name
RQ1-2	Starf
RQ1-3	Hjúskaparstaða
RQ1-4	Börn
RQ1-73	Álag
RQ1-6	Fyrir – Vinna / nám
RQ1-7	Fyrir – börn
RQ1-8	Fyrir – heimili
RQ1-9	Fyrir - annað
RQ1-10	Fyrir – ánægjulegar athafnir
RQ1-12	Fyrir – virkni og hvíld
RQ1-13	Fyrir – svefn
RQ1-14	Long-C einkenni
RQ1-19	Eftir – vinna og nám
RQ1-22	Eftir – heimili

RQ1-21	Eftir – börn
RQ1-27	Eftir – virkni og hvíld
RQ1-25	Eftir – ánægjulegar athafnir
RQ1-33	Eftir – mataræði
RQ1-23	Eftir – annað
RQ1-29	Eftir – svefn
RQ1-31	Eftir – félagsleg samskipti
RQ1-36	Kvíði
RQ1-37	Depurð
RQ1-38	Vonleysi
RQ1-39	Skömm
RQ1-40	Sektarkennd
RQ1-41	Reiði
RQ1-76	Sorg
RQ1-42	Jákvæðar tilfinningar
RQ1-44	Neikvæðar hugsanir um mig
RQ1-45	Neikvæðar hugsanir um framtíðina

RQ1-46	Neikvæðar hugsanir um aðra
RQ1-47	Catastrophizing
RQ1-48	Rumination
RQ1-49	Marking einkenna
RQ1-50	Downward arrow
RQ1-51	Jákvæðar hugsanir
RQ1-52	Líkamleg einkenni
RQ1-53	Athygli
RQ1-54	Minni
RQ1-56	Boom and bust
RQ1-57	Draga úr virkni
RQ1-58	Of hraður taktur
RQ1-60	Forðun – hreyfing
RQ1-61	Forðun – plön
RQ1-62	Forðun – ábyrgð
RQ1-63	Tilfinningaforðun
RQ1-64	Öryggishegðun

RQ1-66	Merking hegðunar: draga úr einkennum
RQ1-67	Merking hegðunar: að koma í veg fyrir einkenni
RQ1-68	Merking hegðunar: draga úr afleiðingum
RQ1-32	Jákvæð félagsleg samskipti
RQ1-69	Hjálpleg hegðun
RQ1-30	Heilbrigður svefn
RQ1-34	Heilbrigt mataræði
RQ1-26	Ánægjulegar athafnir og skyldur – gott jafnvægi
RQ1-28	Virgni og hvíld – gott jafnvægi
RQ1-80	Quotes
RQ1-83	Söknuður
RQ1-84	Reiði gagnvart kerfi
RQ1-85	Vonbrigði
RQ1-82	Alvarleiki veikinda
RQ1-74	Óvissa í samfélaginu
RQ1-11	Skiptir máli

RQ1-78

Stuðningur

RQ1-70

Viðhorf og lífsreglur

RQ1-86

Fyrir – heilsa

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