Abstract

Background: e-Mental health services have the capacity to overcome barriers to care and reduce the unmet need for psychological services, particularly in developing countries. However, it is unknown how acceptable e-mental health interventions may be to these populations.

Aims: The purpose of the current study was to examine consumer attitudes and perceived barriers to e-mental health usage among across four countries: Australia, Iran, the Philippines, and South Africa.

Methods: An online survey was completed by 524 adults living in these countries, assessing previous contact with e-mental health services, willingness to use e-mental health services, and perceived barriers and needs for accessing e-mental health services.

Results: Although previous contact with e-mental health services was low, the majority of respondents in each sample reported a willingness to try e-mental health services if offered. Barriers toward e-mental health usage were higher among the developing countries than Australia. The most commonly endorsed barriers concerned needing information and assurances regarding the programs.

Conclusions: Across countries, participants indicated a willingness to use e-mental health programs if offered. With appropriate research and careful implementation, e-mental health has the potential to be a valuable part of mental health care in developing countries.

Declaration of Interest: None to declare.

Keywords: e-mental health; attitudes; cross-cultural; internet interventions; barriers to care

Going Global: Do Consumer Preferences, Attitudes, and Barriers to using e-Mental Health Services Differ across Countries?

e-Mental Health interventions are now widely available across disorders, therapeutic approaches, and patient populations (Griffiths, Farrer, & Christensen, 2007; Meurk, Leung, Hall, Head, & Whiteford, 2016). One of the most compelling arguments for the dissemination of e-mental health is that such interventions have the capacity to address high levels of unmet need for mental health treatment by overcoming consumer and system barriers to care (Casey, Joy, & Clough, 2013; Casey, Wright, & Clough, 2014; Shoemaker & Hilty, 2016). These barriers to care include geographical and service constraints, cost, and attitudinal barriers such as stigma. However, there is increasing recognition that e-mental health services may also have their own associated barriers, including consumer attitudes toward the services. Indeed, the importance of further research to understand community and policy maker perspectives, particularly across characteristics such as ethnicity and socioeconomic status, has been identified as crucial to enhancing the uptake and integration of e-mental health into existing healthcare systems (Meurk et al., 2016). However, it is not yet known the extent to which these barriers may differ across countries.

Consumer Attitudes and Preferences

Two systematic reviews have identified a consistent finding across studies is that consumers report preferring and estimating a greater likelihood of using face-to-face treatment compared to e-mental health programs (Gough, Clough, & March, 2016; Meurk et al., 2016). However, consumers are not necessarily averse to using e-mental health services, with many reporting a willingness to try services if it were offered to them (Klein & Cook, 2010; Meurk et al., 2016). Attitudes may also be improved by providing consumers with information regarding the purpose, format, and efficacy of e-mental health interventions (Casey et al., 2013; Ebert et al., 2015). These are findings that may be of particular relevance

to populations experiencing high barriers to care such as stigma, low mental health literacy, and limited access to services.

A Global Gap in the Research

One of the major limitations of research in this field is the relative homogeneity of populations studied. Gough and colleagues (2016) found that of 18 studies examining consumer attitudes, likelihood, and willingness to use e-mental health services, 12 were conducted using Australian samples and all were conducted in countries considered to be "developed". Although no standard criteria exists for defining "developing" or "developed" countries, characteristics such as life expectancy, literacy, and income are typically considered (United Nations Statistics Division, 2017). Individuals in developing countries who suffer mental illness are more likely to experience significant barriers to care, with social barriers often compounding the effect of limited health resources and difficulties with dissemination (Becker & Kleinman 2013). According to the World Health Organisation (WHO), over 75% of individuals with severe mental illness living in developing countries do not receive treatment (Demyttenaere et al., 2004), with considerable individual and societal barriers evident even when treatments are available (Becker & Kleinman 2013). Considering the capacity for e-mental health to provide care to previously underserved populations (Muñoz, 2010), an important direction for research is to examine the acceptability and efficacy of these interventions in these populations.

e-mental health interventions hold considerable promise for improving access and quality of mental health care in developing countries (Mucic, Hilty, & Yellowlees, 2016; Muñoz, 2010). However, there is a lack of research examining whether such interventions are feasible and acceptable to individuals living in these societies, and what the barriers to their implementation might be. Greater understanding of these populations is required for e-mental health interventions to reach their full potential on a global scale.

The Current Study

The aim of the current study was to examine consumer preferences, attitudes, and perceived barriers toward e-mental health services across four countries: Australia, Iran, the Philippines, and South Africa. The four countries included in the present study were considered to be geographically and culturally diverse, and represented both developed (Australia) and developing (Iran, Philippines, South Africa) countries. e-Mental health is a rapidly changing field of research and practice, with calls for research in this area to be more rapid and responsive to the evolving technologies. (Clough & Casey, 2015; Riley, Glasgow, Etheredge, & Abernethy, 2013). As such, the samples selected for the current research were intended to provide a rapid insight into potential differences in attitudes and barriers across countries. Focusing solely on developing countries may not provide a context for interpreting results, and as such Australia was included in the present study as an exemplar for comparisons to a developed nation. To the authors' knowledge, this is the first study to examine consumer attitudes and barriers to e-mental health services within these countries, so data was analysed in an exploratory fashion. However, based on previous research identifying large treatment gaps and significant barriers to access and delivery of mental health services in low and middle income countries (Eaton et al., 2011), it was predicted that barriers and requirements for using e-mental health services would be highest among the developing countries.

Method

Participants

The survey was accessed by 853 participants. Inspection of response files revealed 63 participants exited the survey prior to giving consent and 224 exited the survey after providing consent but prior to acknowledging submission of their responses. These incomplete files were taken as withdrawal of consent and were removed from analyses (*n* =

287). Also excluded from analyses were participants who indicated they did not reside in one of the four countries of interest (n = 37) or who reported being younger than 18 years of age (n = 5). Participants were therefore 524 adults aged between 18 and 80 years (M = 29.26, SD = 11.28), with 163 from Australia, 126 from Iran, 125 from South Africa, and 110 from the Philippines. The sample was predominantly female (74.40%), married or in a relationship (54.20%), with an undergraduate university education (33.40%), and were not mental health professionals (84.70%) but had studied a psychology or counselling course in the past (66.40%). Almost all of the participants reported having regular access to the Internet (99.00%); an unsurprising finding given the survey was administered online. Descriptive statistics by country are provided in Table 2.

Design

The study was conducted as a quasi-experimental between groups design, with participants self-identifying to one of the four country groups (Australian, Filipino, Iranian, or South African). Dependent variables were a mixture of categorical variables (e.g., previous contact with services) and continuous variables (e.g., mental health literacy).

Measures

Demographic Information. Data were collected pertaining to participant gender, age (in years), country of residence, relationship status (two levels; in a relationship/ married or single), highest level of education completed (five levels; primary school, secondary school, trade/ diploma/ certificate, undergraduate degree, postgraduate degree), status as a mental health professional (two levels; yes or no), previous engagement in a psychology or counselling education course (two levels; yes or no), and access to the internet whether by means of a computer, Smartphone, or other device (two levels; yes or no).

Previous Contact and Service Preferences. A number of questions were developed to measure participants' previous contact and service preferences. A brief definition of e-

mental health was also provided to participants: *"e-Mental Health refers to the delivery of mental health services (treatment, information, and support) via the internet or mobile phone. This can be through websites, web applications, video conferencing, chat or email. Some of these services, such as video conferencing or online counselling, involve direct one on one contact with a mental health professional. Other e-Mental Health services, such as web applications or information websites, involve less or no contact with mental health professionals."*

Previous contact with e-Mental Health Services. Previous contact with e-mental health services was measured using one original item requiring participants to indicate the services they had received support or help from for difficulties with emotions, nerves, or use of alcohol or drugs. Four e-mental health options (information website, online counselling, internet based program with therapist assistance, internet based program without therapist assistance) were provided based on those identified by Klein and Cook (2010), with the addition of a fifth "None of the above" option. Participants were permitted to select multiple treatment response options.

Service Preferences for e-Mental Health. To measure treatment preferences with the inclusion of e-mental health services participants were required to indicate their willingness to use each service. A list of possible services was generated by combining the 10 identified service options (e.g., psychologist, psychiatrist, religious or spiritual advisor, etc.) from item SR17 of the World Mental Health Survey Initiative version of the WHO Composite International Diagnostic Interview (WMH-CIDI; Kessler & Üstün, 2004) with the four e-mental health treatment options identified by Klein and Cook (2010). Participants indicated their willingness to receive help from each of the 14 treatment services dichotomously (yes or no), if it were to be offered to them at a time when they were experiencing difficulties with a personal or emotional problem.

e-Mental Health Concerns and Barriers. Two questions were used to measure participants' concerns toward and barriers to using e-mental health services. The first question asked participants to indicate agreement on seven point scales ranging from 1 (strongly disagree) to 7 (strongly agree) for eight statements relating to concerns toward e-mental health services (e.g. "I would need to arrange access to a computer or the internet"). Seven items for this question were drawn from Klein and Cook's (2010) study, with one additional item ("I would be concerned that I would be caught or overheard whilst using e-mental health services such as online counselling") included by the authors to allow for situations involving shared devices or spaces.

A second question assessed participants' barriers to accessing and engaging with the technology required for an example online program. The program scenario given to participants involved the completion of one-hour online sessions, available once per week. Participants were instructed to select any equipment or help (five options, e.g., "a computer" or "power or electricity for the computer or smartphone") they would need, that they currently did not have, in order to access the program. Responses were dichotomous; yes or no as to whether the equipment or help was needed by the individual.

First Point of Contact. Using the 11 service options from SR17 of the WMH-CIDI (WMH-CIDI; Kessler & Üstün, 2004), participants were asked to indicate "If you, or someone close to you, were experiencing mental difficulties such as with emotions, nerves, or use of alcohol or drugs, who would you be most likely to get help from?". Participants were instructed to select one response option.

Procedure

An online survey was conducted among Australian, Iranian, Filipino, and South African populations. Although individual access to the internet differs between these countries (Table 1), this method of dissemination was deemed appropriate as the first users of

e-mental health approaches within these countries will likely be those individuals who have regular access to the internet through either personal or shared devices. The countries represented diversity in development and systems of population level healthcare. A summary of country characteristics and healthcare systems is contained in Table 1, as based on government and WHO documents (Australian Government, 2012, 2015; World Health Organisation, 2006, 2007a, 2007b) as well as data from the World Bank (2016).

Ethical approval was granted from Australian and South African human research ethics committees. Due to a lack of country specific processes, ethical approval was not obtained within Iran or the Philippines. In these contexts, fellow researchers within each country reviewed the study design and procedures, with the international ethical approvals deemed adequate. The survey was administered in English for the Australian, Filipino, and South African samples, and in Persian (Farsi) for the Iranian sample. As the measures used in this study were not available in Persian, the Iranian author (MZ) conducted translations of all items, instructions, and participant information and consent forms. The translated version of the questionnaire package was then compared to the English version by two independent bilingual (native Farsi speaking) researchers for review and agreement on meaning and translation.

Advertisements and notices for the study were placed on social media sites, as well as invitation emails sent to staff and students of the associated universities and workplaces. Snowball sampling was then used to recruit participants within each country. Advertisements encouraged participants to provide their opinions towards various forms of healthcare, with greater detail provided in the online information and consent materials accessed through the online survey. No incentives were offered for participation.

Statistical Analyses

Data were screened according to guidelines by Tabachnik and Fidell (2013). Data were analysed using SPSS version 22 (IBM Corp, 2013). Normality was violated on a small number of variables and as such transformations were performed. Where transformations did not alter the interpretation of results, untransformed data is reported.

Results

Equality of Groups

Preliminary analyses were performed to determine whether significant differences existed between the groups on the demographic variables. The variable of highest level of education achieved was recoded to combine the two categories of primary and secondary high school, due to the low number (n = 2) of participants in the primary school category.

Significant differences between groups were found on the variables of age, gender, relationship status, highest level of education, status as a mental health professional, having undertaken at least one course in psychology or counselling, and having experienced a mental or emotional difficulty (to the point of interference) in the past (all p's ≤ .002). Significant effects were followed up with main effects comparisons or column proportion (z tests) analyses (as appropriate) utilising Bonferroni corrections. Results of these follow up tests are displayed in Table 2.

Previous contact with e-Mental Health Services

Previous contact was examined for e-mental health services. Due to the number of comparisons conducted, alpha for the initial chi square tests was set at .01. Significant differences in sample proportions were found for previous use of an online website for support (χ^2 (3, N = 524) = 24.209, p < .001, V = .215), online counselling (χ^2 (3, N = 524) = 12.657, p = .005, V = .155), and for having no contact with online services for mental health support (χ^2 (3, N = 524) = 26.970, p < .001, V = .227). No differences in sample proportions were found for previous contact with online programs without therapist assistance (p > .01).

Due to the majority of cell counts being less than 5, a chi square analysis was not performed for the online program with therapist assistance category. For the significant chi square tests, follow up column proportion tests were conducted utilising Bonferroni corrections. Australians and South Africans reported the highest use of online websites for information and support, with less than a third of the Filipino sample reporting such contact. Use of online counselling was highest in the Australian and Iranian samples. Low levels of contact with online programmes, particularly those with therapist assistance, were observed across samples. The Filipino sample had the highest proportion of participants who reported no previous contact with online services for mental health support, followed by the Iranian and South African samples, with the lowest proportion in the Australian sample.

Services Preferences for e-Mental Health

Willingness to Use Services. Significant differences across country samples (utilising alpha of .01) were observed in the proportion of participants endorsing willingness to receive support from all listed treatment options (13), except psychologist, counsellor, internet based program with therapist assistance, and internet based program without therapist assistance (all χ^2 (3, N = 524) > 12.916, all p's < .01, all V's > .157). No significant differences were observed in the proportion of participants within each country sample endorsing willingness to receive support from a psychologist (p > .05), with high levels of endorsement observed across samples. Chi squared analyses were followed up with column proportions tests (with a Bonferroni correction) and are summarised in Table 3.

In general, participants were most willing to receive mental health support from psychologists and counsellors. Willingness to receive support from doctors, nurses, or religious leaders was low in the Iranian sample. Also of note, was that in the Iranian sample there was a high willingness to use e-mental health services if offered, with four of the top six endorsed services within this sample being e-mental health services. Willingness to use e-

mental health services was generally higher within the Australian and Iranian samples than within the Filipino or South African samples. With the exception of the Iranian sample, participant ratings of willingness to use services was generally higher for the more traditional services (e.g., psychologists, psychiatrists, counsellors, GPs) than for e-mental health services. However, over half of the respondents in each sample still indicated a willingness to receive support by means of information websites, online counselling, or internet based programs with therapist assistance. Endorsement of internet based programs without therapist assistance was lower than those with therapist assistance for all country samples. However, a majority of participants within the Australian and Iranian samples still indicated a willingness to use these services.

e-Mental Health Concerns and Barriers

A series of one way Analyses of Covariance (ANCOVAs) were conducted to examine cross-country differences in mean endorsement of concerns regarding the use of e-mental health services (Table 4), with the demographic variables related to both country sample and endorsement of concerns (gender, level of education, having previously experienced a mental or emotional difficulty) entered as covariates. Significant main effects of country sample was found for needing to arrange access to a computer or the internet (F (3, 517) = 84.497, $p < .001$, $\eta_p^2 = .329$), needing to know more about e-mental health services (F (3, 517) = 4.957, $p = .002$, $\eta_p^2 = .028$), needing assurances that personal information was secure and confidential (F (3, 517) = 4.691, $p = .003$, $\eta_p^2 = .027$), and concerns about being caught or overheard whilst using e-mental health services (F (3, 517) = 2.949, $p = .032$, $\eta_p^2 = .017$). The results of the main effects comparisons are summarised in Table 4.

The security and confidentiality of personal information was consistently rated as the highest concern across country samples, with needing to know more information about e-mental health services also rating highly across the four countries. The Iranian sample was

more likely to endorse needing access to a computer or the internet than the other three samples, with the Filipino sample being the least likely to endorse this concern. There was a trend for the Iranian sample to endorse greater concerns over being caught or overheard whilst using e-mental health services, although this effect only approached significance (p = .058) when the Bonferroni correction was applied. A mean value for concerns/ barriers was calculated across items (with item one reverse scored) for each participant, with a significant main effect for country sample found (F (3, 517) = 14.763, $p < .001$, $\eta_p^2 = .079$). Overall, the Iranian sample reported significantly greater concerns/ barriers towards using e-mental health services than the other three countries (p's < .05).

Chi squared analyses (with alpha for initial tests set at .01) were conducted to explore participant responses to equipment and requirements needed, that they do not currently have, in order to access e-mental health services. Significant differences across country samples was observed for all items (all χ^2 (3, N = 524) > 14.233, p's < .01, V's > .165). Significant effects were followed up with column proportion tests using a Bonferroni correction, as summarised in Table 4.

Across all samples, the majority of participants reported having all equipment required to access e-mental health programs, although the proportion of Australian participants was significantly greater than the proportion of Filipino and Iranian. In general, the highest proportion of participants with unmet needs for accessing e-mental health programs were in the Iranian and Filipino samples. The most commonly endorsed need across all samples was someone to explain how to use equipment or sites, which was followed by access to the internet and smartphone or computer devices. Endorsement of these barriers was generally lower in the Australian sample than in the other three samples.

First Point of Contact

Participants indicated the type of service they would be most likely to use for formal support with mental or emotional difficulties (Table 5). A significant difference (with alpha set at .01) was found in the distribution of service preference across samples (χ^2 (30, N = 524) = 193.668, p < .001, V = .351), which was followed up with column proportion analyses utilising a Bonferroni correction. Significant differences in proportions across samples were found for 6 of the 11 services, as displayed in Table 5. Australians indicated they would be most likely to access mental health support from their GP or family doctor, Iranians and South Africans were most likely to access support from a psychologist, and Filipinos from a counsellor. Other notable differences were observed for participants endorsing a religious or spiritual leader as being their most likely contact (highest proportion in the Filipino sample) and participants who reported they would likely not have contacted with any of the services if they were experiencing mental health difficulties (highest proportion in the Iranian sample).

Discussion

The aim of the current study was to examine consumer preferences, attitudes, and perceived barriers toward e-mental health services in a sample of developed and developing countries. Although e-mental health may have considerable potential to overcome barriers to care in developing countries, to the authors' knowledge no previous research has examined whether attitudes and barriers towards e-mental health services differ between developed and developing countries. The present study examined these factors across Australia, Iran, the Philippines, and South Africa, as an investigation among exemplars of geographically and culturally diverse countries and healthcare systems.

As representations of developed and developing countries, previous use of e-mental health services was low, particularly among the developing countries. In general, the Australian sample had more previous contact with e-mental health services than the other three samples. Highest rates of contact with e-mental health services across samples were for

information websites, although still less than half of the Iranian, Filipino, and South African samples endorsed this usage. Nearly 70% of the Filipino sample reported no contact with any form of e-mental health services.

Yet even when previous use has been low in country, this does not mean that e-mental health may have poor uptake if it is made available. To the contrary, our results indicate that given the opportunity, the majority of participants in each sample were willing to use some form of e-mental health services, with the highest endorsements observed for information websites, online counselling, and online programs with therapist assistance. Lower rates of endorsement were observed for programs without therapist assistance, which is consistent with previous studies in the field (Gough et al., 2016). Interestingly, the highest rates of participant willingness to try e-mental health services was typically observed in the Iranian sample, who also reported the highest number of barriers and concerns toward these services. As such, in designing interventions to be used in countries such as these, it seems clearly important for researchers, technologists, and clinicians to consider the practical and technical assistance that individuals will need to utilise these services. For example, awareness of issues around cybersecurity is increasing in developed countries, but in those developing countries where there may be a stronger history of broader security issues, individuals may be more immediately inclined to have concerns and require assurances of data safety. In sum, participants may be willing to use these services if they were to be provided with the practical assistance or assurances required to access e-mental health services.

The most common concerns/ barriers reported across samples were needing assurance about the safety of personal data, wanting the assistance of an online therapist, and needing more information about e-mental health services. Self-reported participant needs for using e-mental health services (such as internet, a computer, etc.) were highest in the Filipino and Iranian samples, with barriers and participant needs lowest in the Australian sample. Overall,

the data suggests that the majority of individuals in developing countries are willing to use e-mental health services for support and information. However, these participants also experience a number of barriers to program use, both structural (e.g. internet access) and perceived (e.g., wanting more information about services or support in using equipment).

These results provide direction for key areas to target in implementing e-mental health in these countries. That is, not only will it be of importance to ensure adequate access and technical support to potential users (for example, through shared or publically accessible computers in health clinics), but also that healthcare providers will need to play an important role in educating potential users on e-mental health approaches, to overcome attitudinal barriers and concerns.

Significant differences were found across countries for first point of contact for seeking formal mental health assistance. In delivering e-mental health interventions in these countries it will likely be beneficial to include these stakeholders in referral and dissemination processes. Access to mental health treatments may be improved by those individuals acting in first contact roles assisting in creating referral pathways for individuals to access e-mental health services as appropriate. Furthermore, within each country, these stakeholders may be a key resource in assisting policy makers and healthcare providers in overcoming the attitudinal and knowledge barriers previously discussed, such as by providing individuals with information regarding available services or what an e-mental health program involves.

The results of the current study should be interpreted with reference to a number of limitations. Firstly, this study only examined four countries, however, the study has provided evidence as to the existence of attitudinal differences across countries and the importance of understanding these factors. Secondly, the structure and validity of the translated questionnaires was not examined and should be considered for future research.

The demographic differences observed across samples would also indicate that the participants may not have been representative of the general populations within each country, such as by the over representation of higher levels of education in the Iranian sample. The samples were also predominantly female, which is consistent with previous research in this field (Gough et al., 2016) and psychological research more generally, but does however limit interpretation of results. Furthermore, as the survey was conducted online, only the opinions of those participants with internet access in the developing countries were able to be studied, thus biasing results. However, these limitations should be considered within the context of the possible uses of e-mental health services within these countries. In the initial stages of e-mental health development in these countries, the most likely users of these programs will be individuals with internet access and capacity (education or otherwise) to engage in these programs. As such, the samples studied in the present research were not conceptualized as representative of general populations, they may be representative of potential e-mental health users in these countries. Furthermore, the mental health professionals represented in the samples may serve an important role in championing the uptake and dissemination of e-mental health services within these countries. Lastly, information regarding the current mental health status of individuals was not collected. Future research may be needed to examine possible whether current need impacts upon attitudes or preferences to these services.

e-Mental health programs may have the potential to overcome barriers toward mental health service use in developing countries, particularly with reference to service availability and stigma (Mucic et al., 2016). However, limited research has been conducted to establish the extent that to which attitudes and potential barriers of potential users of e-mental health services may differ across countries. The current study suggests that there are differences between countries which will need to be understood in order to effectively introduce e mental

health. Importantly, our study indicates people in countries that currently have low use of e-mental health are at least willing to try these services should they be offered. Furthermore, this research provides direction as to the key areas and barriers that will need to be targeted for these services to reach their potential within these countries. In disseminating these services, it will be important to involve key stakeholders from existing mental health services. For example, existing service preferences can be used to disseminate information and referral pathways regarding e-mental health services. The use of e-mental health services may increase individual access to efficacious support programs, and thereby allow the mental health services that are available within these countries to have maximum reach in serving vulnerable populations.

The present study demonstrates that there are important differences between countries in knowledge and barriers to e-mental health services, which to date, has been an under-researched area. Future research should aim to understand the relationships between consumer attitudes in the developing countries and factors such as perceived stigma, mental health literacy and knowledge, and barriers to care. The current study would suggest that with appropriate research and careful implementation, e-mental health has the strong potential to form a valuable part of mental health care in these countries.

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Table 1
Summary of Country Characteristics and Healthcare Systems

	Commonwealth of Australia	Islamic Republic of Iran	Republic of the Philippines	Republic of South Africa
Region	Asia-Pacific	Middle East/ Western Asia	South-East Asia	Africa
Income Status	High	Upper Middle	Lower Middle	Upper Middle
Internet Users per 100 People	84.60	39.40	39.70	49.00
Healthcare System	Tax Based • Government funded psychological and psychiatric care widely available • E-mental health established as a part of government strategy for stepped care	Insurance Based • Variety of insurance policies, all cover mental health but with limitations on length of hospital stay and services covered • Better implementation of national mental health guidelines in rural rather than urban areas, according to WHO	Insurance Based • Insurance covers mental disorders but is limited to acute inpatient care • No defined national mental health law	Tax Based • Access to and provision of mental healthcare dependent on region, with budgets decentralised to the nine provinces

Table 2
Participant Characteristics by Country Sample

	Australia (n = 163)	Iran (n = 126)	Philippines (n = 110)	South Africa (n = 125)
Gender				
Female	126 (77.3%) $_{a, b}$	87 (69.0%) $_{b}$	71 (64.5%) $_{b}$	106 (84.8%) $_{a}$
Male	37 (22.7%)	39 (31.0%)	39 (64.5%)	19 (15.2%)
Age	33.90 (13.80) $_{a}$	34.57 (8.55) $_{a}$	24.83 (7.78) $_{b}$	21.76 (5.47) $_{b}$
Relationship Status				
In a relationship/ married	104 (63.8%) $_{a}$	71 (56.3%) $_{a}$	36 (32.7%) $_{b}$	73 (58.4%) $_{a}$
Single	59 (36.2%)	55 (43.7%)	74 (67.3%)	52 (41.6%)
Level of Education				
Primary School	1 (0.6%)	0 (0%)	1 (0.9%)	0 (0%)
Secondary School	36 (22.1%) $_{a}$	0 (0%) $_{c}$	23 (20.9%) $_{a}$	82 (65.6%) $_{b}$
Trade/ Diploma/ Certificate	36 (22.1%) $_{a}$	8 (6.3%) $_{b}$	13 (11.8%) $_{a, b}$	13 (10.4%) $_{a, b}$
Undergraduate	51 (31.3%) $_{a}$	42 (33.3%) $_{a}$	60 (54.5%) $_{c}$	22 (17.6%) $_{b}$
Postgraduate	39 (23.9%) $_{a}$	76 (60.3%) $_{c}$	13 (11.8%) $_{a, b}$	8 (6.4%) $_{b}$
Participant as Mental Health Professional	12 (7.40%) $_{a}$	38 (30.20%) $_{b}$	19 (17.30%) $_{a, b}$	11 (8.8%) $_{a}$
Counselling/ Psychology Education	62 (38.00%) $_{a}$	83 (65.90%) $_{c}$	85 (77.30%) $_{c}$	118 (94.40%) $_{b}$
Previous mental health difficulties	148 (90.80%) $_{a}$	118 (93.70%) $_{a}$	80 (72.70%) $_{b}$	105 (84.00%) $_{a, b}$
Access to Internet	162 (99.40%) $_{a}$	125 (99.20%) $_{a}$	109 (99.10%) $_{a}$	123 (98.40%) $_{a}$

**Note*. For age standard deviations are shown in parentheses. Each subscript letter denotes a subset of the four country samples whose column proportions (or means) do not differ significantly from each at the .05 level (with Bonferroni correction).

Table 3

Previous Contact and Willingness to Use e-Mental Health Services across Country Samples

	Australia	Iran	Philippines	South Africa
Previous Contact (e-mental health services)				
Information website	* 100 (61.3%) $_{a}$	* 52 (41.3%) $_{b}$	* 36 (32.7%) $_{b}$	* 61 (48.8%) $_{a, b}$
Online counselling	9 (5.5%) $_{a, b}$	12 (9.5%) $_{a}$	0 (0.0%) $_{b}$	4 (3.2%) $_{a, b}$
Online program with therapist assistance	3 (1.8%)	2 (1.6%)	1 (0.9%)	6 (4.8%)
Online program without therapist assistance	11 (6.7%) $_{a}$	5 (4.0%) $_{a}$	5 (4.5%) $_{a}$	7 (5.6%) $_{a}$
None of the above	* 61 (37.4%) $_{a}$	* 68 (54.0%) $_{b, c}$	* 76 (69.1%) $_{c}$	* 62 (49.6%) $_{a, b}$
Willingness to Receive Help if Offered				
Psychiatrist	127 (77.9%) $_{a, b}$	82 (65.1%) $_{a}$	* 92 (83.6%) $_{b}$	* 100 (80.0%) $_{b}$
GP or family doctor	* 151 (92.6%) $_{a}$	42 (33.3%) $_{c}$	* 81 (73.6%) $_{b}$	* 93 (74.4%) $_{b}$
Other medical doctor	80 (49.1%) $_{a}$	32 (25.4%) $_{b}$	62 (56.4%) $_{a}$	52 (41.6%) $_{a}$
Psychologist	* 153 (93.9%) $_{a}$	* 110 (87.3%) $_{a}$	* 102 (92.7%) $_{a}$	* 119 (95.2%) $_{a}$
Social worker	108 (66.3%) $_{a}$	52 (41.3%) $_{b}$	59 (53.6%) $_{a, b}$	* 86 (68.8%) $_{a}$
Counsellor	* 141 (86.5%) $_{a}$	* 103 (81.7%) $_{a}$	* 104 (94.5%) $_{a}$	* 105 (84.0%) $_{a}$
Other mental health professional	* 132 (81.0%) $_{a}$	41 (32.5%) $_{c}$	65 (59.1%) $_{b}$	79 (32.2%) $_{b}$
Nurse or health professional	94 (57.7%) $_{a}$	35 (27.8%) $_{b}$	58 (52.7%) $_{a}$	71 (56.8%) $_{a}$
Religious or spiritual advisor	49 (30.1%) $_{a}$	31 (24.6%) $_{a}$	* 82 (74.5%) $_{b}$	79 (63.2%) $_{b}$
Any other healer (herbalist, chiropractor etc.)	80 (49.1%) $_{a}$	24 (19.0%) $_{b}$	30 (27.3%) $_{b}$	38 (30.4%) $_{b}$
Information website	* 140 (85.9%) $_{a}$	* 103 (81.7%) $_{a, b}$	75 (68.2%) $_{b}$	* 86 (68.8%) $_{b}$
Online counselling	108 (66.3%) $_{a, b}$	* 99 (78.6%) $_{a}$	71 (64.5%) $_{a, b}$	72 (57.6%) $_{b}$
Internet program with therapist assistance	110 (67.5%) $_{a}$	* 93 (73.8%) $_{a}$	62 (56.4%) $_{a}$	74 (59.2%) $_{a}$
Internet program without therapist assistance	94 (57.7%) $_{a}$	73 (57.9%) $_{a}$	46 (41.8%) $_{a}$	56 (44.8%) $_{a}$

Note. Each subscript letter denotes a subset of the four country samples whose column proportions do not differ significantly from each at the .05 level (with Bonferroni correction). *Indicates the service is one of the most commonly endorsed service types, within the question group, for the country sample.

Table 4
e-Mental Health Concerns and Barriers by Country Sample

	Australia	Iran	Philippines	South Africa
e-Mental Health Concerns/ Barriers				
1. I would not hesitate to use an e-mental health	4.15 (.14) $_{a}$	4.50 (.18) $_{a}$	4.09 (.18) $_{a}$	4.02 (.19) $_{a}$
2. I would need to arrange access to computer/ internet	1.69 (.14) $_{a}$	* 5.14 (.18) $_{b}$	3.37 (.17) $_{c}$	1.91 (.18) $_{a}$
3. I would need to know more about e-mental health	* 5.18 (.13) $_{a}$	* 5.82 (.17) $_{b}$	* 5.11 (.16) $_{a}$	* 5.57 (.17) $_{a, b}$
4. I would only access online information not treatment	4.13 (.14) $_{a}$	4.57 (.18) $_{a}$	4.21 (.18) $_{a}$	* 4.26 (.18) $_{a}$
5. I would want assistance of online therapist in a program	* 4.20 (.14) $_{a}$	4.64 (.18) $_{a}$	4.17 (.18) $_{a}$	4.03 (.18) $_{a}$
6. Need assurance personal information secure	* 6.25 (.11) $_{a, b}$	* 6.28 (.15) $_{a, b}$	* 5.82 (.14) $_{a}$	* 6.56 (.15) $_{b}$
7. Concerned about being caught/ overheard	3.82 (.17) $_{a}$	4.51 (.21) $_{a}$	* 4.27 (.20) $_{a}$	3.76 (.21) $_{a}$
8. I would not use e-mental health services	2.93 (.15) $_{a}$	3.10 (.19) $_{a}$	2.89 (.18) $_{a}$	2.93 (.19) $_{a}$
Mean number of concerns/ barriers endorsed	4.01 (.06) $_{a}$	4.70 (.08) $_{b}$	4.22 (.08) $_{a}$	4.13 (.08) $_{a}$
Requirements/ Participant Needs to Access e-Mental Health				
1. Computer	4 (2.5%) $_{a}$	13 (10.3%) $_{b}$	17 (15.5%) $_{b}$	13 (10.4%) $_{b}$
2. Smartphone	* 12 (7.4%) $_{a}$	* 31 (24.6%) $_{b}$	14 (12.7%) $_{a, b}$	8 (6.4%) $_{a}$
3. Power or electricity for the computer/ Smartphone	1 (0.6%) $_{a}$	8 (6.3%) $_{b}$	14 (12.7%) $_{b}$	6 (4.0%) $_{a, b}$
4. Access to the internet	6 (3.7%) $_{a}$	18 (14.3%) $_{b}$	* 23 (20.9%) $_{b}$	* 20 (16.0%) $_{b}$
5. Someone to explain to me how to use the equipment	* 15 (9.2%) $_{a}$	* 22 (17.5%) $_{a, b}$	* 29 (26.4%) $_{b}$	* 20 (16.0%) $_{a, b}$
6. None of the above – I have access to everything needed	* 132 (81.0%) $_{a}$	* 74 (58.7%) $_{b}$	* 63 (57.3%) $_{b}$	* 88 (70.4%) $_{a, b}$

Note. Each subscript letter denotes a subset of the four country samples whose means or column proportions do not differ significantly from each at the .05 level (with Bonferroni correction). Mean number of barriers/ concerns endorsed is adjusted according to the covariates of gender, level of education, and having previously experienced a mental or emotional difficulty, with standard error of the mean displayed in parentheses. *Indicates barrier/ requirement is one of the most commonly endorsed, within the question group, for the country sample.

Table 5
First Point of Formal Contact for Mental Health Concerns

	Australia	Iran	Philippines	South Africa
Service Preference				
Psychiatrist	8 (4.9%) $_{a}$	* 24 (19.0%) $_{b}$	12 (10.9%) $_{a, b}$	9 (6.4%) $_{a}$
GP or family doctor	* 59 (36.2%) $_{a}$	2 (1.6%) $_{b}$	4 (3.6%) $_{b}$	* 11 (8.8%) $_{b}$
Other medical doctor	0 (0%) $_{a}$	2 (1.6%) $_{a}$	1 (0.9%) $_{a}$	2 (1.6%) $_{a}$
Psychologist	* 53 (32.5%) $_{a}$	* 42 (33.3%) $_{a}$	* 32 (29.1%) $_{a}$	* 72 (57.6%) $_{b}$
Social worker	0 (0%) $_{a}$	1 (0.8%) a	0 (0.0%) $_{a}$	3 (2.4%) $_{a}$
Counsellor	* 33 (20.2%) $_{a}$	* 30 (23.8%) $_{a}$	* 37 (33.6%) $_{a}$	8 (6.4%) $_{b}$
Other mental health professional	2 (1.2%) $_{a}$	3 (2.4%) $_{a}$	0 (0%) $_{a}$	3 (2.4%) $_{a}$
Nurse or health professional	0 (0%) $_{a}$	0 (0%) $_{a}$	1 (0.9%) $_{a}$	2 (1.6%) $_{a}$
Religious or spiritual advisor	3 (1.8%) $_{a}$	5 (4.0%) $_{a, b}$	* 19 (17.3%) $_{c}$	* 12 (9.6%) $_{b, c}$
Any other healer (herbalist, chiropractor etc.)	2 (1.2%) $_{a}$	2 (2.4%) $_{a}$	0 (0%) $_{a}$	1 (0.8%) $_{a}$
None of the above	3 (1.8%) $_{a}$	14 (11.1%) $_{b}$	4 (3.6%) $_{a, b}$	3 (2.4%) $_{a}$

Note. Each subscript letter denotes a subset of the four country samples whose column proportions do not differ significantly from each at the .05 level (with Bonferroni correction). *Indicates the service is one of the most commonly endorsed service types, within the question group, for the country sample.