

RESEARCH ARTICLE

Assessing patients' attitudes towards telepsychotherapy: The development of the unified theory of acceptance and use of technology-patient version

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Funding information

Fonds de Recherche du Québec-Société et Culture

Abstract

This study presents the development of a self-report measure of patients' attitudes towards telepsychotherapy. The measure is based on a well-researched model of attitudes towards using technology, the Unified Theory of Acceptance and Use of Technology (UTAUT) framework (Venkatesh et al., 2003). We examined the psychometric properties of the UTAUT adapted for psychotherapy patients (UTAUT-P) in a sample of 107 psychotherapy patients who received telepsychotherapy via video conferencing during the COVID-19 pandemic. Exploratory factor analysis resulted in a 14-item UTAUT-P version, with four factors—(1) Therapy Quality Expectancy, (2) Convenience, (3) Ease of Use, and (4) Pressure from Others—and was further corroborated by the results of the confirmatory factor analysis. Our results indicated the four-factor model's adequate fit to the data and demonstrated adequate construct validity and reliability of the UTAUT-P factors. All factors, except for Ease of Use, were significantly and positively associated with intention to use telepsychotherapy technology in the future. This study complements the research on therapists' attitudes towards telepsychotherapy, based on the therapist version of the UTAUT. The developed 14-item UTAUT-P might be a helpful, brief self-report tool in clinical practice, which might give the patient a voice around the potential use of telepsychotherapy technology in their care. This initial application of the UTAUT-P patients during the COVID-19 pandemic offers a building block for future research on patients' attitudes towards telepsychotherapy, outside the context of a forced transition.

KEYWORDS

attitudes, COVID-19, self-report, telepsychotherapy, UTAUT patient

1 | INTRODUCTION

Since the beginning of the COVID-19 pandemic, several studies have reported on the therapists' attitudes towards telepsychotherapy (Aafjes-van Doorn et al., 2020, 2021; Békés et al., 2021; Cataldo et al., 2021) and found that most psychotherapists identified a somewhat positive attitude towards telepsychotherapy, suggesting they

were likely to use telepsychotherapy in the future (Békés & Aafjes-van Doorn, 2020). However, compared to the many studies that report on therapists' perspectives, patients' attitudes towards telepsychotherapy have received relatively little attention. Two pre-pandemic reviews into patient preferences show that the vast majority of patients preferred face-to-face treatment over online treatments via video conferencing (March et al., 2018; Meurk et al., 2016), mainly because they expected more benefit from face-to-face treatment. However, when asked if they would like to

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give it a try, many patients were open to telepsychotherapy, and those who had already gained experience with this format were more likely to opt for telepsychotherapy again (March et al., 2018). Recent studies conducted since the pandemic suggest that patients were generally satisfied with the therapeutic relationship in telepsychotherapy (Cataldo et al., 2021) and experienced telepsychotherapy as beneficial (de Beurs et al., 2021). However, when social distancing was no longer required, most patients preferred a return to face-to-face treatment or opted for blended telepsychotherapy and in-person sessions (de Beurs et al., 2021).

Despite the relevance of telepsychotherapy technology for psychotherapy patients, especially since the pandemic, no self-report scale about patients' attitudes towards telepsychotherapy appears to exist. We are aware of two previously developed self-report measures of attitudes towards online therapy, but these either assess attitudes towards structured online self-help or guided programmes (Schröder et al., 2015), or assesses attitudes towards online therapies for people with mental health problems, by individuals not currently in psychotherapy (Apolinário-Hagen et al., 2017); thus, they do not assess patients' attitudes towards telepsychotherapy. Notably, we identified several empirical studies that assessed patients' attitudes towards telepsychotherapy during the pandemic; however, these studies used self-designed individual items that were not psychometrically tested or part of a standardized measure (e.g., de Beurs et al., 2021). Thus, to keep up with the changing landscape of telepsychotherapy provision during the pandemic, the need for a comprehensive standardized measure of patients' attitudes towards telepsychotherapy has become especially salient.

The Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003) is a comprehensive framework of acceptance and later utilization of technological innovations. The UTAUT model was developed to provide a tool for the assessment of the likelihood of acceptance of newly introduced technology by its users and to identify the factors that determine continued use of technology in the future. The UTAUT model has been empirically adapted to and validated in various fields, and has been shown to predict technology adoption, acceptance, and usage (for reviews see, Dwivedi et al., 2020, and Venkatesh et al., 2016). In addition, the UTAUT model has been recently used to understand the general public's attitudes towards online psychotherapy (Apolinário-Hagen et al., 2017) and was suggested as a model to conceptualize therapists' attitudes about telepsychotherapy via video conference (Connolly et al., 2020).

According to the original UTAUT model, four factors determine the use of technology: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. 'Performance Expectancy' reflects how much the individual believes that using the technology will help them to perform better. 'Effort Expectancy' refers to the degree of ease of use associated with the given technology. 'Social Influence' reflects the extent to which the individual believes that important others think that they should use the technology. Finally, 'Facilitating Conditions' describes the perceived level of available professional and technical support in using the technology.

Key Practitioner Message

- With the widespread use of video technology for conducting psychotherapy, the need for having tools to assess patients' attitudes towards telepsychotherapy became salient.
- The newly developed UTAUT-P is a self-report measure to assess patients' attitudes towards telepsychotherapy both in the clinical practice and in research.
- The UTAUT-P can be used to differentiate four factors within patients' attitudes towards telepsychotherapy: Therapy Quality Expectancy, Convenience, Ease of Use, and Pressure from Others.
- The UTAUT-P factors (with the exception of Ease of Use) appear to predict intention for future utilization of telepsychotherapy.

Although these four factors are relevant in and of themselves, they have also been found to account for approximately 70% of variance in the explicitly declared intent and plan to use the given technology in the future (i.e., 'Behavioural Intention' in the UTAUT model (Venkatesh et al., 2003; Wu et al., 2007), and 50% of variance in subsequent technology use (Venkatesh et al., 2012).

The original UTAUT framework was later adapted to different professional fields, and the original four-factor UTAUT model was also extended with additional factors to reflect the unique professional context under examination (Venkatesh et al., 2016). For example, anxiety about using technology (i.e., the factor 'Anxiety' in the extended model) has been found to be a highly relevant aspect of technology acceptance as an important inhibitory variable (e.g., Cenfetelli & Schwarz, 2011; Gunasinghe et al., 2020; Khechine & Lakhali, 2018). Another important factor, 'Attitude' towards using technology (the individual's overall affective reaction to using the given technology; Venkatesh et al., 2003), which was tested and dropped from Venkatesh et al.' (2003) initial model, was later found to be central in predicting behavioural intentions and subsequent usage behaviours (Dwivedi et al., 2019).

Based on the same UTAUT model, a measure of therapists' attitudes towards telepsychotherapy has recently been introduced (Békés et al., 2022). This 21-item therapist self-report scale consists of five subscales (Therapy Quality Expectancy, Convenience, Ease of Use, Pressure from Others, and Professional Support) and has shown to have good construct validity and reliability in a large international sample of therapists.

In this study, we aim to apply the well-established UTAUT framework (Venkatesh et al., 2003) to the unique professional context of telepsychotherapy. To complement the therapist version (UTAUT-T; [Békés et al., 2021]), we report on the development of the UTAUT-P and explore the factor structure of the items in a sample of

telepsychotherapy patients who transitioned to telepsychotherapy during the beginning of the pandemic in 2020.

2 | METHOD

2.1 | Procedure and participants

We collected data from 107 participants during the widespread lockdowns during COVID-19 pandemic, between 22 July and 17 September 2020. The psychotherapy patients, who had already been in therapy before the beginning of the pandemic were recruited online via several social media platforms (e.g., Facebook, Twitter, and Reddit) and local neighbourhood listservs (e.g., NextDoor, Craigslist). The participating patients were mostly female ($n = 85$; 79.4%), with an average age of 31.53 years ($SD = 10.15$), mostly from the United States and mostly White. Most patients received at least 20 therapy sessions before the pandemic in a private therapy setting. For more details about the participants' characteristics, see Table 1. The study was approved by (the local, omitted for peer review) the Institutional Review Board.

2.2 | Measures

2.2.1 | Development of the UTAUT-P

We adapted the UTAUT model to develop a scale that assesses patients' attitudes towards telepsychotherapy, the Unified Theory of Acceptance and Use of Technology - Patient Version (UTAUT-P). We included items that represent the original UTAUT model's four factors: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, and two additional items to assess Behavioural Intention, which is also part of the original UTAUT model. In addition, we also included items from two additional factors that consistently predicted Behavioural Intention and actual use in previous UTAUT studies in fields relevant to psychotherapy: Anxiety and Attitudes.

For developing the UTAUT-P items, we adapted the wording of the original UTAUT model (Venkatesh et al., 2003) to fit the context of telepsychotherapy. The items of UTAUT-P were developed in parallel with a similar measure to assess psychotherapists' attitudes towards telepsychotherapy (UTAUT Therapist version, UTAUT-T; omitted for peer review). The items in both UTAUT Therapist and Patient versions were worded in a way that with slight modifications, they were applicable to both patients and therapists.

For example, the original UTAUT's item 'People who are important to me think that I should use the system' was adapted to 'People who are important to me think that I should do online therapy' (Social Influence) in the UTAUT-Patient version. (The corresponding item in the UTAUT-Therapist version was 'People who are important to me think that I should use online therapy.')

Other items needed more modification to fit the psychotherapy context, for example, the

TABLE 1 Sociodemographic characteristics of participants

Variable	N (%)
Gender	
Female	85 (79.4)
Male	9 (8.4)
Nonbinary	7 (6.5)
Ethnicity	
White	91 (85%)
Asian/Asian Indian	7 (6.5)
Hispanic/Latinx/Spanish	3 (2.8)
Black/African American	2 (1.9)
American Indian/Alaskan native	2 (1.9)
Middle Eastern	2 (1.9)
Other	5 (4.7)
Location	
USA	88 (87.1)
United Kingdom	5 (4.7)
Canada	4 (3.7)
Other	3 (2.8)
Employment	
Employed full time	43 (40.2)
Employed part time	20 (18.7)
Student	28 (26.2)
Unemployed/looking for work	10 (9.3)
Retired	2 (1.9)
Education	
Less than high school or high school	2 (3.0)
Professional degree (e.g., trade school)	6 (5.9)
Some college	21 (20.8)
College	42 (40.6)
Master's degree	27 (26.7)
Doctorate	4 (4.0)
Setting of therapy before the pandemic^a	
Private practice	83 (77.0)
Outpatient clinic	11 (10.3)
Hospital	2 (1.9)
Online/by phone	7 (6.5)
Other	8 (7.5)
Number of sessions with current therapist before the pandemic	
Less than 5	6 (5.9)
5–9	10 (9.9)
10–19	7 (6.5)
20 or more	73 (72.3)
None, just started	5 (5.0)

^aMultiple options were possible to select.

original UTAUT item 'Using the system enables me to accomplish tasks more quickly' (Performance expectancy) was adapted to psychotherapy patients as 'Using online therapy saves me time and/or

TABLE 2 Items of the UTAUT-P with normality indices and corrected item-total correlations

Items and related factors based on the originally hypothesized factor structure	CITC	Skewness (SE)	Kurtosis (SE)
Performance expectancy			
1. I think that online therapy works well.	0.72	-0.71 (0.23)	0.54 (0.46)
2. The quality is the same as in-person therapy.	0.73	0.22 (0.23)	-0.94 (0.46)
3. Online therapy saves me time and/or money.	0.52	-0.55 (0.23)	-0.62 (0.46)
Effort expectancy			
6. I find attending online therapy easy.	0.67	-0.61 (0.23)	-0.05 (0.46)
13. Using the online therapy technology is clear and understandable.	0.44	-0.57 (0.23)	0.78 (0.46)
15. It is easy to learn how to use online platforms.	0.32	-0.86 (0.23)	1.15 (0.46)
Social influence			
4. <i>People who influence me think that I should use online therapy.</i>	0.28	-0.64 (0.23)	0.34 (0.46)
8. My friends/family support using online therapy.	0.41	-0.69 (0.23)	0.76 (0.46)
17. People who are important to me think that I should do online therapy.	0.33	-0.15 (0.23)	0.65 (0.46)
22. Experts in the field are supporting online therapy.	0.30	0.40 (0.23)	-0.31 (0.46)
Facilitating conditions			
10. <i>A specific person/group is available to help me if I have difficulties with online therapy.</i>	0.25	0.29 (0.23)	-0.88 (0.46)
20. <i>I have the technical knowledge necessary to do online therapy.</i>	0.23	-1.63 (0.23)	3.31 (0.46)
21. Online therapy is not compatible with the way I generally make use of therapy.	0.74	0.20 (0.23)	-0.80 (0.46)
Attitude			
14. Working online is more convenient.	0.54	-0.42 (0.23)	-0.36 (0.46)
16. I enjoy online therapy.	0.74	-0.27 (0.23)	-0.72 (0.46)
18. Using online therapy is a good idea.	0.65	-0.69 (0.23)	1.68 (0.46)
Anxiety			
5. It is difficult to feel connected with my therapist online.	0.75	-0.34 (0.23)	-0.88 (0.46)
9. I am concerned about whether I can communicate my emotions online.	0.53	-0.04 (0.23)	-1.14 (0.46)
12. I feel apprehensive about using online therapy.	0.70	0.24 (0.23)	-1.02 (0.46)
19. I hesitate to use online therapy due to concerns about my privacy.	0.31	1.49 (0.23)	2.78 (0.46)
23. It scares me that I cannot get as much confidentiality as in in-person therapies.	0.44	0.37 (0.23)	-1.05 (0.46)
24. Online therapy is somewhat intimidating for me.	0.48	0.56 (0.23)	-0.56 (0.46)
Behavioural intention			
7. I intend to use online therapy after the end of the pandemic. ^a	0.64	0.16 (0.23)	-1.23 (0.46)
11. I plan to use online therapy after the end of the pandemic. ^a	0.67	0.12 (0.23)	-1.21 (0.46)

Notes: SE = Standard Error; CITC = Corrected Item-Total Correlation. Items in italics were excluded from further analysis, given low levels of corrected item-total correlations.

^aFollowing previous recommendations (omitted for peer review), Behavioural intention items were not included in factor analysis.

money' (Performance Expectancy). Moreover, in the Anxiety subscale, we included additional items reflecting common concerns about the use of video conferencing reported in the psychotherapy literature (e.g., Connolly et al., 2020). For example, we added an item on 'I hesitate to use online therapy due to concerns about my privacy' (reverse scored), and 'I am concerned whether I can communicate my emotions online.' (reverse scored).

This resulted in a scale of 22 + 2 Behavioural Intention items altogether. The Performance Expectancy subscale asks about the perceived efficacy of telepsychotherapy (three items), the Effort Expectancy subscale about the perceived ease of using telepsychotherapy (three items), and the Social Influence subscale about whether others (influential/important people and friends/family) think the patient should use telepsychotherapy (four items). The Facilitating Conditions subscale inquires about having technical and professional knowledge and/or helps readily available about telepsychotherapy (three items), the Attitude subscale about the hedonic value and positive feelings about telepsychotherapy (three items about convenience, enjoyment, and being a good idea), and the Anxiety subscale about feelings of apprehension or concerns about telepsychotherapy (six items; Compeau et al., 1999). Finally, the Behavioural

Intention subscale asks about intent and plan to use telepsychotherapy in the future (additional two items). Please see Table 2 for the list of UTAUT-P items. As in the original measure, the participants respond to the UTAUT-P items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

2.3 | Statistical analyses

We used SPSS 28 for conducting descriptive statistical analysis. Construct validity was assessed using exploratory factor analysis (EFA) in SPSS and confirmatory factor analysis (CFA) in Mplus 8.7. Reliability was assessed using two indicators (i.e., Cronbach's alpha and McDonald's) as using only Cronbach's alpha coefficients may be less reliable (McNeish, 2018; Sijtsma, 2009). First, we examined the items' content validity, normality (skewness < 2 and kurtosis < 7; Curran et al., 1996), and corrected item-total correlations (> 0.30) (Böthe et al., 2021; Orosz et al., 2016, 2018). Next, we conducted EFA with the principal axis factoring method and Promax rotation (Kappa = 4), as oblique rotations can identify a solution in the myriad of possible solutions which lends itself to easy interpretation

TABLE 3 Results of the exploratory factor analysis on the UTAUT-P

Items	Therapy quality expectancy	Convenience	Ease of use	Pressure from others
2. The quality is the same as in-person therapy.	-0.82	0.02	-0.11	-0.02
5. It is difficult to feel connected with my therapist online. (R)	0.80	-0.10	0.08	-0.01
21. Online therapy is not compatible with the way I generally make use of therapy. (R)	0.78	-0.06	0.02	< 0.01
9. I am concerned about whether I can communicate emotions online. (R)	0.73	0.14	0.03	-0.08
1. I think that online therapy works well.	-0.65	0.15	0.05	-0.03
12. I feel apprehensive about using online therapy. (R)	0.54	-0.15	-0.13	-0.10
23. It scares me that I cannot get as much confidentiality as in in-person therapies. (R)	0.44	-0.05	-0.12	0.12
19. I hesitate to use online therapy due to concerns about my privacy. (R)	0.41	0.19	-0.24	0.09
14. Working online is more convenient.	0.03	0.88	0.03	0.04
3. Online therapy saves me time and/or money.	-0.15	0.61	0.02	-0.05
15. It is easy to learn how to use online platforms.	0.14	0.10	0.90	-0.04
13. Using the online therapy technology is clear and understandable.	-0.15	-0.03	0.61	0.08
17. People who are important to me think that I should do online therapy.	0.14	0.15	-0.09	0.86
8. My friends/family support using online therapy.	-0.16	-0.19	0.13	0.72
Inter-factor correlations				
Therapy quality expectancy	—			
Convenience	0.49**	—		
Ease of use	0.42**	0.22*	—	
Pressure from others	0.47**	0.36**	0.24*	—

Note: All factor loadings are standardized. Factor loadings in bold represent the final items relative to their own factors. (R) = reverse scored items. * $p < .05$. ** $p < .01$.

(Brown, 2015). The minimum loading of an item was required to be at least 0.32, and if an item loaded at least 0.32 on two or more factors, it was considered a cross-loading (Tabachnick & Fidell, 2001). Hypothesized associations between the factors of the UTAUT-P based on the 22 items and additional 2 Behavioural Intention items were examined to give support to the validity of the UTAUT-P.

To further corroborate the identified factor structure of the UTAUT-P (Schmitt et al., 2018), a CFA was conducted using the weighted least squares mean- and variance-adjusted estimator, which was found to be superior for ordered-categorical items, compared to maximum-likelihood estimation methods (Finney & DiStefano, 2006; Morin et al., 2019). Correlated uniqueness between the reverse coded items were included in the model to account for wording effect (Morin et al., 2020). The CFA model was evaluated with commonly used goodness-of-fit indices: Comparative Fit Index (CFI; ≥ 0.90 adequate; ≥ 0.95 good), Tucker–Lewis index (TLI; ≥ 0.90 adequate; ≥ 0.95 good), and Root-Mean-Square Error of Approximation with its 90% confidence interval (RMSEA; ≤ 0.05 good, ≤ 0.08 adequate) (Browne & Cudeck, 1993; Chen et al., 2008; Marsh et al., 2005; Schermelleh-Engel et al., 2003). Correlations $|0.10|$ were interpreted as weak, $|0.30|$ moderate, and $|0.50|$ strong associations (Cohen, 1992).

3 | RESULTS

3.1 | Examining the latent structure of the UTAUT-P

First, each item was examined based on the content, corrected item-total correlations, and skewness and kurtosis values (Table 2). Items 4, 10, and 20 had lower corrected item-total correlations than the recommended guideline and were not retained for further analysis. Following previous recommendations (omitted for peer review), Behavioural Intention items were not included in the factor analysis. An EFA was conducted on the remaining 19 items to identify the latent factor structure of the UTAUT-P. Items that did not load on any of the factors or had high cross-loadings were removed from the analysis, resulting in a 14-item, four-factor structure (i.e., Therapy Quality expectancy, Convenience, Ease of Use, and Pressure from Others). Weak-to-strong correlations (all r s between 0.22 and 0.49) were observed between all factors (Table 3).

In the next step, a CFA was conducted on the selected 14 items to further test the latent factor structure of the UTAUT-P. The first-order four-factor model indicated adequate fit to the data (CFI = 0.979, TLI = 0.966, RMSEA = 0.074 [95%CI = 0.043–0.102]),

TABLE 4 Results of the confirmatory factor analysis on the UTAUT-P

Items	Therapy quality expectancy	Convenience	Ease of use	Social support
2. The quality is the same as in-person therapy.	0.79			
5. It is difficult to feel connected with my therapist online.	−0.88			
21. Online therapy is not compatible with the way I generally make use of therapy.	−0.84			
9. I am concerned about whether I can communicate emotions online.	−0.63			
1. I think that online therapy works well.	0.85			
12. I feel apprehensive about using online therapy.	−0.79			
23. It scares me that I cannot get as much confidentiality as in in-person therapies.	−0.49			
19. I hesitate to use online therapy due to concerns about my safety.	−0.43			
14. Working online is more convenient.		0.83		
3. Online therapy saves me time and/or money.		0.83		
15. It is easy to learn how to use online platforms.			0.75	
13. Using the online therapy technology is clear and understandable.			0.99	
17. People who are important to me think that I should do online therapy.				0.65
8. My friends/family support using online therapy.				0.99
Inter-factor correlations				
Therapy quality expectancy	—			
Convenience	0.65**	—		
Ease of use	0.54**	0.33**	—	
Social support	0.45**	0.23*	0.32**	—

Notes: All factor loadings are standardized. SD = standard deviation; SE = standard error.

* $p < 0.05$. ** $p < 0.01$.

TABLE 5 Descriptive statistics and reliability indices of the UTAUT-P factors

	Cronbach's alpha	McDonald's omega	Observed range	Mean (SD)	Skewness (SE)	Kurtosis (SE)
Therapy quality expectancy	0.87	0.87	1.75–5.00	3.38 (0.79)	0.23 (0.23)	–0.84 (0.46)
Convenience	0.75	0.76	1.00–5.00	3.62 (0.97)	–0.29 (0.23)	–0.62 (0.46)
Ease of use	0.74	0.74	2.50–5.00	4.19 (0.61)	–0.46 (0.23)	–0.01 (0.46)
Pressure from others	0.74	0.74	2.00–5.00	3.63 (0.67)	–0.18 (0.23)	0.27 (0.46)
Behavioural intention ^a	0.98	0.98	1.00–5.00	2.71 (1.34)	0.13 (0.23)	–1.26 (0.46)

Notes: SD = standard deviation; SE = standard error.

^aFollowing previous recommendations (omitted for peer review), Behavioural intention items were not included in the factor analyses.

corroborating the structural validity of the UTAUT-P. Weak-to-strong correlations were observed between the factors (Table 4).

3.2 | Examining the reliability and construct validity of the factors of the UTAUT-P

All factors demonstrated adequate reliability (Cronbach's alphas = 0.74–0.98; McDonald's omega = 0.74–0.98), and normality in terms of skewness (–0.46–0.23) and kurtosis (–1.26–0.27). Although the association between Ease of Use and Behavioural Intention was also positive, it was weak and non-significant (Table 5). Convenience ($r = 0.56$, $p < 0.001$) and Therapy Quality Expectancy ($r = 0.56$, $p < 0.001$) had the strongest association with Behavioural Intention, followed by Pressure from Others ($r = 0.44$, $p < 0.001$) and Ease of Use ($r = 0.09$, $p = 0.335$). All factors of the UTAUT-P were positively associated with Behavioural Intention. The effect sizes of the associations between Convenience, Therapy Quality Expectancy, and Behavioural Intention were strong, while it was moderate between Pressure from Others and Behavioural Intention (Table 4).

4 | DISCUSSION

The practice of telepsychotherapy is not new, but the sudden transition to remote working during the pandemic has made the possibility of telepsychotherapy especially salient for therapists and patients alike. The present study describes the development of a self-report measure of patients' attitudes towards using telepsychotherapy, based on the adaptation of the UTAUT framework of technology acceptance.

EFA resulted in a 14-item, four-factor structure UTAUT-P version, where the factors resembled (1) Therapy Quality Expectancy, (2) Convenience, (3) Ease of Use, and (4) Pressure from Others factors, and was further corroborated by the results of the CFA. All these factors were positively associated with the intention for future utilization of telepsychotherapy technology, although Ease of Use was not statistically significantly related, potentially due to the relatively small sample size. When developing the final UTAUT-P, we aimed to balance between the need for parsimony and plausibility (that is,

identifying a model with the least factors and at the same time, keeping enough factors to adequately account for the correlations among measured variables (Comrey & Lee, 2013; Fabrigar et al., 1999; Wood et al., 1996). The resulting four factors of the UTAUT-P can reflect underlying aspects of patients' attitudes towards telepsychotherapy.

The four factors that we identified resemble the original UTAUT model's factors and are similar to those found in the UTAUT therapist version. Therapy Quality Expectancy reflects patients' view on the quality of telepsychotherapy and has also been found to be a factor in the UTAUT therapist version and is similar to the factor Performance Expectancy in the original UTAUT. The Convenience factor reflects the reduced cost, time, and the comfort of receiving therapy remotely, and has also been identified in the UTAUT-T and is a factor that appears to be unique for the psychotherapy context as it is not part of the original UTAUT model, which might be explained by the salient benefit of reduced cost and time required in telepsychotherapy. The factor Pressure from Others, similar to the original UTAUT's Social Influence factor, refers to the opinion of important other people regarding whether the patient 'should' use telepsychotherapy. The matching UTAUT-T factor is Pressure from Others, that is, whether important and influential people think the therapist 'should' use telepsychotherapy. Finally, the Ease of Use factor refers to the ease of doing telepsychotherapy and matches with the same UTAUT-T factor. The Ease of Use factor resembles the original UTAUT's Effort Expectancy factor.

Three of the four UTAUT-P factors (with the exception of Ease of Use) were significantly and positively associated with patients' intention to use telepsychotherapy in the future, similar to other UTAUT adaptations in different fields. In turn, intention of future use has been found to predict subsequent actual utilization of technology (Venkatesh et al., 2012). Interestingly, similar to findings for the UTAUT therapist version, Ease of Use (ease of using the online platform and technology necessary for telepsychotherapy) did not significantly predict intention for utilization of telepsychotherapy in the future. This might indicate that in the psychotherapy field, when patients and therapists consider the use of telepsychotherapy in the future, initial difficulties in using the technology might not affect their decision to use telepsychotherapy later. It is possible that patients are aware that with all new technologies there is a moment of 'getting used to', which we expect to get easier over time.

4.1 | Limitations and future directions

First, although our sample is relatively large in comparison to other patient samples (i.e., it is hard to get access to psychotherapy patients), within the context of psychometric research, this sample size is very small. Thus, all factor analytic findings presented here should be interpreted very cautiously. Although we are not the first researchers to conduct an EFA or CFA on a small sample of 107 patients (e.g., Colibazzi et al., 2008), a commonly accepted sample size for a factor analysis is 200 or larger (Tabachnick & Fidell, 2001).

Second, given that this study only included patient ratings collected during the pandemic, it is possible that the reported UTAUT-P data partly reflect the intensity of the pandemic context or the forced and sudden nature of the transition to telepsychotherapy. This ongoing global crisis, societal unrest, and the increased levels of psychological distress (Prout et al., 2020; Tsamakidis et al., 2020) likely influenced patients' attitudes towards telepsychotherapy; therefore, results will need to be replicated in telepsychotherapy sessions outside of the pandemic.

Third, although our patient sample reflects a relatively heterogeneous group with regards to geographical location, length of current treatment, mental health diagnosis, and age range (Gelinis et al., 2017), our recruitment effort was based on convenience sampling and the patient sample is less diverse in other dimensions, such as race, educational level, access to technology, and the ability to afford longer-term individual therapy. Arguably, by recruiting from social media platforms, our sample was biased towards individuals already relatively comfortable with, familiar with, and desiring of online interactions. Future research could examine differences between subgroups of patients.

Fourth, this study only reports on the initial development of the UTAUT-P, and its reliability and construct validity, and future research is needed to examine its divergent and convergent validity. At the time we set up this study, we were unable to identify similar measures of patients' attitudes towards telepsychotherapy, but it is possible that new measures are being developed. The convergent validity of the UTAUT-P can be also assessed with the responses from a structured interview about the patients' experiences of telepsychotherapy. Another way to validate this patient-reported UTAUT measure is to ask the patients themselves (i.e., experts in the topic) to determine if there are certain aspects of attitudes towards telepsychotherapy that are missing from the UTAUT-P.

Furthermore, since the primary aim of this study was the validation of the UTAUT-P rather than building a predictive model for patients' intention to use technology, we did not investigate the patients' level of voluntariness. Arguably, the COVID-19 context functioned as a type of voluntariness control, as patients across the globe had to transition from in-person to remote psychotherapy, regardless of their pre-existing preferences.

Lastly, repeated assessment of patients' attitudes would be helpful, as it is possible that the patients' acceptance of telepsychotherapy changed over time, which may have resulted in different responses at

later time points. Given that telepsychotherapy experience in itself has been found to lead to more positive attitudes towards it, it is possible that patients' attitudes became more positive over time. Future longitudinal studies are needed to examine the predictive validity of the UTAUT-P items to determine if patient's attitudes and behavioural intentions indeed translate into use of telepsychotherapy technology in the future.

4.2 | Clinical implications

We like to think that this forced transition to telepsychotherapy caused by the COVID-19 epidemic might turn out to have some silver lining for our patients. The increased clinical and research interest in telepsychotherapy might mean that telepsychotherapy will be more readily accepted by patients. Given that more positive attitudes towards a treatment process tend to relate to better treatment outcomes, this bodes well for patients' well-being. Several implications for future research and clinical practice can be highlighted. First, the UTAUT-P, as a newly developed self-report measure tailored to psychotherapy patients, allows for the assessment of patients' attitudes towards telepsychotherapy, specifically, how the patients perceive the quality of the telepsychotherapy they receive, how easy and convenient it is to use video conferencing technology, how they experience support from others, and their declared intention to use telepsychotherapy in the future.

Second, by identifying predictors of patients' intention to use telepsychotherapy and possible actual use in the future, therapists have an opportunity to support their patients in addressing their concerns and expectations regarding telepsychotherapy. Post-pandemic, the UTAUT-P can be used as a brief screener, as part of an intake to aid the triage process, to help identify suitability for this type of therapy format and highlight potential difficulties that might emerge within the online relationship. Thus, the completion of the UTAUT-P is not only helpful for the therapists' clinical decision making but might also be a tool of engagement and discussion to aid the patients' sense of choice and agency in the way the treatment is delivered.

4.3 | Conclusion

The extensively researched conceptual model of technology acceptance can be usefully applied to the context of psychotherapy patients attending telepsychotherapy. This research contributes to the growing body of UTAUT literature by examining the validity of this framework in the use and attitudes towards telepsychotherapy technology during COVID-19. The developed 14-item UTAUT-P might be a helpful, brief self-report tool in clinical practice, which might give the patient a voice around the potential use of telepsychotherapy technology in their care. Also, for psychotherapy research, the UTAUT-P might be used to assess patients' attitudes towards and concerns about telepsychotherapy, and to predict their intention of using

telepsychotherapy in the future. This study provides initial psychometric data on an adaptation of the UTAUT for psychotherapy patients, as applied during the COVID-19 pandemic, and offers a building block for future research on patients' acceptance of telepsychotherapy going forward. Future studies on the convergent and predictive validity of the UTAUT-P are warranted.

ACKNOWLEDGEMENTS

The project did not receive any grant funding. While finalizing the present manuscript, BB was supported by a postdoctoral fellowship from the SCoup Team – Sexuality and Couples – Fonds de recherche du Québec, Société et Culture, and the Banting Postdoctoral Fellowship by the Social Sciences and Humanities Research Council.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

Requests to access the datasets should be directed to the corresponding author.

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How to cite this article: Békés, V., Doorn, K. A., & Bőthe, B. (2022). Assessing patients' attitudes towards telepsychotherapy: The development of the unified theory of acceptance and use of technology-patient version. *Clinical Psychology & Psychotherapy*, 1–10. <https://doi.org/10.1002/cpp.2760>