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Interest in Behavioral and Psychological Treatments Delivered Face-to-Face, by Telephone and by Internet

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Abstract

Background—Little is known about the acceptability of internet and telephone treatments, or what factors might influence patient interest in receiving treatments via these media.

Purpose—This study examined the level of interest in face-to-face, telephone and internet treatment, and factors that might influence that interest.

Methods—658 primary care patients were surveyed.

Results—Among patients interested in some form of behavioral treatment, 91.9% were interested or would consider face-to-face care, compared to 62.1% for telephone and 48.3% for internet care. Symptom severity was unrelated to interest in treatment delivery medium. Interest in specific treatment targeting mental health, lifestyle or pain was more strongly predictive of interest in face-to-face treatment than telephone or internet treatments. Only interest in lifestyle intervention was predictive of interest in internet delivered treatment. Time Constraints as a barrier was more predictive of interest in telephone and internet treatments, compared to face-to-face.

Conclusions—These findings provide some support for the notion that telephone and internet treatments may overcome barriers. People who seek help with lifestyle change may be more open to internet delivered treatments while interest in internet intervention does not appear to be associated with the desire for help in mental health, pain or tobacco use.

Keywords

Telemental Health; Behavioral Medicine; Internet Intervention; Preferences

Traditional face-to-face behavioral treatments are empirically supported and widely used for a variety of treatment targets, most notably mental health, lifestyle (diet and exercise), smoking cessation, and pain management. Over the past decade there has been a large increase in research examining the use of telecommunications technologies to deliver psychological and behavioral treatments that target these problems. Telephone administered treatments have been shown to be effective for mental health problems (1), lifestyle (weight loss and exercise) interventions (2), smoking cessation (3), and pain management (4). A growing body of research also supports the efficacy of internet-based interventions for these treatment targets (4–8).

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While much has been made about the potential for telecommunications technologies to overcome barriers to behavioral treatments, little is known about the broader acceptability of these treatment delivery media. Adherence to telephone treatments tends to be very good (1). However, these trials enroll patients willing to receive a telephone-administered treatment, which leaves unanswered the question of acceptability to a broader population. Adherence to standalone internet delivered treatments (9,10) remains very low. This may reflect a low interest, or it may be an artifact related to the increased reach of the internet. That is, it is much easier for a person to log into, inspect, and decide not to use an internet intervention than it is to make an appointment with a counselor and go to an initial appointment before deciding against treatment. Little is known about the relative acceptability or level of interest in telephone- or internet-administered treatments, compared to traditional face-to-face delivered care.

There is also virtually no information on what creates, supports or diminishes interest in receiving treatments via these different delivery media. Factors that influence interest in receiving help via telephone or the internet may be different from factors that influence interest in traditional face-to-face care. For example, internet interventions may be more acceptable for people seeking help with lifestyle change than for mental health, since lifestyle change intervention sites appear to be more prevalent on the web, frequently used, and are promoted by commercial interests.

For the present study, we conceptualized three categories of factors that might affect level of interest in receiving behavioral treatment via telephone, internet, or face-to-face. 1) Drivers are conceptualized as the symptoms and problems that underlie any motivation to seek treatment. In this study these are conceptualized as mental health symptoms (depression and anxiety), obesity, pain and tobacco use. 2) Motivation includes the level of interest in receiving treatments that address the symptoms and problems described above. These motivational factors are likely distinct from drivers. For example, an individual may have a symptom or problem but not desire any behavioral treatment for it. 3) Barriers refer to factors that interfere with the ability to access care. In this study we focus primarily on factors that have been demonstrated to interfere with face-to-face care, such as transportation problems, time constraints, stigma, and so on (11,12).

The aims of this study were 1) to examine the frequencies of interest in face-to-face, telephone-administered, and internet-delivered psychological and behavioral treatment, 2) to examine the degree to which interest in telephone- or internet-administered treatment overlaps with or is independent of interest in face-to-face treatment and 3) to examine whether drivers, motivation and barriers are differentially associated with level of interest in receiving behavioral care across three treatment delivery media: face-to-face, telephone, and internet.

Methods

Participants

Patients were recruited from the Northwestern University General Internal Medicine clinic under a protocol approved by the Northwestern University Institutional Review Board. Surveys and consent forms were mailed to patients so that they arrived within the week following their appointment with their primary care physician. Other than having had a clinic visit, there were no inclusion or exclusion criteria. Patients were told that because many patients in the clinic report problems with stress, depression, anxiety, healthy lifestyle (weight and exercise), habits such as smoking, and pain, we were trying to better understand these problems and the ways in which treatment could be provided.

Assessments

Demographics—Demographics were collected by self-report.

Interest in Receiving Psychological Treatment—Patients were classified as being interested in receiving psychological treatment if they 1) answered “no” to “I am not currently interested in receiving any counseling services” or 2) were currently receiving counseling services. Patients were able to select the type of service they were interested in, including mental health (stress, depression, anxiety), lifestyle (diet and exercise), pain management, and smoking cessation.

Treatment Delivery Medium—This was assessed with three questions evaluating level of interest (definitely interested, would consider, or definitely not interested) in receiving treatment for the desired treatment targets identified above. These were assessed for face-to-face counseling (defined as meeting with a psychologist or behavioral health expert on a weekly basis) through the clinic, telephone administered counseling, or treatment over the internet.

Drivers (Symptom Severity and Target Problems)—Mental health included assessments of depression and anxiety. The mental health construct was operationalized as severity of symptoms of depression and anxiety. Depression was assessed using the PHQ-8 (13), which is identical to the PHQ-9 (14), except that the item evaluating suicidality was removed. Anxiety was assessed using the GAD-7 (15). The driver for healthy lifestyle was operationalized as Body Mass Index (BMI), which was obtained through medical records. Current smoking status was assessed using the Behavioral Risk Factor Surveillance System Survey item (16). Pain was assessed using a 10-point likert scale evaluating pain at the time of survey completion.

Motivation (Desire for Treatment)—Patients were asked to indicate if they were interested in treatment for mental health (defined as depression or anxiety), lifestyle (defined as diet and/or exercise), smoking cessation, or pain management. Patients could identify more than one symptom or problem.

Barriers—Barriers were assessed using the Perceived Barriers to Psychological Treatment, which is a 25-item measure of barriers that evaluates 9 potential barriers, including Stigma, Lack of Motivation, Emotional Concerns, Negative Evaluation of Treatment, Misfit of Treatment to Needs, Time Constraints, Participation Restrictions, Lack of Availability of Services and Cost (11).

Statistical Analyses

The primary analysis used a trivariate logistic regression model to estimate the effects of drivers, motivators, and barriers on interest in face-to-face, telephone, and internet delivered care. This is a single model that allows for three dependent dichotomous variables (the three interest variables) and allows us to test both 1) the effect of our independent variables on outcomes (in terms of odds ratios); and 2) whether the odds ratios for a given independent variable differ across the three outcomes. Our principal model included as independent variables all five drivers, all four motivators, and all nine barriers. Relationships between demographic variables and interest across the three treatment delivery media were tested using one-way ANOVAs or chi-square tests of independence. Those demographic variables that were significant were included in the trivariate logistic regression as covariates.

In addition to the full model, secondary analyses were conducted individually for each of the three sets of independent variables (drivers, motivators, and barriers) given the potential for

confounding in the main analysis. For each independent variable in our model, the trivariate logistic regression produced an overall F test determining whether the odds ratios were equal across the three outcomes. If that test was rejected, we then performed the pairwise tests comparing face-to-face to telephone odds ratios and face-to-face to internet odds ratios.

Frequencies of interest in treatment and interest in treatment delivery media were calculated only on the subset of patients who indicated that they were interested in receiving treatment. All other analyses were conducted on the full sample.

Results

Participants

From the 3265 mailings, 658 (20.1%) surveys were returned with signed consent documents. The mean age of patients in the study was 50.9 ± 15.4 , 461 (70.1%) were female, 396 (60.2%) were Caucasian, 189 (28.7%) were African-American, 35 (5.3%) Latino, with the remainder being Asian-American, multi-racial or other.

Data from the medical records permitted a comparison of age, gender, and ethnic differences between patients who returned the surveys and those who did not. Patients who returned the packets were younger (53.2 ± 16.4 for those not returning, $p < .01$), less likely to be female (73.0% for those not returning, $p < .001$), and varied by ethnicity such that Caucasians were more likely to return surveys compared to African-Americans and Hispanics (return rates 24.5%, 18.3%, 11.3%, respectively, $p < .001$).

Frequency of Treatment Target and Delivery Medium

Interest in Treatment Target—Among 492 (74.8%) patients responding that they were interested in receiving some form of psychological or behavioral intervention, 297 (60.4%) indicated interest in mental health treatment, 328 (66.7%) indicated interest in lifestyle intervention, 59 (12.0%) indicated interest in smoking cessation, and 115 (23.4%) indicated interest in pain management.

Interest in Treatment Delivery Medium—Among patients responding that they were interested in receiving some form of psychological or behavioral intervention, 213 (43.3%) were definitely interested in receiving face-to-face care, 237 (48.2%) would consider face-to-face care, and 33 (6.7%) were not interested in receiving the face-to-face care. For telephone-administered care, 92 (18.7%) were definitely interested, 215 (43.7%) would consider it, and 180 (36.6%) were definitely not interested. For internet treatment, 57 (11.6%) were definitely interested, 179 (36.4%) would consider it, and 255 (51.8%) were definitely not interested.

Interest in Behavioral Treatment by Delivery Medium

The relationship between level of interest and treatment delivery medium among all participants is displayed in Table 1. Age, gender and race were each significantly related to level of interest in one or more of the treatment media and were therefore included as covariates in the main trivariate logistic regression analysis. Partner status was not significantly related and was therefore not included.

Telephone vs. face-to-face—To examine the degree to which interest in telephone delivered treatment is independent of the standard face-to-face medium we performed a cross tabulation, which is presented in Table 2. Of the 138 participants not interested in face-to-face, 22 (15.9%) wanted or would consider telephone-administered treatment. A total of 313 (48.6%) participants were willing to consider either telephone or face-to-face treatment,

while 193 (30.0%) wanted or would consider face-to-face care but were not interested in receiving telephone administered care.

Internet vs. face-to-face—The cross tabulation examining the degree to which interest in internet delivered treatment is independent of the standard face-to-face medium is presented in Table 3. Of the 136 participants not interested in face-to-face, 21 (15.4%) wanted or would consider internet-administered treatment. A total of 244 (38.2%) wanted or would consider either internet or face-to-face treatment, while 259 (40.5%) wanted or would consider face-to-face care but were not interested in receiving internet administered care.

Predictors of Interest in Receiving Behavioral Services by Treatment Medium

The findings for this analysis are displayed in Table 4. The scaling for the dependent variables (interest in face-to-face, telephone, and Internet treatment delivery) was collapsed to two variables, with “Would Consider” being combined with “Definitely Interested.” Because telephone and Internet delivered treatments are novel delivery media in our current healthcare system, our interest was principally on whether or not patients are even open to these delivery media. In addition, an analysis examining definite interest in a treatment delivery medium may be biased given the small number of people definitely interested in Internet and telephone treatment relative to face-to-face. Finally, trivariate logistic regression analysis, which permits three dependent variables, requires that each dependent variable have only two levels. An analysis containing multiple dependent variables with multiple levels would become very difficult to interpret.

Demographics—There were significant main effects for age such that greater age was associated with significantly lower interest in face-to-face ($OR = .97$; $p = .02$) and internet treatment ($OR = .97$; $p = .004$), but was unrelated to interest in telephone administered treatment ($p = .52$). There were no main effects for gender or race ($ps > .13$). There was a significant differential effect for age such that the effects of age on interest in face-to-face and internet delivered treatment relative to telephone were both significant ($ps = .01$ and $.003$, respectively).

Drivers (symptoms and problems)—In the full model there were no significant main effects of drivers on interest in a single treatment delivery medium. There was a trend towards greater pain being associated with less interest in receiving face-to-face care ($OR = .81$; $p = .069$). There was a significant differential effect between pain and interest medium ($p = .046$), with pain having a significantly greater negative effect on interest in face-to-face treatment compared to telephone delivered care. There were no significant differential effects for the PHQ-8, GAD-7, BMI or smoking status ($ps > .29$).

Motivation for Treatment—Greater interest in receiving mental health treatment was associated with greater interest in receiving care face-to-face ($OR=7.00$, $p<.0001$) and via telephone ($OR=2.69$, $p=.001$) but was not statistically related to interest in receiving care via the Internet ($p=.69$). The differential relationship between interest in mental health treatment and interest in specific treatment delivery media was significant ($p=.0003$). Interest in mental health treatment was more strongly predictive of interest in face-to-face treatment than either telephone treatment ($p=.045$) or internet treatment ($p=.0001$). Interest in mental health treatment was also more strongly related to interest in telephone rather than internet therapy ($p=.01$).

Greater interest in receiving treatment focused on healthy lifestyle (diet and/or exercise) was associated with great interest in receiving care face-to-face ($OR=13.07$, $p<.0001$) via telephone ($OR=3.12$, $p<.0001$) and the internet ($OR=7.08$, $p<.0001$). The differential

relationship between interest in lifestyle treatment and interest in specific treatment delivery media was significant ($p=.001$). Interest in lifestyle treatment was more strongly predictive of interest in face-to-face treatment than telephone treatment ($p=.0006$). Interest in lifestyle intervention was also more predictive of interest in internet therapy than telephone therapy ($p=.01$). There was no significant difference in the effect of interest in lifestyle intervention on face-to-face versus internet administered treatment ($p = .17$).

Interest in receiving treatment for smoking cessation was unrelated to interest in receiving treatment via any of the treatment media (all $ps > .15$) and there was no significant differential effect ($p=.20$).

Greater interest in receiving pain management was associated with great interest in receiving care face-to-face ($OR=11.66$, $p=.001$), but not via telephone ($p=.58$) or internet ($p=.26$). The differential effect between interest in pain management treatment and interest in specific treatment delivery media was significant ($p=.03$). Interest in pain management treatment was more strongly predictive of interest in face-to-face treatment than telephone treatment ($p=.007$) and internet treatment ($p=.02$).

The findings for the motivational variables in the full model were largely mirrored in the individual analysis focused only on motivational variables.

Barriers—Greater problems with cost as a barrier were significantly associated with greater interest in receiving treatment by telephone ($OR=1.38$, $p=.006$) and by internet ($OR=1.45$, $p=.002$) but not face-to-face ($p = .30$). However, there was no significant differential effect ($p = .69$). While there were no main effects for Time Constraints, there was a significant differential effect ($p = .04$) such that greater Time Constraints was associated with less interest in face-to-face care relative to telephone ($p = .02$) and internet ($p = .03$) delivered care. These findings from the full model were largely mirrored in the individual analysis of barriers.

Discussion

To the best of our knowledge, this study is the first to examine the level of interest in different treatment delivery media in a sample of people who are not necessarily actively seeking treatment in a trial or clinic. Among people wanting psychological or behavioral care, 94.3% indicated interest in receiving face-to-face care in the clinic, leaving face-to-face care the most preferred treatment delivery method. Telephone delivered care was of some interest to 63.8% while 47.1% expressed some interest in internet intervention, however only small numbers (17.4% and 9.7% respectively) were definitely interested. This suggests that there is openness to try newer treatment delivery media but not yet substantial demand. Given that these are still seen as comparatively new treatment delivery media, not yet covered by insurance in the United States, this level of openness to these delivery media is notable.

The frequency with which patients indicated interest in telephone or internet treatments overlapped considerably with interest in face-to-face treatment. Yet among patients not interested in receiving face-to-face treatment, 15.9% of patients expressed interest in telephone-administered treatment and 15.4% expressed interest in internet treatment. This provides modest support for the notion that treatments provided via telecommunications technologies may serve people who would not otherwise receive care.

We tested three distinct sets of potential differential predictors of use of face-to-face, telephone and internet delivered treatment. These included drivers (symptoms or treatment

targets that might be underlying drivers of demand for treatment), motivators (patient interest in receiving care for specific problems), and barriers (perceived barriers to face-to-face care).

Among drivers (symptoms or target problems), only pain showed significant differential effects with interest in treatment medium such that greater pain was associated with less interest in face-to-face care relative to telephone administered care. This suggests that pain is a barrier to receiving face-to-face care. However, the greater pain severity was only marginally associated with lower interest in face-to-face treatment and was not significantly associated with level of interest in telephone or internet delivered services. There were no effects of depression, anxiety, BMI or smoking status on interest in a specific treatment delivery modality. The larger picture suggests that severity of symptoms or problems was not related to interest in any specific treatment delivery medium. While this was contrary to our hypothesis, it is not inconsistent with some findings that utilization of mental health services is not necessarily associated with severity of psychiatric symptoms (17,18). These findings are also consistent with findings that follow-up on physician referrals to behavioral care tend to be very low (19). It may be that other confounds such as coping style, personality constructs such as conscientiousness, or locus of control may obscure any effect that symptom severity might have. For example, people who are conscientious about their health may be interested in diet and exercise intervention, and are consequently fit and healthy (20). It may also be that people prefer non-behavioral medicine methods, such as pharmacotherapy or self-help for smoking cessation or mental health problems. Regardless of the reasons, these data suggest that symptoms and problems that are used as indicators for behavioral treatments do not necessarily generate interest in receiving behavioral treatments, regardless of the treatment delivery medium.

In contrast to symptoms, wanting behavioral treatment for mental health, healthy lifestyle and pain are all strong differential predictors of interest across the three treatment delivery media. Interest in mental health treatment is associated with significantly greater desire for face-to-face care, compared to telephone and internet-administered care. However, interest in mental health treatment is still strongly associated with greater desire for telephone delivered therapy, but is unrelated to internet delivery. Interest in lifestyle change is more strongly related to desire for face-to-face delivery, but it is also positively related to acceptance of both telephone and internet delivered services. Interest in pain management services is only associated with interest in face-to-face services while interest in smoking cessation is not predictive of interest in any treatment delivery medium.

These findings suggest that, with the exception of smoking cessation, interest in a specific treatment focus is strongly associated with the interest in receiving treatment face-to-face. Greater interest in treatment for mental health and lifestyle change also predicts greater interest in telephone delivered services, suggesting that this is an attractive treatment option for many, albeit not as attractive as face-to-face. In contrast, interest in internet delivery is currently only associated with interest in lifestyle change, and is not associated with interest in services for mental health, pain management or smoking cessation. We speculate that this may be related to the growing number and increasing sophistication of interactive websites designed to promote healthy lifestyle. Many of these sites are commercially available and are widely used. Internet treatment for healthy lifestyle has also received growing validation (6,21).

The lack of a significant association between interest in treatment for mental health problems, pain or smoking, and interest in receiving internet treatment is harder to interpret. We speculate that this lack of significance may have at least three sources, including lack of validation, lack of familiarity and the presence of other drivers. Standalone, unguided

internet intervention for mental health has tended to show high attrition and comparatively small effect sizes (5,10). Pain management via internet has received only minimal empirical attention to date (8). Thus, part of the lack of association between wanting treatment for these problems and wanting that treatment delivered by internet may be that patients have an inherent sense that standalone internet treatment sites targeting mental health (and possibly pain) do not work very well for most people. The second reason for a lack of association may relate to sheer exposure. While there are many publically available, attractive, well supported sites targeting lifestyle change, internet sites targeting mental health problems and pain tend to be developed and maintained by researchers and do not receive the kinds of updates, support, and advertising that commercial sites do. Finally, factors other than interest in treatment may be driving interest in accessing these internet programs. For example, this may reflect an “early adopter” profile in which interest in internet treatment is also driven by curiosity about the technology itself.

The only barrier that significantly discriminated among interest in the three treatment delivery media was Time Constraints (e.g. getting time off work or interference from other responsibilities). Relative to face-to-face treatment, greater Time Constraints was associated with greater interest in telephone and internet administered treatments. This supports the notion that distance delivery of behavioral services may overcome barriers to traditional face-to-face treatment. This is potentially an important finding, in so far as the notion that the use of telephone and internet will overcome barriers is an assumption that remains largely untested (22). However, the failure to find any similar differential effects across other barriers would suggest that distance delivery media such as the telephone and internet is limited in its ability to generate interest in receiving treatment, at least in this sample of urban primary care patients.

There are a number of limitations that must be considered in this report. The return rate for the surveys of 20% suggests that this sample is biased. The high percentage of people interested in behavioral intervention suggests an oversampling of that group. This bias was likely a result of the introductory letter stating that the purpose was to evaluate these behavioral problems and the services provided to address these problems. Accordingly, the absolute numbers and frequencies generated by this sample are not generalizable. The measurement included many non-standardized measures, particularly those evaluating level of interest in treatment and treatment delivery media. In addition, the measures of “drivers” were diverse, ranging from an objective, continuous measure of BMI, a multi-item measure of depression, and single item measures of smoking status and pain severity. These measurement differences should be considered in interpreting differences in loadings of items across these domains. The measurement of barriers focused on barriers to face-to-face care. Telephone and internet delivered treatments also likely present unique barriers that were not measured. This study is also only a snapshot from a single primary care clinic at a specific moment in time. The clinic, located in the heart of downtown Chicago, draws from a very urban population. These findings may not generalize to less urban or more rural settings. These findings will likely become less accurate as time goes on, given how quickly new telecommunications technologies are penetrating the population and being adopted as vehicles for delivering health and mental health care. The three treatment delivery media examined in this study are not mutually exclusive. For example, internet treatments may include telephone or face-to-face support (22). Finally, developments in telecommunications technologies are changing the very nature of these media, thereby changing the potential for treatment delivery. For example, internet intervention will likely follow the move towards mobile internet access, build upon mobile phone platforms and make internet intervention available ubiquitously.

In spite of these weaknesses, this study is, to the best of our knowledge, the first to begin to examine level of interest in these new treatment media, and to examine factors that might increase or diminish that interest. While these relationships will likely change with time, these findings suggest at the time of this survey, interest in treatment for mental health and lifestyle change delivered by telephone may be acceptable to many patients, while interest in internet treatment is driven principally by interest in lifestyle change. There is some evidence that distance technologies may be useful in overcoming barriers to face-to-face care related to time constraints. These relationships will likely change as technologies become more sophisticated, better tested, and more widely available to deliver behavioral treatments. Monitoring factors that support, facilitate and/or inhibit interest in new treatment delivery media will be important in developing treatments that are widely acceptable and in determining those populations for which those treatments will be acceptable. Longitudinal research examining the influence of these determinants on patient choice to accept or initiate treatments would improve validity, and studies that manipulate these determinants would allow for stronger inferences.

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Table 1

Relationship between level of interest in treatment delivery media and demographics.

Treatment Delivery Medium	Demographic Variable	Definitely Interested	Would consider	Definitely not interested	p
Face-to-face	Age, Mean±SD	49.9±14.9	49.6±15.0	55.3±16.6	<.001
	Female, %	74.3	70.2	62.3	.06
	Caucasians, %	50.9	63.7	73.2	<.001
	Partner, %	41.7	46.4	49.3	.35
Telephone	Age, Mean±SD	51.0±14.8	49.7±15.2	51.8±15.8	.29
	Female, %	85.3	71.5	64.5	<.001
	Caucasians, %	37.9	67.5	63.9	<.001
	Partner, %	39.0	46.8	45.8	.41
Internet	Age, Mean±SD	46.6±15.0	47.8±14.8	53.1±15.5	<.001
	Female, %	75.4	69.9	69.0	.60
	Caucasians, %	65.6	62.1	61.0	.79
	Partner, %	49.2	50.0	43.2	.25

Table 2

Crosstabulation of Frequencies of Patients interested in Face-to-Face and Telephone Delivered Treatment.

Interest in Telephone Treatment		Interest in Face-to-Face Treatment		
		Definitely interested	Would consider	Not interested
Definitely interested	Count	55	34	4
	% of Total	8.5%	5.3%	.6%
Would consider	Count	86	138	18
	% of Total	13.4%	21.4%	2.8%
Not interested	Count	76	117	116
	% of Total	11.8%	18.2%	18.0%

Table 3

Crosstabulation of Frequencies of Patients interested in Face-to-Face and Internet Delivered Treatment.

Interest in Internet Counseling		Interest in Face-to-Face Treatment		
		Definitely interested	Would consider	Not interested
Definitely interested	Count	31	24	6
	% of Total	4.9%	3.8%	.9%
Would consider	Count	76	113	15
	% of Total	11.9%	17.7%	2.3%
Not interested	Count	107	152	115
	% of Total	16.7%	23.8%	18.0%

Table 4
Differential Predictors of level of interest in Drivers, Motivators and Barriers controlling for Age, Gender, Race

Predictors	OR	Lower	Upper	p	F	p
DEMOGRAPHICS						
Age					5.50	0.004
Face-to-Face	0.97	0.95	1.00	0.02	a*	
Telephone	1.01	0.99	1.02	0.52	a*, c**	
Internet	0.97	0.95	0.99	0.004	c**	
Gender					3.04	0.05
Face-to-Face	1.38	0.69	2.78	0.37		
Telephone	0.70	0.39	1.23	0.21	c*	
Internet	1.57	0.87	2.82	0.13	c*	
Race					1.69	0.18
Face-to-Face	0.65	0.31	1.39	0.27		
Telephone	1.20	0.69	2.08	0.53		
Internet	1.45	0.82	2.56	0.20		
DRIVERS OF TREATMENT						
GAD-7					0.85	0.43
Face-to-Face	1.08	0.96	1.20	0.20		
Telephone	1.02	0.95	1.10	0.56		
Internet	0.99	0.91	1.07	0.75		
PHQ-8					0.15	0.86
Face-to-Face	1.08	0.96	1.21	0.22		
Telephone	1.03	0.95	1.11	0.52		
Internet	1.03	0.95	1.12	0.49		
BMI					0.22	0.80
Face-to-Face	0.98	0.93	1.02	0.32		
Telephone	0.99	0.95	1.02	0.41		
Internet	0.98	0.94	1.01	0.22		
Smoking Status					1.22	0.29
Face-to-Face	0.68	0.21	2.26	0.53		

Predictors	OR	95% C.I.		Differential Effect	
		Lower	Upper	F	p
Telephone	1.89	0.70	5.08		0.21
Internet	1.52	0.56	4.13		0.41
Pain					
Face-to-Face	0.81	0.65	1.02		0.07
Telephone	1.02	0.86	1.21		0.79
Internet	0.87	0.73	1.03		0.10
				3.10	0.046
				a*	
				a*	
MOTIVATION FOR TREATMENT					
Mental Health				8.13	0.0003
Face-to-Face	7.00	3.05	16.06		<.0001
Telephone	2.69	1.49	4.83		0.001
Internet	1.12	0.63	2.02		0.69
				b***, c*	
Healthy Lifestyle (Diet & Exercise)				6.82	0.001
Face-to-Face	13.07	6.22	27.48		<.0001
Telephone	3.12	1.81	5.37		<.0001
Internet	7.08	3.94	12.73		<.0001
				b*	
				1.59	0.2037
Smoking Cessation					
Face-to-Face	4.51	0.59	34.42		0.15
Telephone	0.69	0.20	2.45		0.57
Internet	1.39	0.39	4.94		0.61
Pain Management				3.77	0.024
Face-to-Face	11.66	2.62	51.92		0.001
Telephone	1.25	0.56	2.80		0.58
Internet	1.60	0.71	3.60		0.26
				b*	
BARRIERS					
Stigma				0.26	0.77
Face-to-Face	1.02	0.89	1.18		0.75
Telephone	1.08	0.97	1.21		0.16
Internet	1.11	0.98	1.24		0.09
Lack of Motivation				0.26	0.77
Face-to-Face	1.04	0.76	1.42		0.82

Predictors	OR	95% C.I.		Differential Effect	
		Lower	Upper	F	p
Telephone	1.08	0.86	1.35		0.51
Internet	1.19	0.94	1.49		0.15
Emotional Concerns				0.26	0.77
Face-to-Face	1.04	0.76	1.42		0.82
Telephone	1.08	0.86	1.35		0.51
Internet	1.19	0.94	1.49		0.15
Negative Evaluation of Therapy				0.35	0.71
Face-to-Face	0.98	0.83	1.15		0.76
Telephone	0.94	0.83	1.07		0.35
Internet	0.92	0.81	1.05		0.23
Misfit of Therapy to Needs				0.08	0.93
Face-to-Face	0.91	0.77	1.08		0.30
Telephone	0.89	0.78	1.03		0.12
Internet	0.90	0.78	1.04		0.14
Time Constraints				3.15	0.044
Face-to-Face	0.89	0.74	1.07		0.20
Telephone	1.12	0.97	1.29	<i>a*, b*</i>	0.13
Internet	1.10	0.95	1.27	<i>b*</i>	0.19
Participation Restriction				1.09	0.34
Face-to-Face	1.10	0.95	1.26		0.20
Telephone	1.04	0.94	1.16		0.45
Internet	0.96	0.86	1.07		0.46
Availability of Services				0.00	1.00
Face-to-Face	0.90	0.73	1.12		0.35
Telephone	0.89	0.76	1.04		0.15
Internet	0.89	0.75	1.04		0.15
Cost				0.38	0.69
Face-to-Face	1.18	0.87	1.60		0.30
Telephone	1.38	1.10	1.73		0.006
Internet	1.45	1.15	1.83		0.002

a, b, c = dependent variables which share the same letter significantly differ from one another

* = $p < .05$

** = $p < .01$

*** = $p < .001$