# The influence of individual and social factors on attitudes and stigma towards deaf people

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**Word Count Statement**

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# Abstract

Section 1 describes a systematic literature review investigating the factors that affect attitudes towards deaf people. Four databases (Academic Search Ultimate, PsycInfo, Cinahl, and Medline) were searched and identified studies that utilised quantitative methodology measuring attitudes towards deaf people. Several studies reported the influence of factors such as gender, age, knowledge of deaf issues, contact with deaf people and deaf awareness training. The results highlighted the  impact of contact with deaf people and deaf awareness training on improving attitudes towards this group, although methodological limitations and wide variation in results make conclusions complex and reduces generalisability.

Section 2 describes a research paper which investigated the influence of adult attachment styles and the capacity for empathy on health professionals' stigma towards deaf mental health service users and mental health service users and the relationship between implicit and explicit attitudes. The study was conducted online and used explicit self-report measures in addition to the stigma measure, which utilised a randomised vignette design, and implicit attitudes were measured using the Implicit Association Task (IAT). A 2x2 factorial ANOVA conducted on the stigma measure showed a main effect of contact and an interaction effect of contact and vignette. The results indicated that participants with more contact with deaf people were more stigmatising towards hearing people with mental health problems, than deaf people with mental health problems. However, these conclusions are tentative. The implicit and explicit attitudes did not correlate.

Section 3 describes a critical and reflective appraisal of the research project; key stages of the project are discussed including setting up an online study, recruitment, data collection, and data analysis. Personal reflections are considered and suggestions for future research are provided.

# Declaration

This thesis records research undertaken for the Doctorate in Clinical Psychology programme at the Division of Health Research at Lancaster University from December 2015 to March 2020. The work presented here is the author's own except where due reference is made. The work has not been submitted for the award of any higher degree elsewhere.

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## Acknowledgements

Firstly, I would like to thank all the health professionals who participated in the study, who gave their valuable time and contributed to my research; it would not have been possible without them. I would also like to thank all those who shared and supported the study recruitment and advertisements.

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# Contents

Doctorate in Clinical Psychology | Lancaster University

SECTION ONE

Literature Review

# A systematic review of the factors that affect attitudes towards deaf people

Susan Saskia Doak

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# Abstract

*Background.* Negative attitudes towards deaf people have been found to exist within the research and deaf people have reported negative experiences in interactions with hearing individuals.

*Objectives*. Little is known about the factors that affect these attitudes; the aim of the review was to identify and summarise the factors that influence attitudes towards deaf people.

*Method*. A systematic search was conducted using four databases: Academic Search Ultimate, PsycInfo, Cinahl, and Medline. Included studies employed quantitative methodology and investigated attitudes towards deaf people. Excluded studies were those that employed qualitative methodology.

*Results*. Thirteen studies were identified for inclusion. These studies highlighted several factors associated with attitudes towards deaf people, such as gender, age, deaf awareness training, knowledge, and contact with deaf individuals. However, the different measures used to assess attitudes, the reliance on self-report measures and variation in results makes it difficult to generalise the results.

*Discussion*. The most consistent finding emphasised the positive impact of contact with deaf people and deaf awareness training on improving attitudes towards this group, although conclusions are tentative due to varying quality of the studies. The studies highlighted several gaps in the research on attitudes towards deaf people, including intrapersonal and relational factors.

*Practical Value.* Attitudes and attitude change are directly linked to behaviour and understanding these factors is fundamental within clinical psychology; it can inform and shape best practice guidelines that will promote positive attitudes towards deaf people.

According to the World Health Organisation the prevalence rate of global hearing loss in 2018 was estimated at 466 million, which represents 6.1% of the world’s population [1]. The number of deaf people in the United Kingdom (UK) who use British Sign Language (BSL) as their preferred communication method is estimated to range from 50,000 to 100,000 [2]. However, the exact number of people in the Deaf community is unclear due to a confusion between medical and cultural definitions [3]. These differing definitions have been found to influence hearing people’s attitudes towards the deaf population and provide an explanation into the variation in attitudes held by the hearing population and by the deaf community.

The medical definition of deafness is characterised by a loss of hearing and is commonly categorised according to three domains: i) severity, ii) aetiology, and iii) time of onset . Severity refers to the level of hearing (measured in decibels) that an individual can perceive; this can be mild, moderate, severe or profound [4]. Aetiology relates to the causes of deafness and there are several identified causes including genetic, congenital, infectious, traumatic, toxic, age-related, occupational, and other disorders and temporary. Finally, time of onset is divided into two categories: i) pre-lingual or post-lingual which refers to whether hearing loss occurred before or after the onset of language [5]. These are further separated into two categories: profound or partial which is determined by whether an individual has no speech perception through the ears (profound) or some difficulty with speech perception (partial).

Epistemology, which refers to the way in which knowledge is constructed, can offer an explanation into the variation in attitudes; the way information is constructed internally is suggested to be dependent on the beliefs people hold towards certain groups, in this case, deaf people. Lee and Pott [6] describe two major epistemological frameworks which relate to society’s view of deaf individuals and these are described as the cultural perspective and the pathological perspective. The pathological perspective emphasises deficit, and views deafness as a physical condition related to an inability to hear and focuses on loss. In contrast, the cultural perspective of deafness highlights the identity of deaf individuals within a deaf community. Those who identify with the deaf community do not view themselves as disabled or impaired, but part of a cultural group with their own beliefs, behaviours and societal norms [7]; this is known as ‘deaf gain’ and promotes and celebrates the benefits of being deaf [8]. The deaf community uses a capital ‘D’ when referring to Deaf individuals to indicate their cultural and linguistic identity [9] and views deafness as an asset rather than a deficit [10] and emphasises the positive aspects of being deaf. For the purposes of this review, the term deaf will be used to include both those that identify with the deaf community and deaf people who may or may not associate themselves with deaf culture.

Deaf individuals experience challenges in communicating with the world around them; often the individuals’ environment during their early developmental years  is a big factor in their ability to integrate and communicate with society [11]. Deaf children may be encouraged to develop either signed or spoken language, however oral language skills are developed by profoundly deaf children at around half the rate of those exposed to sign language [12]. Deaf individuals may be discriminated against for their communicative preferences, such as using sign language rather than oral language, which can lead to isolation and negative affective states, and can influence deaf individuals’ access to educational opportunities, vocational ambitions, and interpersonal relationships within society [13]. On the contrary, positive attitudes towards deaf people increase acceptance of deaf individuals within society and foster inclusion within healthcare, school and workplace settings [14].

Social identity theory [15] postulates that people belong to many social groups, and the membership of these groups define who they are as an individual. The identities within group memberships can be maintained and enhanced in several ways including stereotyping other groups and self-stereotyping within their own group. Stereotypes are the assumption that members of certain groups share similar attributes and they can be activated in social situations, which subsequently affects intergroup interactions and individual evaluations [16]. When stereotypes involve an assumption of negative attributes, this is usually described as 'stigmatisation' and membership of particular groups can lead to stigmatised identities. Deaf identity, when viewed by others through the pathological perspective, which emphasises deficit and disability, is considered to be part of a stigmatised identity [3]. Within this perspective, deaf people are deviations from the norm of a hearing society, and this can lead to a belief that deaf individuals should be fixed or treated in order to fit into societal norms. This can result in deaf individuals being excluded from society, being evaluated by their impairment or disability alone rather than engaging with them as an individual within society [17]; this is further exacerbated by negative media portrayals of deaf people such as suggestions they are comical, lonely and embarrassing [18].

When stereotypical characteristics are applied to individuals, certain attitudes may develop which can affect the way a person behave towards others [19].Attitudes have been defined as 'a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour' [20, p.582]. If attitudes determine one's behaviour towards a population, then negative stereotypes or beliefs can subsequently affect the quality of life of individuals within a target group [6]. Negative attitudes not only affect the way others interact with deaf people and influences their inclusion in society, but these attitudes can also be internalised by, and affect, deaf individuals' sense of self-worth and development of personality [23, 24]. Research has identified that being deaf can lead to an increased likelihood of developing a mental health problem [25], which may be attributed to these internalised negative attitudes, as well as inappropriate mental health care and treatment for deaf individuals [26]. Research has identified some evidence of negative attitudes towards deaf people [6], which are often argued to be based upon stereotypes regarding the deaf population. Researchers have concluded that stereotypes of deaf people are manifested within the views of the hearing population, such as suggestions that they are not sociable, often isolated and are less likely to have friends; all of which could be attributed to difficulties with communication and integration [29]. There is limited research within identity theory regarding the operation of stigmatised identities such as the deaf identity, particularly regarding the duality of the identity; deaf people are often negatively stigmatised by the hearing population whilst simultaneously being embraced by the deaf community [30].

Research has identified that deaf individuals' attitudes towards their own deafness and their perception of hearing individuals' attitudes towards being deaf are more negative than actual attitudes reported within the hearing population [31, 32]. Correspondingly, deaf people report less positive experiences with hearing people than is reflected within the measured attitudes of the hearing population [33]. These findings can perhaps be explained by considering the effect of meta-stereotypes; these are the stereotypes that individuals believe an outgroup holds about their own group membership; i.e. the perception of the existence of stereotypes targeted towards them [34]. There is research highlighting the existence of negative attitudes towards deaf people, therefore perhaps deaf individuals believe, based on this, that attitudes of the hearing population are less positive towards them [35]. Negative meta-stereotypes may affect intergroup integration, as deaf people may seek to increase the social distance between themselves and the hearing population in order to 'preserve' their deaf identity and increase their sense of belonging in the deaf community [36]. Differing views among the deaf and hearing populations must be considered when trying to understand attitudes towards deaf people and an understanding into the reasons these attitudes may be apparent.

It is argued that being deaf itself does not shape the emotional and social development of deaf individuals [2]; despite difficulties in communication and integration, it is the attitudes of others that have the greatest influence on deaf individuals' personality and self-concept, and therefore their socialisation within communities [37]. Communication barriers exist between deaf and hearing individuals, which can lead to complications within many areas such as education and healthcare settings. A study by Emerton and Rothman [38] found that attitudes among hearing students toward deaf individuals on an integrated deaf-hearing campus decreased over time; attitudes were generally positive before attending, but over a six-month period these became more negative. They argued that the lack of effective communication acts as a barrier to positive integrations and that initial attitudes were based on idealism in education, which subsequently changed due to the reality of confronting social norms within the culture.

Studies have shown that as well as existing stereotypes, amount and quality of contact with deaf individuals, deaf awareness training and knowledge regarding deaf culture are critical factors in attitude development [6]. Research has identified that previous contact with deaf people is related to more positive attitudes towards this group [39], although this is not always the case [40, 41]. In reference to people with disabilities, Yuker [42] concluded that contact with people with disabilities influences the formation of attitudes towards them and that attitudes are more favourable for those who have had a greater frequency of contact [43]. In line with this, exposure to deaf service users in professional settings has been found to have a positive impact on attitudes towards deaf people [36]. However, some studies have been unable to find a relationship between contact with deaf individuals and more positive attitudes [41]. This could be due to methodological limitations or small sample sizes, but also could be due to the variation in how contact is defined and measured. It is clear from the research that proximal contact alone is not enough to improve attitudes [45]; it is argued that there are several conditions in which contact influences attitude formation or change, such as the role and status of the individual with whom contact is experienced [46]. Essentially it is both the quantity and quality of contact that determine the effectiveness of reducing negative attitudes [47] and therefore improving intergroup relations.

Research has shown that a lack of cultural awareness amongst professionals working with deaf individuals, directly affects the quality of healthcare and education provided to those individuals [48]. Professionals who are not adequately educated and trained in deaf culture are unable to respond to the needs of deaf individuals [44, 49]. Healthcare providers who lack an understanding of deaf culture, have reported discomfort when working with deaf service users [50], which may be a result of communication barriers that create anxiety within the interaction. Intergroup anxiety, which occurs when perceived difference drives negative outgroup perceptions [51], may be an important factor in relationships between the deaf and hearing populations and could be contributing to the existence of negative attitudes towards deaf people [52]. In addition to discrimination within healthcare settings, the mainstreaming of classrooms in education settings and the insistence on using spoken language as the primary form of communication has led to isolation within the deaf community [53], which continues into adult life and affects access to services within society.

Training targeting deaf awareness and professionals possessing pre-existing knowledge of deafness and deaf culture has been linked with improved attitudes towards deaf people [44]. The Department of Health [54] recommended that all NHS frontline staff receive deaf awareness training to enable them to respond sensitively and appropriately to the needs of deaf individuals when they are accessing services; however there is limited evidence identifying the implementation and effectiveness of this initiative. Furthermore, deaf awareness training alone is not enough; longitudinal research indicates that the effect of deaf awareness training on improving attitudes reduces over time, therefore a further understanding of the specific skills and experience that professionals need, as well as ways to improve organisational support systems to improve the care for deaf people is imperative.

The current research warrants a greater understanding of the factors that affect attitudes towards deaf people, as it is currently unclear how to effectively improve attitudes towards deaf people. It is of great interest to researchers, practitioners and educators within this field, as greater understanding will lead to better ways of promoting social inclusion and shaping a more culturally competent workforce [6]. There have been no previous reviews, to the author's knowledge that have investigated attitudes towards deaf people, or the factors associated with these attitudes. The current review examines the factors that have been found to affect attitudes towards deaf people and offers further knowledge and awareness surrounding this little researched issue.

## Method

### Search strategy

The reporting guidelines outlined in the 'Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement' [47] were followed in this review (see appendix 1-A). A subject-specific librarian was consulted prior to undertaking the searches in order to develop an effective search strategy. A systematic computerised search of publication databases was conducted on 1st February 2020. Four databases were searched (Academic Search Ultimate, PsycInfo, Cinahl, and Medline) using the search terms which covered three domains (1) Attitudes (2) deaf, deafness, deaf people (3) quantitative methodology. The following keywords were used in each database. ["attitudes" OR "perceptions" OR "opinions" OR "thoughts" OR "feelings" OR "beliefs"] AND ["deaf" OR "deafness" OR "deaf people"] AND ["scale" OR "survey" OR "quantitative" OR "test" OR "questionnaire" OR "assessment" OR "measure" OR "inventory" OR "instrument"]. Relevant MESH terms were utilised in each database and differed depending on which MESH terms were available in each database. Table 1 shows the search terms used in the PsycInfo database search. Searches were restricted to those published in English and in peer-reviewed journals as prima-facie evidence of quality.

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## Selection Criteria

Studies were identified for inclusion if they: (a) employed quantitative methods of analysis (b) explored attitudes towards deaf people. Studies were excluded if they: (a) focussed only on attitudes of deaf people towards an unrelated topic; (b) focussed on attitudes towards an aspect of deafness e.g. genetic testing, but not deaf people; (c) focussed on language perception (d) reported characteristics of deaf people only; (e) focused on medical studies or related to physical health or quality of life of deaf people only; (f) the paper did not describe empirical data e.g. opinion articles or grey literature.

## Search results and study selection

The titles and the abstracts were reviewed in the initial screening for relevant papers, and the entire articles were retrieved if it was apparent that the study involved quantitative data regarding attitudes towards deaf people. The searches identified 3834 studies, once duplicates were removed this left 2781 studies that were considered for inclusion. After inclusion and exclusion criteria were applied 12 studies were identified for inclusion. The reference lists of identified studies were also searched by hand to identify any other studies that may have been appropriate for this review. This resulted in one further study being identified and included in the review. In total 13 papers were included in the review. See figure 1 for flow chart of study eligibility [56].

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Insert Figure 1 here

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## Study quality assessment

All studies included in the review were rated for quality using the NICE (National Institute for Health and Care Excellence) quality appraisal checklist – quantitative studies reporting correlations and associations [58]. This tool was chosen as it is appropriate, clear and comprehensive and provides a framework to view the results of the included studies in context. The checklist was originally developed to assess the validity of studies reporting correlations and is based on the appraisal step of the ‘Graphical appraisal tool for epidemiological studies (GATE)’ developed by Jackson et al. (2006) [59]. The tool enables the reviewer to assess internal and external validity based on different aspects of the study such as participants characteristics, definition of independent variables, outcomes and analyses with an overall rating provided for each study.

There were 16 questions across four sections; each one was rated on a scale based on minimisation of bias with five possible responses. ++ suggested that the study had been designed and conducted in a way that minimised bias, + suggested that either it was not clear from the study, or that the study may not have addressed all possible sources of bias, - suggested that those aspects of the study indicated potential sources of bias, NR (not reported) suggested that study fails to report the consideration of bias, NA (not applicable) suggested that the aspect was not applicable given the study design. The final two summary questions which assessed overall internal and external validity had three possible responses. ++ indicated that all or most of the checklist criteria were fulfilled and the conclusions were unlikely to alter, + indicated that some of the checklist criteria had been fulfilled, where not fulfilled the conclusions were unlikely to alter, - indicated that few or no checklist criteria had been filled and the conclusions were likely to alter.

One main reviewer assessed the studies using the quality appraisal checklist and a second reviewer assessed 31% (*n* = 4) of the studies; the scores were then crossed checked, with any discrepancies discussed, and a mutually agreed score for each study was given to increase reliability. See Table 2 for the quality assessment ratings and see appendix 1-B for the quality appraisal criteria.

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Insert Table 2 here

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**Study synthesis**

The study followed the steps outlined by Boland, Cherry and Dickson [55] relating to data extraction and synthesis (see table 3). The steps were followed to guide the data extraction; see table 4 for the data extraction table. The results of the studies did not meet the criteria for conducting a meta-analysis [55], therefore the data was synthesised in line with previous research evidence using a narrative approach. The four main elements of conducting a narrative synthesis outlined by Popay et al. [56] were used to guide the process (see table 5). 1. The first element involved understanding how the different factors influenced attitudes towards deaf people. 2. The second element included the data extraction process and the development of a table of characteristics which grouped the findings of the included studies in relation to relevant factors. 3. The factors were then grouped together based on the research evidence and the relationship between the variables were explored. 4. The quality assessment tool was used to assess the robustness of the synthesis and conclusions were drawn in line with the research evidence.

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Insert Table 3 here

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**Study characteristics**

See table 6 for the main study characteristics. Most of the studies were carried out in the USA [6, 28, 36, 57,58] and the UK [27, 40, 59, 60]. Other studies were conducted in Greece [61, 62] Serbia [63] and Italy [32]. All the papers utilised a cross-sectional design, although one study included a longitudinal aspect [60]. The average participant sample size across 13 studies was 151 but there was a considerable range (54-281). Examination of the studies that reported age ranges revealed an average participant age of 31 years. Two studies did not report overall gender distribution [57, 62 ], but out of the remaining eleven studies that did, 56 percent of participants were female. Three studies included deaf participants [27, 28, 61].

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Insert Table 6 here

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## Results

### Quality Assessment

The quality assessment was used to evaluate the quality of the articles included in the review and as a framework to view the results, the quality assessment was not used to exclude articles. Only one of the 13 articles reviewed received the highest rating for both internal and external validity [62]. Two articles received two negative ratings for both internal and external validity which suggests that the minimisation of bias in these studies was inadequate [28, 63]. A further two studies received a single negative rating for external validity [57, 60]. All the other studies received at least one positive rating or the highest rating for either or both components. This suggests that the overall quality of the papers can be considered as moderate as such it was considered appropriate to include all the identified papers in the review.

In relation to the aspect regarding study population, the majority of the studies (n = 10) received a rating of + or ++ for the aspect relating to whether the eligible population was representative of the source population suggesting that although there may have been some potential bias, the conclusions were unlikely to alter.

All the studies used a cross-sectional design, with only one study including a longitudinal element [60]. This suggests a limitation within the studies relating to causality as cross-sectional designs are not able to distinguish between cause and effect [64].

### Measures

The Attitudes to Deafness Scale [65] was the most widely used measure in the studies to assess attitudes towards deaf people. However, the original scale only included questions pertaining to equality and ability; it has since been further adapted to include cultural and linguistic issues [66]. The updated measure includes twenty-two questions on a six-point Likert scale, in which respondents indicate the extent to which they agree or disagree with statements. Many of the studies utilised self-developed measures of attitudes towards deaf people, which highlights the variation in results and subsequent conclusions. All the measures within the studies were evaluated as part of the quality assessment, based on reliability and validity, and there was a variation in scores suggesting many of the measures did not sufficiently reduce bias.

### Sociodemographic factors

Several studies investigated whether sociodemographic factors affected attitudes towards deaf people. Gender was found to influence attitudes in five of the studies [28, 32, 40, 57, 58]. All five studies reported that females had significantly more positive attitudes than males. One study identified gender differences, but only in students attending Gallaudet College (a deaf college) [28]. Females scored significantly less negatively than males at Gallaudet College, whereas there were no gender differences found in students attending other colleges; however, this study was rated low on internal and external validity as part of the quality assessment which reduces the generalisability of the results. Four of the studies also reported the effect of gender on attitudes, but these results were not significant [27, 36, 61, 62]. Four studies did not investigate or report gender effects [6, 59, 60, 63].

Age was investigated in several of the studies to determine the effect on attitudes towards deaf people [6, 27, 28, 36, 40, 62]. However, only one study found a significant effect of age on attitudes [40]. This study was specifically on health professionals and represented a greater range in ages of participants. The result showed that age had a negative correlation with attitudes; in other words, the older the participant, the less positive the attitudes. The other five studies reported the effect of age on attitudes to be not significant [6, 27, 28, 36, 62]. Six of the studies did not investigate or report age effects [32, 57-61]. Some of the studies investigated other sociodemographic characteristics (such as marital status, employment status, and education level) as part of the analysis, but none of these studies reported significant results.

### Deaf awareness training

Five of the studies investigated the effect of training and knowledge on attitudes towards deaf people [36, 40, 59, 60, 62]. In one of the studies, results indicated that training in deaf issues had a significant positive correlation with attitudes [40]. Those who reported having received specialist training in deaf awareness had more positive attitudes than those without the specialist training, but it is noted that only 28 of the participants (23.1%) had received such training and training content was not defined. The same study did not find an association between previous knowledge of deafness and attitudes; previous knowledge was assessed using 10 multiple-choice questions designed to assess participants’ knowledge of deafness covering areas such as prevalence, aetiology and measurement of deafness. In another of the studies, the results showed that mental health professionals who had specialist deaf awareness training had more positive attitudes towards deaf people than those who had not [59]. In contrast to the previous study, this study found that knowledge was also associated with more positive attitudes towards deaf people; mental health professionals with more knowledge of deaf issues had more positive attitudes towards deaf people. However, the study noted with further analysis on the knowledge scores that they were lower than what would have been expected by chance. The author’s interpretation of this finding suggests that in the knowledge measure most participants made incorrect assumptions about deaf people in their responses, but these scores must be considered in the context of the validity of the measure, which was self-developed for the purposes of the research. Furthermore, in another study, the participants of which were nurses, education on deafness was not significantly correlated with attitudes, but was significantly correlated with knowledge about deafness [62]. Those who had received deaf awareness training, had more knowledge about deafness and deaf issues; knowledge was similarly assessed using 13 multiple choice questions including questions pertaining to deaf rights, communication methods and sign language. Deaf awareness training in this study was a score based on previous participation in courses on being deaf or sign language, work experience at institutions or departments related to deaf people, or close contact with hearing persons learning sign language. Therefore, it follows that those who scored higher in the deaf awareness training domain achieved higher knowledge scores related to deaf people. Another study assessed medical students enrolled on a specific deaf awareness training course named ‘Sign Language and Communication Tactics’ using a pre and post-test design, and results indicated that medical students enrolled on these courses obtained higher knowledge scores and reported more positive attitudes in comparison to medical students not enrolled on those courses [60]. The effect was tested further by comparing those who had recently completed the course and those that had previously completed the course and although there was no significant difference between these two groups, there was a significant negative correlation between years since completing the course and the attitudes score. The fifth study which investigated the effect of knowledge on attitudes found no significant differences between physicians’ attitudes towards deaf and hearing patients based on knowledge [36].

A further study investigated the effect of information on attitudes towards deaf people [57]. The study involved providing hypothetical vignettes of target individuals who were labelled as deaf or labelled *and* described as deaf and compared these to non-deaf vignettes. The non-deaf and deaf-label vignettes were identical except for the inclusion of the deaf label. The study found that participants reported more positive attitudes towards individuals described in the deaf-label condition than in the deaf-description condition.

### Contact

Contact with deaf people was another area of interest in the research and many of the studies investigated the effect of contact with deaf people on attitudes towards this population [27, 40, 58, 62, 63]. Four studies found a significant effect of contact on attitudes towards deaf people [27, 40, 58, 63]. One of these studies found that only equal or higher status contact was sufficient to influence attitudes [40]; the study reported that attitudes were significantly positively correlated with those who reported previous contact with a deaf person (who was of equal or higher status), but not with amount of contact or lower status contact. The study used a measure to determine contact with deaf people within different types of relationships which included friends, relatives, equal/higher status colleagues, lower status colleagues and a category for ‘other’. These were then grouped into three categories by the researchers: total contact, equal/higher status contact and lower status contact. The study does not report how these groups were defined; therefore it is not possible to determine the validity of the analysis. It is noted that there was no significant correlation between total amount of contact or lower status contact and attitude scores. Further analysis within this study split the respondents into two groups to test if there was any evidence for the cognitive processing theory of attitude change [67]. The theory suggests that disconfirming information acquired during a contact experience, must be ‘typical’ of the outgroup member in order for outgroup attitudes to change. The first group were those who had experienced equal or higher status contact and experienced the relevant cognitive process (i.e. the experience was positive and they reported that the deaf individuals were seen as being representative of deaf people as a group) and the second group were made up of responses that indicated they had not experienced the cognitive process. However, types of contact did not yield significant results in this analysis; there was no significant difference in attitude scores between these two groups. Another study found that contact with deaf people had a significant effect on attitudes towards this population, however it must be noted that this study scored low on the quality appraisal for both internal and external validity [63]. The study identified that proximity to a deaf institution correlated with contact with deaf individuals and reported that both adults and children with the most contact with deaf individuals had more positive attitudes towards deaf people compared to those with the least contact with deaf people. In line with this, another of the studies identified that the amount of contact with deaf people was associated with less stereotyped and more realistic attitudes to this population [27]. Furthermore, another study highlighted the role of contact on attitudes towards deaf people [58]. Not only did it find a significant positive correlation between contact and attitudes, it also identified that contact mediated the relationship between intergroup anxiety and negative attitudes. The effect of intergroup anxiety became non-significant when contact was included in the mediation analysis. This finding was in the study that was rated as one of the highest on the quality assessment for internal and external validity which suggests it may be generalisable. Only one other study investigated the effect of contact on attitudes [62]; additionally, this study was rated highest in the quality assessment, so it contributes evidence to the knowledge base. However, there was no significant correlation between contact and attitudes in this study suggesting there was a lack of effect in a more robustly designed study. It did find, however, that contact with deaf patients had a significant correlation with nurses' 'self-efficacy' in caring for deaf patients. Those who had more contact with deaf patients, felt better able to care for them. The other studies in this review did not investigate or report the effect of contact on attitudes [6, 28, 32, 36, 57, 61]. The results provided evidence for an effect of contact on attitudes, but there is a variation in both the results and quality of the evidence which suggests there may be other factors involved in the association between contact and attitudes.

### Additional factors

Further factors (course type and meta-stereotypes) and their influence on attitudes were also considered in two specific studies [6, 32]. One study found that the type of course respondents were studying affected attitudes to deaf people [6]. It identified that students who were taking American Sign Language (ASL) courses held fewer negative attitudes than those completing a general major. In addition, reasons for taking a Deaf culture course or ASL course affected attitudes towards deaf people. More specifically, those taking the courses as a program requirement held fewer negative attitudes than those who were taking the course for language credit. This may be related to the perspective that these individuals hold regarding deafness; those taking the course for a program requirement and doing a course in ASL or Deaf culture had a less medical and more cultural perspective regarding deafness and had more exposure to the deaf population. However, this study involved measurement of both positive and negative attitudes and found no significant effect of the reason for taking the course on positive attitudes. Positive and negative attitudes were measured within the same scale (an adapted version of the Opinions about Deaf People scale) and the lack of significant findings relating to positive attitudes might be explained by the reliability of the measure. The effect of meta-stereotypes was found to affect attitudes in another study, but they only found a significant effect in female participants [32]. When positive meta-stereotypes were presented, women responded more positively than when negative meta-stereotypes were presented. However, no significant effect of meta-stereotypes was found in male participants.

### Hearing status of participants

Three of the studies included deaf participants [27, 28, 61]. One of the studies investigated both hearing individuals' and deaf individuals' attitudes [61]. The study found that deaf adults who communicated in sign language and hearing adults who attended sign language courses had more positive beliefs than deaf individuals who communicated orally and hearing adults who did not attend sign language courses, although they highlighted that the overall attitudes of all participants were relatively positive. Another study asked deaf participants to respond as if they were a hearing person, in order to collect information regarding perceived attitudes [28]. Hearing participants reported less negative attitudes towards deafness than deaf participants. The authors highlighted that deaf individuals reported significantly more negative attitudes than was conveyed in the hearing sample. This study scored lowest overall on internal and external validity in the quality assessment so these results must be interpreted with caution. Correspondingly, another study that included deaf participants found that deaf respondents were more negative about deafness than the hearing respondents [27]. In addition, deaf respondents were less accurate in predicting the attitudes of hearing individuals. These results suggest that deaf participants believed hearing attitudes to be more negative than was reported by hearing participants.

## Discussion

This review aimed to investigate the factors that affect attitudes towards deaf people. Factors that were investigated include sociodemographic factors such as gender and age; the influence of deaf awareness training; intergroup relationships including intergroup anxiety and contact with deaf people; and differences based on the hearing status of participants. The review identified several factors that influence attitudes; however, the overall results are mixed and therefore conclusions are tentative.

Whilst significant gender differences were found in some of the studies, many of the studies failed to find significant gender effects. Interestingly, gender effects that were identified as significant were all in the same direction; female respondents were more positive towards deafness than male respondents. One study highlighted differences, not only by gender, but by social dominance orientation, which suggested that males interact in more socially dominant ways [58]. In fact, it argued that males communicate with various social groups in more socially dominant ways, particularly towards disabled groups in general [68]. This gender difference in communication may explain attitudes towards outgroups, in this case, deaf people, however it may reflect individual differences between males and females that would require further research.

Only one study found a significant effect of age on attitudes towards deaf people [40]. Older participants held more negative attitudes towards deaf people than younger participants, which corresponds with research suggesting that stereotypical and prejudicial attitudes towards outgroups develop with age [69]. The lack of significant findings in other studies to support this notion, suggests that further research into the effect of age on attitudes is required. However, it must be noted that many of the samples included only students, which would suggest the age range was limited, therefore including participants with wide-ranging ages would be most appropriate for future research. Considering that age was only found to have a significant effect in one of the studies, maybe this is another reflection of individual differences, like gender, which requires further exploration.

Despite some significant findings regarding deaf awareness training, it is not possible to draw conclusions due to the variation in results. Three studies found a significant positive correlation between deaf awareness training and attitudes [40, 59, 60], however, in two of these studies only a small percentage of participants had completed the training and the training type and content varied across all of the studies [36, 40, 59, 60, 62]. In another study, although the effect of previous knowledge of deafness on attitudes was not significant, such training was associated with increased knowledge and increased self-efficacy in caring for deaf patients [62]. This is a clinically relevant finding; if increased self-efficacy occurs with effective deaf awareness training, then this may improve the care that deaf people receive from health professionals and similarly may improve the communication and interactions between deaf people and professionals leading to more positive attitudes. This highlights the overall importance of training and knowledge in improving attitudes and services, however deaf awareness training was not found to be effective in all the studies so is clearly not enough on its own in improving attitudes towards deaf people. Several studies did not investigate the influence of training or knowledge on attitudes specifically, suggesting that further research on the impact of training and knowledge is needed.

In addition to training and knowledge, one of the studies conducted in the USA highlighted the importance of information on attitudes and found that people described as deaf are subject to more negative attitudes than those only labelled as deaf [57]. These negative attitudes could occur due to descriptions of specific disabilities (being deaf) within the vignettes producing more stereotypical aspects of the individual and making outgroup membership more apparent [42]. The deaf-label condition did not specifically describe any disability within the vignette, which may have suggested deaf individuals do not have interpersonal difficulties, which resulted in more positive attitudes. However, the authors highlight that the effect was not strong and further research is needed to understand the interpersonal factors that explain attitudes within this context.

One of the most widely examined areas of interest in attitude research was the effect of contact. In this review, contact was found to have an influence on attitudes towards deaf people in many of the studies [27, 40, 58, 63] which were conducted in the UK, USA and Serbia. All the significant findings identified overall that increased contact with deaf people was associated with more positive attitudes towards this group. This is in line with a wealth of research into ingroup and outgroup relationships and the effect of contact on attitudes and behaviour towards outgroups [70]. As deaf people are within a linguistic and cultural minority, others may consider them to be part of an ‘outgroup’ [40]. Research within psychology widely uses the terms ‘ingroup’ and ‘outgroup’ when investigating relationships between different groups. Outgroup membership often leads to negative evaluations and attitudes from other individuals but contact between groups has been found to significantly reduce negative attitudes. It is suggested that this relates to the concept of familiarity; it has been proposed that familiarity is less likely to lead to distrust and resistance [63]. Therefore, contact with outgroup members reduces negative attitudes because it provides contradictory information regarding typical negative stereotypes and enables similarities to be recognised between individuals. In other words, contact allows for the unfamiliar to become familiar and the need for social distance is lessened [63]. This theory is in line with the cognitive processing model of attitude change which highlights that for contact with an outgroup member to be effective in reducing negative attitudes, individuals must have viewed the contact experience as positive and considered the disconfirming information to be ‘typical’ of the group as a whole [67]. In other words, those who experienced contact with deaf people will only hold more positive attitudes towards them if they valued the contact experience and it changed their view of the deaf population. However, although this supports the general literature on intergroup attitudes, it does not explain why one of the most robust studies reported no effect of contact on attitudes towards deaf people [62].

Only three of the studies included in this review involved deaf participants and represented the attitudes of this population. Understanding the different perspectives of both the deaf and hearing population is important when considering the development and reinforcement of stereotypical and negative attitudes towards the deaf population. The findings suggest that deaf respondents perceive the attitudes of hearing individuals to be more negative than is reported by hearing participants [27], however, socially desirable responses must be considered when trying to understand this finding. For example, one of the studies investigated both deaf and hearing individuals' attitudes towards deafness but highlighted that hearing respondents may have been unrealistically positive regarding their attitudes, perhaps reflecting how they think they would behave towards a deaf person in real life [27]. Self-reported measures are subject to response bias and rely on respondents giving accurate accounts of their attitudes and may not be a true reflection of their attitudes towards deaf people [71]. In addition, previous research has highlighted that deaf people assume attitudes of the hearing population towards them are more negative than has been reported in the literature [27]. Therefore, in these studies, deaf individuals' responses may be overly negative due to low self-esteem and poor self-concept and hearing individuals' responses may be overly positive due to lack of actual contact with deaf people leading to hypothetical responses.

## Clinical implications

Understanding the varying nature of attitudes towards deaf people and the underlying mechanisms as to why negative attitudes towards this group may exist is of fundamental importance. Firstly, it provides information about the link between attitudes and behaviour, as well as, ways in which targeted strategies can be used to promote attitude change and behaviour change. There is some evidence for deaf awareness training and contact with deaf people in improving attitudes towards this group, however, clearly there are much more complex mechanisms involved in the formation of these attitudes. Although, contact has been found to improve attitudes, given that equality of contact is an important factor in improving attitudes [72], it may be a difficult intervention to implement within health services or within the general population; likewise deaf awareness training is so varied in nature, that it is difficult to highlight the most effective way to improve these attitudes. However, one study found that deaf awareness training improved nurses' self-efficacy in caring for deaf people which suggests that such training is a valuable tool within organisations, which may not directly improve attitudes, but may improve the care that deaf people receive. Further investigation into practical and effective ways to improve attitudes towards deaf people must be sought.

This review has found some evidence for stigmatisation of deaf people; stereotypical characteristics of deaf people have been applied by the hearing population and affected the resulting attitudes towards this group. Reducing the existence of stereotypes and therefore stigma towards this group is important and may be a societal issue rather than at an individual level. Interventions targeting increased contact and education to improve attitudes and reduce stigma have been found in previous studies in relation to mental health stigma and shown small to medium effect sizes in reducing stigma in the short-term towards this group [73]. However, this alone would not improve attitudes towards deaf people as the results indicate a wide variation in effects. Therefore, further research into the effect of individual differences and social factors, as well as targeted interventions to reduce stigma and negative attitudes towards deaf people, would be valuable. Understanding attitude formation and reinforcement has practical implications in the field of education and healthcare provision for deaf people and ensuring this group receives equality of rights [63].

## Limitations and further research

Using self-report measures has been more recently criticised because they are subject to response bias and rely on introspection, therefore conclusions based upon these measures must be considered carefully [71]. Furthermore, research on the effect of the various factors considered in this review on attitudes are largely provided by cross-sectional data; causal relationships cannot be determined, therefore longitudinal research into the long-term impact of these variables on attitudes is necessary.

The papers varied in quality and were estimated overall as only moderate quality, therefore it is not possible to generalise the results or draw significant conclusions. Additionally there were several methodological limitations when considering the overall results, particularly considering that the selected studies did not fulfil the requirements for a meta-analysis, which emphasises the wide variation in methodology and therefore cannot provide firm conclusions.

It is important to highlight methodological limitations when considering the overall results; several studies had an uneven group distribution within the sample e.g. gender and hearing status; therefore, any conclusions must be considered in this context. The search terms should be considered as a limitation because certain search terms were missing i.e. stigma and discrimination, therefore, it is likely that some papers were missed. It is clear there is a wide variation in the measures used within the studies in this review, specifically those that measure attitudes, which contributes to an unclear narrative regarding attitudes towards deaf people. Some of the attitude measures focused on the capabilities of deaf individuals, whilst others focused on opinions or beliefs about deafness and deaf people. Clearly, there is a difference between understandings relating to the capabilities of deaf people and more general judgements regarding favour or disfavour towards those individuals, whether these views are based on stereotypes or not. This wide variety in the measures suggests further research investigating specifically negative attitudes such as stigma towards deaf people may be the most appropriate for further research. Stigma is argued to be a negative perception of an individual or group based on stereotypical characteristics [74] and this is the most imperative matter that must be addressed in order to enable deaf individuals, who can be considered as a marginalised group, to be treated equally by society.

## Conclusion

The review identified several factors (gender, contact, training and knowledge on deaf issues and meta-stereotypes) that may influence attitudes; however, the overall results are mixed and therefore conclusions are tentative. However, there is some evidence for contact with deaf people and deaf awareness training to be utilised in order to improve attitudes towards these individuals, however longitudinal research into lasting effects is lacking and the association between contact and attitudes requires further exploration due to conflicting findings. Previous research on intergroup attitudes, particularly towards those with disabilities, emphasises that there may be several additional factors not identified within this review, which contribute to the variation in attitudes [14] and might provide further explanation into the mixed findings relating to the association between contact and attitudes. In particular individual differences, empathy, communication, competence and openness have been suggested as factors that may influence attitudes towards people with disabilities [14], therefore factors such as attachment and the capacity for empathy and compassion should be considered in relation to the deaf population. Furthermore, given the limitations of self-report measures and the lack of understanding of perceptions related to deaf people, other methods such as implicit measures should be considered. Considering the mixed results within this review, the current gaps in the research literature regarding attitudes towards deaf people must be addressed in order to understand the complexities of these existing attitudes.

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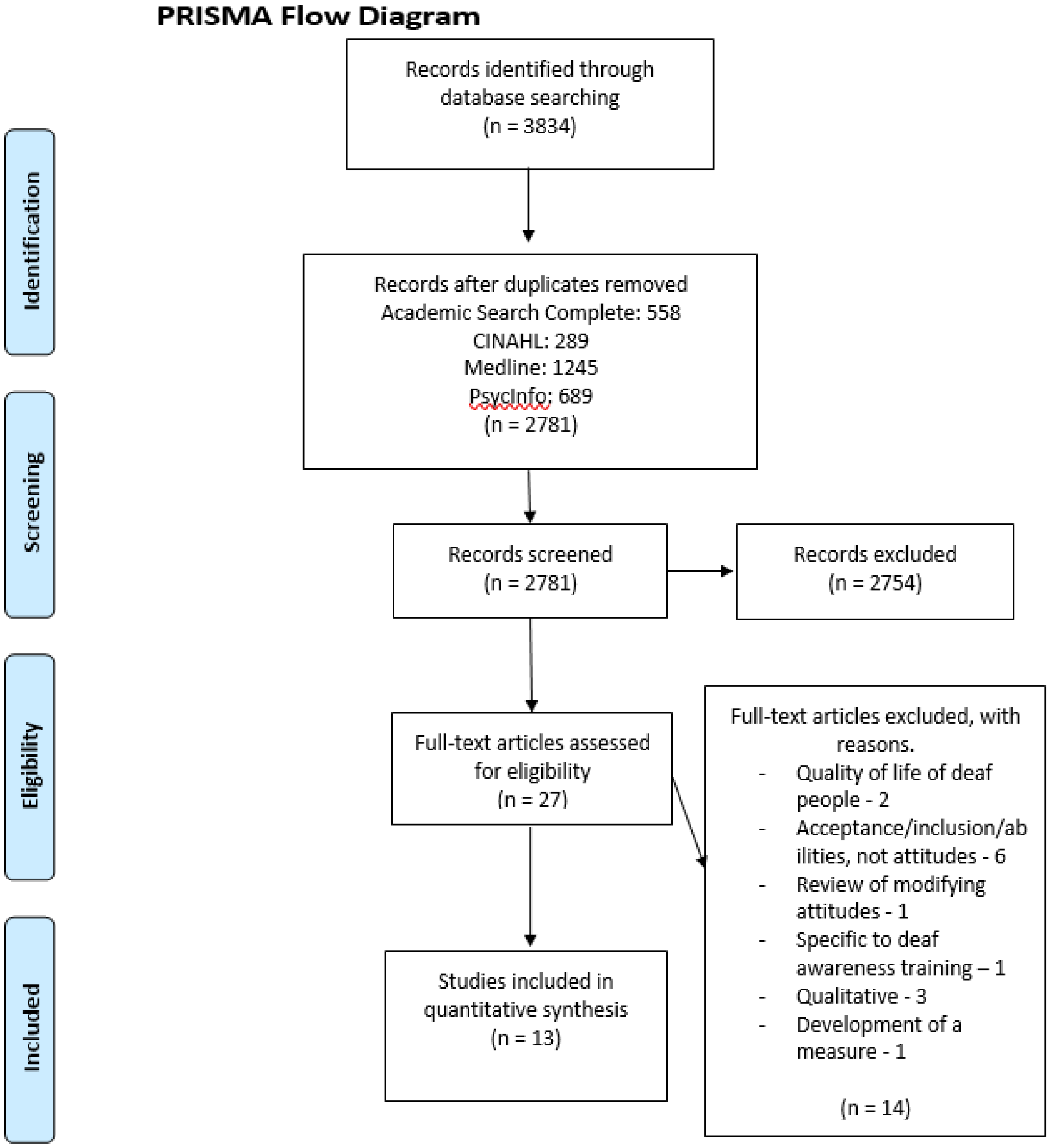
**Figure 1**. Study eligibility flow chart



*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

**Table 1** - Search terms used in PsycINFO database search

| Population | Design | Content |
|---|---|---|
| Deafness | Quantitative | Attitudes |
| Subject headings | Keywords | Subject Headings |
| Deaf | scale | Attitude change |
| | survey | Attitude formation |
| | questionnaire | Attitude measurement |
| Keywords (TI/AB) | test | Attitude measures |
| deaf* | assessment | Attitudes |
| deafness | measure | Stigma |
| "deaf people" | inventory | Stereotyped attitudes |
| | Instrument | Stereotyped behavior |
| | quantitative | Keywords (TI/AB) |
| | | Attitude* |
| | | perception* |
| | | opinion* |
| | | thought* |
| | | feeling* |
| | | belief* |

Relevant subject headings were used in each database using MESH terms therefore each database search terms were different based on which MESH terms were available.

**Table 2** – Quality assessment ratings (NICE, 2018)

| Study | 1.1 | 1.2 | 1.3 | 2.1 | 2.2 | 2.3 | 2.4 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 4.1 | 4.2 | 4.3 | 4.6 | Total Internal Validity | Total External Validity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bartlett (2018) | + | + | + | NA | ++ | NA | + | + | + | NA | NA | NA | ++ | + | - | ++ | + | + |
| Cooper, Rose & Mason (2003) | + | + | NR | NA | + | NA | + | - | - | NA | NA | NA | + | + | + | ++ | + | + |
| Dimoski et al. (2013) | - | - | - | NA | + | NA | - | - | NR | NA | NA | NA | + | - | + | ++ | - | - |
| Furnham & Lane (1984) | + | ++ | + | ++ | + | NA | NA | - | NR | NA | NA | NA | - | + | + | ++ | + | + |
| Gilmore et al. (2019) | - | + | + | NR | - | NA | - | + | + | + | ++ | + | - | - | + | + | + | - |
| Kottke et al. (1987) | + | - | - | NA | + | NA | + | + | NR | NA | NA | NA | + | + | + | + | + | - |
| LaBelle et al. (2013) | ++ | + | - | NA | ++ | NA | + | + | NR | NA | NA | NA | + | ++ | ++ | ++ | ++ | + |
| Lee & Pott (2018) | ++ | + | - | NA | + | NA | + | + | NR | NA | NA | NA | + | - | - | + | + | + |
| Matera et al. (2015) | + | + | + | ++ | ++ | ++ | + | - | NR | + | NA | NA | + | - | + | + | + | + |
| Nikolaraizi & Makri (2005) | + | + | + | NA | + | NA | + | + | NR | NA | NA | NA | - | - | + | + | + | + |
| Ralston, Zazove & Gorenflo (1996) | ++ | + | - | NA | + | NA | ++ | - | - | NA | NA | NA | + | - | + | + | + | + |
| Schroedel & Schiff (1972) | + | - | - | NA | + | NA | - | + | NR | NA | NA | NA | + | - | - | + | - | - |
| Velonaki et al. (2015) | ++ | ++ | ++ | NA | + | NA | + | + | ++ | NA | NA | NA | ++ | ++ | + | ++ | ++ | ++ |

**Questions:** The NICE quality appraisal checklist – quantitative studies reporting correlations and associations (p. 200 - 205; 2018)

## Section 1: Population

1.1 - Is the source population or source area well described?
1.2 - Is the eligible population or area representative of the source population?
1.3 - Do the selected participants or areas represent the eligible population or area?

## Section 2: Method of selection of exposure (or comparison) group

2.1 - Selection of exposure (and comparison) group. How was selection bias minimised?
2.2 - Was the selection of explanatory variables based on a sound theoretical basis?
2.3 - Was the contamination acceptably low?
2.4 - How well were likely confounding factors identified and controlled?
2.5 - Is the setting applicable to the UK?

### Section 3: Outcomes

3.1 - Were the outcome measures and procedures reliable?
3.2 - Were the outcome measurements complete?
3.3 - Were all important outcomes assessed?
3.4 - Was there a similar follow-up time in exposure and comparison groups?
3.5 - Was follow-up time meaningful?

### Section 4: Analyses

4.1 - Was the study sufficiently powered to detect an intervention effect (if one exists)?
4.2 - Were multiple explanatory variables considered in the analyses?
4.3 - Were the analytical methods appropriate?
4.6 - Was the precision of association given or calculable? Is association meaningful?

### Section 5: Summary

5.1 - Are the study results internally valid (i.e. unbiased)? – **Total Internal Validity**
5.2 - Are the findings generalisable to the source population (i.e. externally valid)? – **Total External Validity**

**Scale**
++ indicates that for that particular aspect of study design, the study has been designed or conducted in such a way to minimise the risk of bias.

+ indicates that either the answer to the checklist question is not clear from the way the study is reported, or that the study may not have addressed all potential sources of bias for that particular aspect of study design.
- should be reserved for those aspects of the study design in which significant sources of bias may persist.

NR not reported should be reserved for those aspects in which the study under review fails to report how they have (or might have) been considered.

NA not applicable should be reserved for those study design aspects that are not applicable given the study design under review.

**Table 3 showing the key steps to consider when extracting data from studies**

| Key steps to consider when extracting data from studies | |
|---|---|
| Step 1 | Identify the data you want to extract |
| Step 2 | Build (and pilot) your data extraction form and data extraction tables |
| Step 3 | Set out plans for working with others (if appropriate) |
| Step 4 | Decide when you are going to carry out the data extraction and where you will store the extracted data |
| Step 5 | Complete your data extraction tables |
| Step 6 | Report your extracted data in your thesis |

**Table 4. Data extraction table**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | Result |
|---|---|---|---|---|---|---|
| Bartlett (2018) | Knowledge about deafness | AD - Attitudes towards deafness scale | r = 0.41 | | p <.001 | More knowledge = more positive attitudes |
| | Deaf awareness training | AD - Attitudes towards deafness scale | | t = -3.05 | p <.001 | More training = more positive attitudes |
| | Deaf awareness training | Knowledge about deafness | | t = -4.07 | p <.01 | More training = more knowledge |
| | Years since taking course | AD - Attitudes towards deafness scale | -0.29 | | p <.05 | Years since taking course negatively correlated with attitudes |

**Table 4 cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | Result |
|---|---|---|---|---|---|---|
| Dimoski, Eminovic, Stojkovic and Stanimirovic (2013) | Contact - children | Attitudes towards persons with hearing impairments scale (author developed) | | t = 3.79 | p <.001 | More contact = more positive attitudes |
| | Contact - adults | Attitudes towards persons with hearing impairments scale (author developed) | | t = 3.46 | p < .001 | More contact = more positive attitudes |
| Furnham and Lane (1984) | Deafness (hearing and deaf, self and other) | ATDP scale - Attitudes towards deaf people (modified) | | F = 8.36 | p < .01 | Deaf respondents more negative about deafness than hearing respondents |
| | Gender | ATDP scale - Attitudes towards deaf people (modified) | | | Not significant | |
| | Age | ATDP scale - Attitudes towards deaf people (modified) | | | Not significant | |
| | Contact | ATDP scale - Attitudes towards deaf people (modified) | | F = 7.28 | p < .01 | Amount of contact was associated with more realistic and less stereotyped attitudes to the deaf. |

**Table 4. cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | Result |
|---|---|---|---|---|---|---|
| Gilmore et al. (2019) | Knowledge about deafness | AD - Attitudes towards deafness scale | | | Not significant | |
| | Deaf awareness training | AD - Attitudes towards deafness scale | | (not reported) | p < .05 | Training = more positve attitudes |
| | | AD - Attitudes towards deafness scale | r = -.29 | | p < .05 | Longer time since training = less positive attitudes |
| Kottke, Mellor and Schmidt (1987) | California F Scale - authoritarianism | AD - Attitudes towards deafness scale | | F = 3.40 | p < .05 | Deaf description condition = least positive |
| | Information - deaf-label and deaf description | AD - Attitudes towards deafness scale | | F = 5.04 | p < .01 | More positive attitudes in the deaf-label condition than deaf-description condition or non-deaf condition |
| | IJS - Interpersonal Judgement Scale | AD - Attitudes towards deafness scale | | | Not significant | Information did not affect interpersonal acceptance of deaf people |
| | Gender | ATDP - Attitudes towards disabled persons scale | | F = 11.96 | p < .001 | Higher interpersonal acceptance of the female target |

**Table 4. cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | Result |
|---|---|---|---|---|---|---|
| LaBelle, Booth-Butterfield & Rittenour (2013) | Intergroup Anxiety | ATDP - Attitudes towards disabled persons scale (modified for deaf people) | r = .14 | | p < .05 | Higher intergroup anxiety, more negative attitudes |
| | Social Dominance Orientation | ATDP - Attitudes towards disabled persons scale (modified for deaf people) | r = .38 | | p<.001 | Social dominance meant more negative attitudes |
| | Contact | ATDP - Attitudes towards disabled persons scale (modified for deaf people) | r = -.29 | | p < .01 | More contact = more positive attitudes |
| | Gender | ATDP - Attitudes towards disabled persons scale (modified for deaf people) | | t(208) = 6.66 | p < .001 | Females more positive than males |
| | Course Type | ATDP - Attitudes towards disabled persons scale (modified for deaf people) | | t(214) = 6.89 | p < .001 | Specialised courses = more positive attitudes than general courses |

**Table 4. cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | |
|---|---|---|---|---|---|---|
| Lee & Pott (2018) | | Perpectives | | F = 7.66 | p<.05 | Cultural model of deafness accepted more by deaf culture courses than ASL courses |
| | Course Type | OPD - The Opinions about deaf people scale | | | Not significant | |
| | Age | OPD - The Opinions about deaf people scale | | | Not significant | |
| | Perspectives | OPD - The Opinions about deaf people scale | r = .52 | | p < .01 | Cultural perspective = more positive attitudes, pathological perspective = more negative attitudes |

**Table 4. cont**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | |
|---|---|---|---|---|---|---|
| Matera, Verde and Meringolo (2015) | Gender | Attitudes toward people with deafness - semantic differentials | | $F = 10.53$ | $p < .01$ | Females more positive attitudes than males |
| | | Emotions towards people with deafness | | $F = 4.67$ | $p < .05$ | Females more positive emotions than males |
| | Metastereotypes | Attitudes toward people with deafness - semantic differentials | | $F = 3.83$ | $p < .05$ | Females more positive attitudes when positive metastereotypes were activated. No metastereotypes effect on males |
| | | Emotions towards people with deafness | | | Not significant | |

**|Table 4. Cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | |
|---|---|---|---|---|---|---|
| Nikolaraizi and Makri (2005) | Gender | OPD - The Opinions about deaf people scale | | | Not significant | |
| | Hearing status and communication method | OPD - The Opinions about deaf people scale | | $F = 4.04$ | $p < .05$ | Most positive beliefs expressed by deaf adults communicating in sign language, and hearing adults attending sign language courses. Least positive beliefs expressed by deaf adults who communicated orally and hearing adults who did not attend sign language courses |
| Ralston, Zazove and Gorenflo (1996) | Communication | Attitudes towards deaf patients | | (not reported) | $p < .01$ | Physicians reported more difficulties communicating with deaf patients |
| | Beliefs | Attitudes towards deaf patients | | (not reported) | $p < .01$ | Physicians reported lower levels of comfort when seeing deaf patients compared to hearing patients |
| | Knowledge about deafness | Attitudes towards deaf patients | | | Not significant | |

**Table 4. cont.**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | |
|---|---|---|---|---|---|---|
| Schroedel and Schiff (1972) | Hearing status | ATD - Attitudes towards disabilities scale (review of other papers) | | | | All non-disabled participants were more positive than deaf or other disabled samples |
| | | DF - Disability Factor Scale | | t = 3.68 | p < .05 | Hearing subjects were less negative towards deafness than deaf subjects (perceived attitudes). |
| | College | ATD - Attitudes towards disabilities scale (review of other papers) | | t = 4.29 | p < .01 | Hearing subjects were less negative towards deafness than deaf subjects (perceived attitudes). |
| | Age | ATD - Attitudes towards disabilities scale (review of other papers) | | | Not significant | |
| | Education | ATD - Attitudes towards disabilities scale (review of other papers) | | | Not significant | |
| | Gender | ATD - Attitudes towards disabilities scale (review of other papers) | | t = 1.99 | p < .05 | Females scored more positively than males at Gallaudet College, but no significant gender differences in other colleges |

**Table 4. cont**

| Reference author | Factors | Outcome measure | Correlation or regression coefficient | Comparison statistic | Significance level | |
|---|---|---|---|---|---|---|
| Velonaki, Kampouroglou, Velonaki, Dimakopoulou, Sourtzi and Kalokerinou (2015) | Demographics | Attitudes towards deaf people (modified) | | | Not significant | |
| | | Avoidance of caring for deaf patients | | | Not significant | |
| | | Knowledge | | | Not significant | |
| | | Self-efficacy | | | Not significant | |
| | Education on deafness | Attitudes towards deaf people (modified) | | | Not significant | |
| | | Knowledge Score | rho = .23 | | p < .01 | Those with previous education on deafness had higher knowledge scores |
| | | Self-efficacy | | | Not significant | |
| | Contact | Attitudes towards deaf people (modified) | | | Not significant | |
| | | Avoidance of caring for deaf patients | | | Not significant | |
| | | Knowledge | | | Not significant | |
| | | Self-efficacy | rho = .36 | | p < .001 | Previous contact = more self-efficacy working with deaf patients |

**Table 5. Main elements in the narrative synthesis process**

| Four main elements in the narrative synthesis process | |
|---|---|
| 1 | Developing a theory of how the intervention works, why and for whom |
| 2 | Developing a preliminary synthesis of findings of included studies |
| 3 | Exploring relationships in the data |
| 4 | Assessing the robustness of the synthesis |

**Table 6** showing the main characteristics of the included studies.

| Authors (date) | Title | Population (Country) | Factor measures | *N* and mean age | Female *N* (percent) | Relevant Outcome Measures | Key Findings |
|---|---|---|---|---|---|---|---|
| Bartlett (2018) | Disabled or deaf? Investigating mental health clinicians' knowledge of and attitudes towards deafness as a culture | Mental health professionals (UK) | Knowledge measure, deaf awareness training, accessibility | *N* = 165; mean age 33.79 yrs | 140 (85%) | AD | The effect of previous deaf awareness training on attitudes and knowledge was significant. More positive attitudes were reported by mental health professionals who had received deaf awareness training. More knowledge of being deaf was reported by those who had received deaf awareness training. |
| Cooper, Rose & Mason (2003) | Mental health professionals' attitudes towards people who are deaf | Mental health professionals (psychiatrists, nurses, psychologists, occupational therapists and other). NHS. (UK) | Contact measure, knowledge measure | *N* = 121; mean age 39.9 yrs | 75 (65%) | ATDP | No relationship between knowledge and attitudes score, however knowledge correlated with total amount of contact. Attitude correlated with contact with deaf people who are of equal and higher status. Mental health professionals contact with deaf people, who are of equal or higher status, relates to more positive attitudes towards deaf people. |
| Dimoski, Eminovic, Stojkovic and Stanimirovic (2013) | Contact with persons with hearing impairments as a correlate of children's and adult's attitudes towards these persons | Adults who are residents of Serbia (Serbia) | Residential location | *N* = 192; mean age not reported | 98 (52%) | ATPHI | Adults with more frequent contact with deaf people held more positive attitudes than those with less frequent contact. |

**Table 3. cont.**

| Authors (date) | Title | Population (Country) | Factor measures | *N* and mean age | Female *N* (percent) | Relevant Outcome Measures | Key Findings |
|---|---|---|---|---|---|---|---|
| Furnham and Lane (1984) | Actual and perceived attitudes to deafness | Deaf and hearing members of the public (UK) | Deaf persons beliefs about deaf and hearing attitudes. Hearing persons attitudes about deaf and hearing attitudes. | *N* = 54; mean age not reported | 25 (46%) | ATDP | Contact with deaf individuals was correlated with more positive attitudes. Deaf persons held more negative attitudes about deafness than hearing persons held about deafness. Hearing participants expressed more positive attitudes towards deaf individuals than predicted. |
| Gilmore et al. (2019) | Changing medical students' attitudes and knowledge of deafness: a mixed method study | Medical students (UK) | Demographics, knowledge, deaf awareness training | *N* = 70; mean age not reported | Not reported | ATDP | Medical students who completed specific deaf awareness training reported more positive attitudes towards deaf people and higher knowledge scores in comparison to those who did not. Those who completed the training more recently had more 52ositive attitudes than those who had previously completed the training. |
| Kottke, Mellor and Schmidt (1987) | Effects of information on attitudes toward and interpersonal acceptance of persons who are deaf | Students fulfilling an introductory psychology course at University (USA) | California F-scale, Interpersonal Judgement Scale | *N* = 225; mean age not reported | Not reported | ATDP, AD | Information affected attitudes towards deaf people. Participants reported more positive attitudes in the deaf-label condition than the deaf-description or nondeaf conditions. Information did not affect interpersonal acceptance of the target person. |

**Table 3. cont.**

| Authors (date) | Title | Population (Country) | Factor measures | *N* and mean age | Female *N* (percent) | Relevant Outcome Measures | Key Findings |
|---|---|---|---|---|---|---|---|
| LaBelle, Booth-Butterfield & Rittenour (2013) | Attitudes towards the profoundly hearing impaired and deaf individuals: Links with intergroup anxiety, social dominance orientation, and contact. | Undergraduate students (USA) | Intergroup Anxiety Scale, Social Dominance Orientation Scale (SDO), Contact ratings | *N* = 234; mean age 20.18 yrs | 114 (50%) | ATDP | Higher intergroup anxiety correlates with more negative attitudes toward deaf individuals. However this relationship was found to be mediated by contact. Increased social dominance orientation related to more negative attitudes towards deaf individuals. Increased contact with deaf individuals was correlated with less negative attitudes. Females held more positive attitudes towards deaf individuals. |
| Lee & Pott (2018) | University students attitudes towards deaf people: educational implications for the future | University students. USA | Language background survey | *N* = 98; mean age 20.8 yrs | 44 (44%) | ODP | Reasons for taking ASL course, Deaf culture course or ASL major significantly affects attitudes towards Deaf people. Those taking the course as a requirement held less negative attitudes than those who take the course to fulfil a language requirement. There was no effect of gender or age. |
| Matera, Verde and Meringolo (2015) | I like you more if I think you like me: The effect of metastereotypes on attitudes toward people with deafness | Hearing adults. General public, (Italy) | Self-rated knowledge measure, self-rated intergroup emotions measure | *N* = 96; mean age 29.32 yrs | 60 (63%) | ADA | Main effect of gender on intergroup attitudes. Females held more positive attitudes than males. Significant effect of gender on intergroup emotions. Women expressed more positive emotions towards people with deafness than men. When postive metastereotypes were presented, women responded more positively than when negative metastereotypes were presented. |

**Table 3. cont.**

| Authors (date) | Title | Population (Country) | Factor measures | *N* and mean age | Female *N* (percent) | Relevant Outcome Measures | Key Findings |
|---|---|---|---|---|---|---|---|
| Nikolaraizi and Makri (2005) | Deaf and hearing indviduals beliefs about the capabilities of deaf people | Deaf and hearing residents of Greece (Greece) | Deaf or deaf, hearing doing GSL or hearing not doing GSL | *N* = 100; mean age not reported | 61 (61%) | ODP | All participants reported positive beliefs about the capabilities of deaf people. No significant gender differences. Most positive beliefs expressed by Deaf adults who communicated in Greek Sign Language (GSL). |
| Ralston, Zazove and Gorenflo (1996) | Physicians' attitudes and beliefs about deaf patients | Physicians. (USA) | Knowledge, communication | *N* = 165; mean age 43 yrs | 40 (24%) | ADA | Compared attitudes towards deaf patients to with attitudes towards all patients. Significant differences in 54uestionnaire responses between deaf and hearing patients. No significant effect of contact. No significant between two groups in knowledge of current information about deaf persons. |
| Schroedel and Schiff (1972) | Attitudes towards deafness among several deaf and hearing populations | Deaf and hearing college students and professionals, (USA) | Demographics, hearing status, personality factors | *N* = 281, mean age not reported | 123 (44%) | DF, ATDP | Deaf individuals perceived more negative attitudes towards deaf persons than comparable hearing persons. No significant effects of gender, age or educational level. Attitudes towards deafness are more negative in deaf than hearing populations |

**Table 3. cont**

| Authors (date) | Title | Population (Country) | Factor measures | *N* and mean age | Female *N* (percent) | Relevant Outcome Measures | Key Findings |
|---|---|---|---|---|---|---|---|
| Velonaki, Kampouroglou, Velonaki, Dimakopoulou, Sourtzi and Kalokerinou (2015) | Nurses' knowledge, attitudes and behavior toward Deaf patients | Nurses in 2 public hospitals and 2 public health centres in Attica. (Greece) | Previous contact measure, education measure, practices measure, knowledge scale, self-efficacy measure | *N* = 173; median age 35 yrs | 31 (82%) | ATDP | Lack of knowledge and education on issues related to Deaf people's health care. Positive correlation between education and knowledge of Deaf people's health care. Self-efficacy in caring for Deaf patients was positively correlated with contact with Deaf patients. No significant correlation between the attitude score and self-efficacy, knowledge or education |

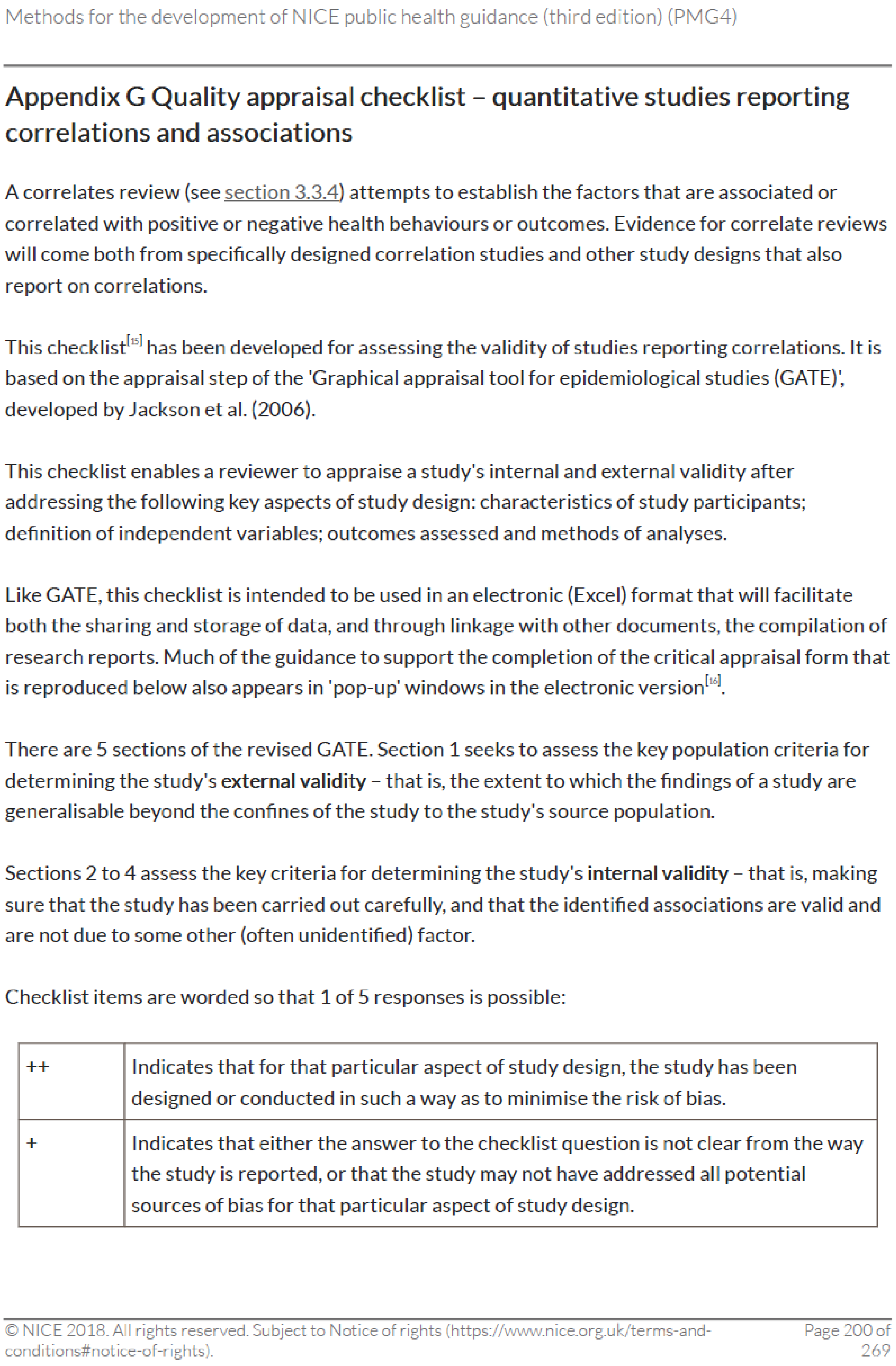
Key: ATDP (Attitudes towards deaf people scale); ATPHI (Attitudes towards people with hearing impairments); AD (Attitudes towards deafness scale); ODP (Opinions about deaf people scale); DF (Disability factor scale); ADA (Author developed attitude scale)

## Appendix 1-A: PRISMA (2009) Checklist

| Section/topic | # | Checklist item | Reported on page # |
|---|---|---|---|
| **TITLE** | | | |
| Title | 1 | Identify the report as a systematic review, meta-analysis, or both. | |
| **ABSTRACT** | | | |
| Structured summary | 2 | Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number. | |
| **INTRODUCTION** | | | |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. | |
| Objectives | 4 | Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS). | |
| **METHODS** | | | |
| Protocol and registration | 5 | Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. | |
| Eligibility criteria | 6 | Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. | |
| Information sources | 7 | Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched. | |
| Search | 8 | Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated. | |
| Study selection | 9 | State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis). | |
| Data collection process | 10 | Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators. | |
| Data items | 11 | List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made. | |
| Risk of bias in individual studies | 12 | Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis. | |
| Summary measures | 13 | State the principal summary measures (e.g., risk ratio, difference in means). | |
| Synthesis of results | 14 | Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., $I^2$) for each meta-analysis. | |

| Section/topic | # | Checklist item | Reported on page # |
|---|---|---|---|
| Risk of bias across studies | 15 | Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies). | |
| Additional analyses | 16 | Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified. | |
| **RESULTS** | | | |
| Study selection | 17 | Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram. | |
| Study characteristics | 18 | For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations. | |
| Risk of bias within studies | 19 | Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12). | |
| Results of individual studies | 20 | For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot. | |
| Synthesis of results | 21 | Present results of each meta-analysis done, including confidence intervals and measures of consistency. | |
| Risk of bias across studies | 22 | Present results of any assessment of risk of bias across studies (see Item 15). | |
| Additional analysis | 23 | Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]). | |
| **DISCUSSION** | | | |
| Summary of evidence | 24 | Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers). | |
| Limitations | 25 | Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias). | |
| Conclusions | 26 | Provide a general interpretation of the results in the context of other evidence, and implications for future research. | |
| **FUNDING** | | | |
| Funding | 27 | Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. | |

# **Appendix 1-B:** NICE quality appraisal checklist (2012)



## Appendix G Quality appraisal checklist – quantitative studies reporting correlations and associations

A correlates review (see section 3.3.4) attempts to establish the factors that are associated or correlated with positive or negative health behaviours or outcomes. Evidence for correlate reviews will come both from specifically designed correlation studies and other study designs that also report on correlations.

This checklist[15] has been developed for assessing the validity of studies reporting correlations. It is based on the appraisal step of the 'Graphical appraisal tool for epidemiological studies (GATE)', developed by Jackson et al. (2006).

This checklist enables a reviewer to appraise a study's internal and external validity after addressing the following key aspects of study design: characteristics of study participants; definition of independent variables; outcomes assessed and methods of analyses.

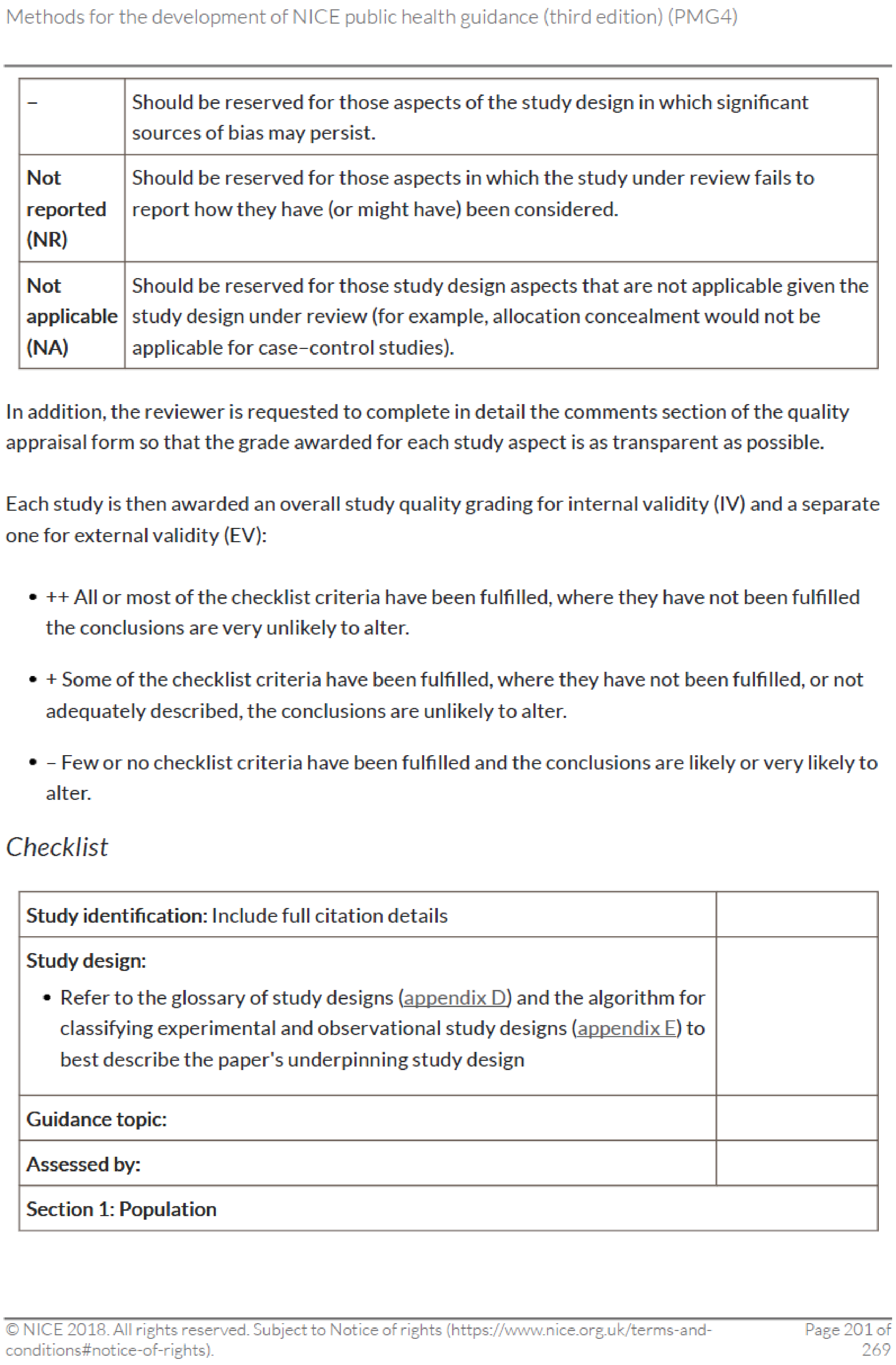
Like GATE, this checklist is intended to be used in an electronic (Excel) format that will facilitate both the sharing and storage of data, and through linkage with other documents, the compilation of research reports. Much of the guidance to support the completion of the critical appraisal form that is reproduced below also appears in 'pop-up' windows in the electronic version[16].

There are 5 sections of the revised GATE. Section 1 seeks to assess the key population criteria for determining the study's **external validity** – that is, the extent to which the findings of a study are generalisable beyond the confines of the study to the study's source population.

Sections 2 to 4 assess the key criteria for determining the study's **internal validity** – that is, making sure that the study has been carried out carefully, and that the identified associations are valid and are not due to some other (often unidentified) factor.

Checklist items are worded so that 1 of 5 responses is possible:

| | |
|---|---|
| ++ | Indicates that for that particular aspect of study design, the study has been designed or conducted in such a way as to minimise the risk of bias. |
| + | Indicates that either the answer to the checklist question is not clear from the way the study is reported, or that the study may not have addressed all potential sources of bias for that particular aspect of study design. |



| | |
|---|---|
| – | Should be reserved for those aspects of the study design in which significant sources of bias may persist. |
| **Not reported (NR)** | Should be reserved for those aspects in which the study under review fails to report how they have (or might have) been considered. |
| **Not applicable (NA)** | Should be reserved for those study design aspects that are not applicable given the study design under review (for example, allocation concealment would not be applicable for case–control studies). |

In addition, the reviewer is requested to complete in detail the comments section of the quality appraisal form so that the grade awarded for each study aspect is as transparent as possible.

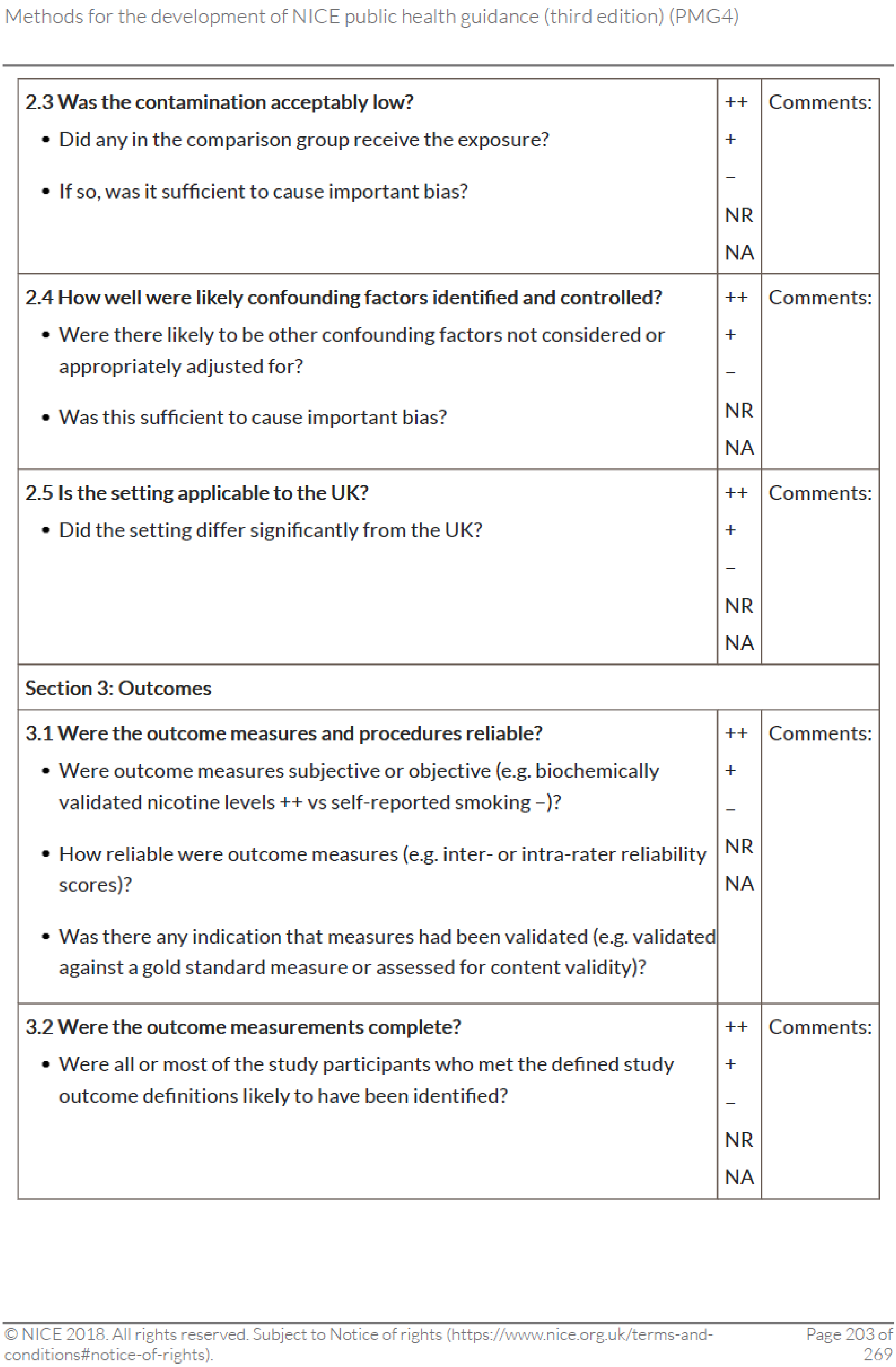
Each study is then awarded an overall study quality grading for internal validity (IV) and a separate one for external validity (EV):

- ++ All or most of the checklist criteria have been fulfilled, where they have not been fulfilled the conclusions are very unlikely to alter.
- + Some of the checklist criteria have been fulfilled, where they have not been fulfilled, or not adequately described, the conclusions are unlikely to alter.
- – Few or no checklist criteria have been fulfilled and the conclusions are likely or very likely to alter.

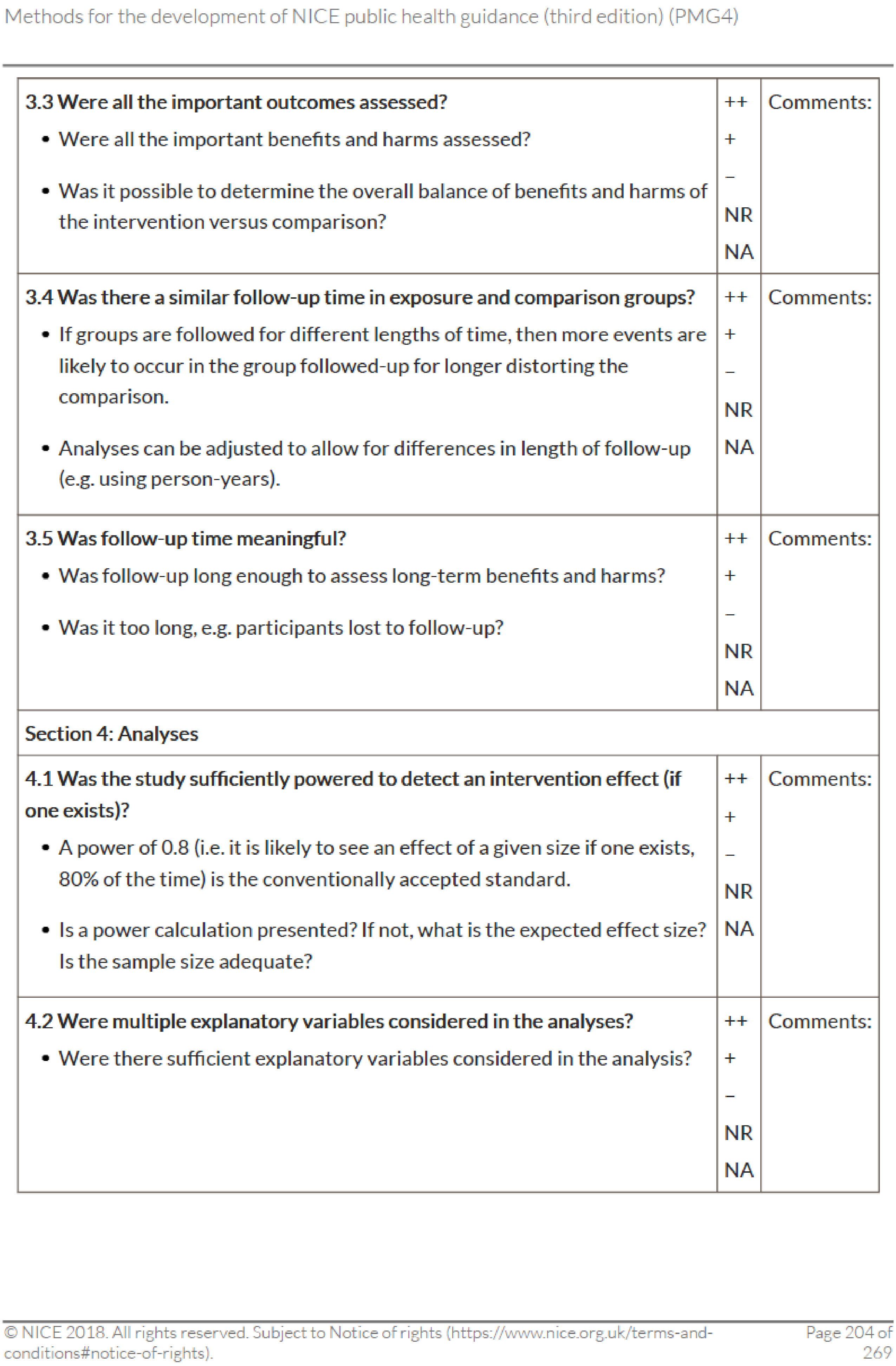
### *Checklist*

| | |
|---|---|
| **Study identification:** Include full citation details | |
| **Study design:**<br>• Refer to the glossary of study designs (appendix D) and the algorithm for classifying experimental and observational study designs (appendix E) to best describe the paper's underpinning study design | |
| **Guidance topic:** | |
| **Assessed by:** | |
| **Section 1: Population** | |

| | | |
|---|---|---|
| **1.1 Is the source population or source area well described?**<br>• Was the country (e.g. developed or non-developed, type of health care system), setting (primary schools, community centres etc), location (urban, rural), population demographics etc adequately described? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **1.2 Is the eligible population or area representative of the source population or area?**<br>• Was the recruitment of individuals, clusters or areas well defined (e.g. advertisement, birth register)?<br>• Was the eligible population representative of the source? Were important groups underrepresented? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **1.3 Do the selected participants or areas represent the eligible population or area?**<br>• Was the method of selection of participants from the eligible population well described?<br>• What % of selected individuals or clusters agreed to participate? Were there any sources of bias?<br>• Were the inclusion or exclusion criteria explicit and appropriate? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **Section 2: Method of selection of exposure (or comparison) group** | | |
| **2.1 Selection of exposure (and comparison) group. How was selection bias minimised?**<br>• How was selection bias minimised? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **2.2 Was the selection of explanatory variables based on a sound theoretical basis?**<br>• How sound was the theoretical basis for selecting the explanatory variables? | ++<br>+<br>−<br>NR<br>NA | Comments: |

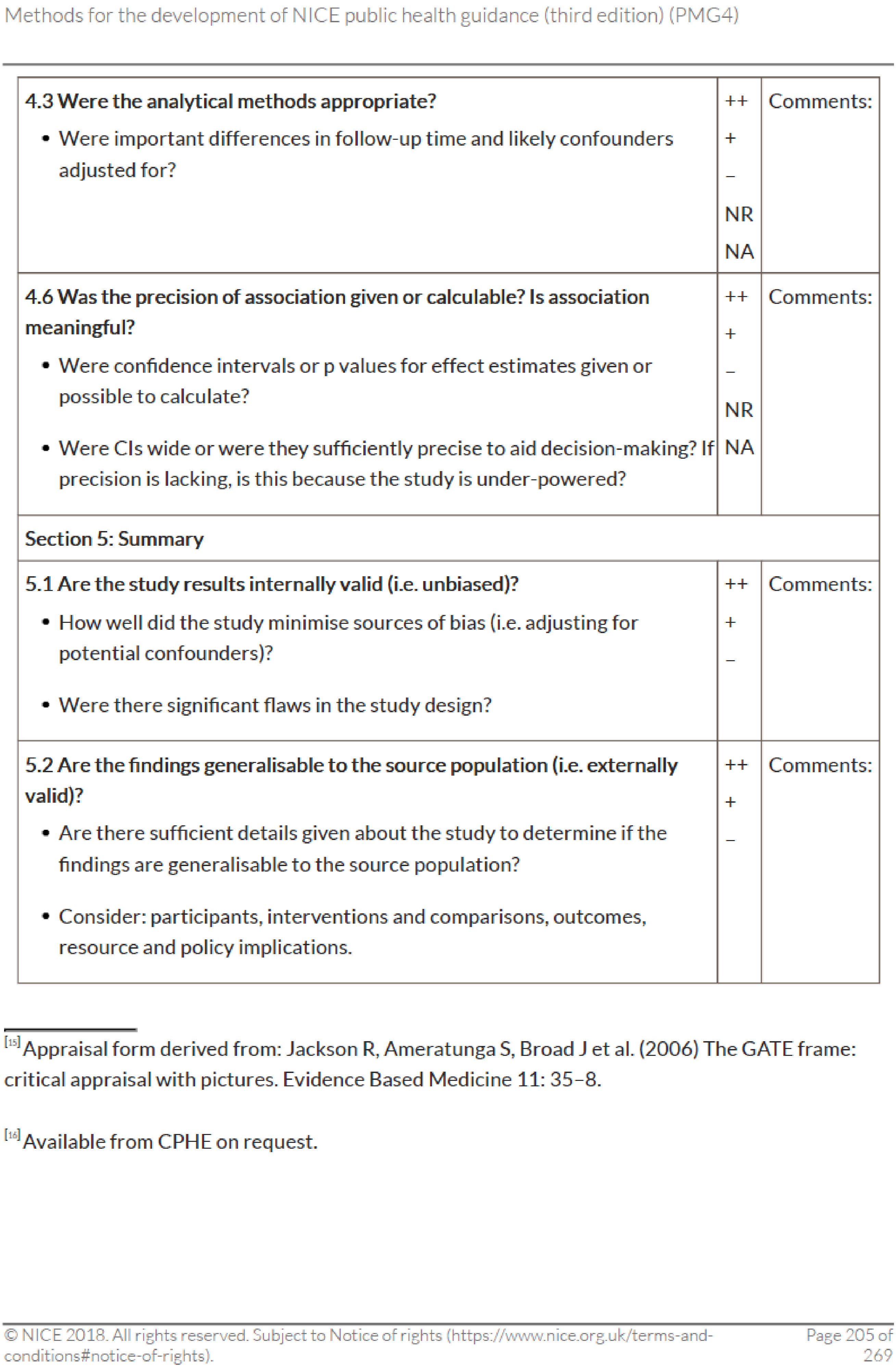


| | | |
|---|---|---|
| **2.3 Was the contamination acceptably low?**<br>• Did any in the comparison group receive the exposure?<br>• If so, was it sufficient to cause important bias? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **2.4 How well were likely confounding factors identified and controlled?**<br>• Were there likely to be other confounding factors not considered or appropriately adjusted for?<br>• Was this sufficient to cause important bias? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **2.5 Is the setting applicable to the UK?**<br>• Did the setting differ significantly from the UK? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| Section 3: Outcomes | | |
| **3.1 Were the outcome measures and procedures reliable?**<br>• Were outcome measures subjective or objective (e.g. biochemically validated nicotine levels ++ vs self-reported smoking −)?<br>• How reliable were outcome measures (e.g. inter- or intra-rater reliability scores)?<br>• Was there any indication that measures had been validated (e.g. validated against a gold standard measure or assessed for content validity)? | ++<br>+<br>−<br>NR<br>NA | Comments: |
| **3.2 Were the outcome measurements complete?**<br>• Were all or most of the study participants who met the defined study outcome definitions likely to have been identified? | ++<br>+<br>−<br>NR<br>NA | Comments: |



Methods for the development of NICE public health guidance (third edition) (PMG4)

| | | |
|---|---|---|
| **3.3 Were all the important outcomes assessed?**<br>• Were all the important benefits and harms assessed?<br>• Was it possible to determine the overall balance of benefits and harms of the intervention versus comparison? | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **3.4 Was there a similar follow-up time in exposure and comparison groups?**<br>• If groups are followed for different lengths of time, then more events are likely to occur in the group followed-up for longer distorting the comparison.<br>• Analyses can be adjusted to allow for differences in length of follow-up (e.g. using person-years). | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **3.5 Was follow-up time meaningful?**<br>• Was follow-up long enough to assess long-term benefits and harms?<br>• Was it too long, e.g. participants lost to follow-up? | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **Section 4: Analyses** | | |
| **4.1 Was the study sufficiently powered to detect an intervention effect (if one exists)?**<br>• A power of 0.8 (i.e. it is likely to see an effect of a given size if one exists, 80% of the time) is the conventionally accepted standard.<br>• Is a power calculation presented? If not, what is the expected effect size? Is the sample size adequate? | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **4.2 Were multiple explanatory variables considered in the analyses?**<br>• Were there sufficient explanatory variables considered in the analysis? | ++<br>+<br>–<br>NR<br>NA | Comments: |



| | | |
|---|---|---|
| **4.3 Were the analytical methods appropriate?**<br>• Were important differences in follow-up time and likely confounders adjusted for? | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **4.6 Was the precision of association given or calculable? Is association meaningful?**<br>• Were confidence intervals or p values for effect estimates given or possible to calculate?<br>• Were CIs wide or were they sufficiently precise to aid decision-making? If precision is lacking, is this because the study is under-powered? | ++<br>+<br>–<br>NR<br>NA | Comments: |
| **Section 5: Summary** | | |
| **5.1 Are the study results internally valid (i.e. unbiased)?**<br>• How well did the study minimise sources of bias (i.e. adjusting for potential confounders)?<br>• Were there significant flaws in the study design? | ++<br>+<br>– | Comments: |
| **5.2 Are the findings generalisable to the source population (i.e. externally valid)?**<br>• Are there sufficient details given about the study to determine if the findings are generalisable to the source population?<br>• Consider: participants, interventions and comparisons, outcomes, resource and policy implications. | ++<br>+<br>– | Comments: |

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[15] Appraisal form derived from: Jackson R, Ameratunga S, Broad J et al. (2006) The GATE frame: critical appraisal with pictures. Evidence Based Medicine 11: 35–8.

[16] Available from CPHE on request.

## Appendix 1-C: Author guidelines for *Patient Education and Counseling*

### PEC Aims and Scope

Patient Education and Counseling is an interdisciplinary, international journal for patient education and health promotion researchers, managers, physicians, nurses and other health care providers. The journal seeks to explore and elucidate educational, counseling and communication models in health care. Its aim is to provide a forum for fundamental as well as applied research, and to promote the study of the delivery of patient education, counseling, and health promotion services, including training models and organizational issues in improving communication between providers and patients.

Patient Education and Counseling is the official journal of the European Association for Communication in Healthcare (EACH) and the American Academy on Communication in Healthcare (AACH).

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During online submission, the author can select a category from the following list: Research Paper, Review Article, Short Communication, Reflective Practice, Discussion or Correspondence. The type of manuscript should be indicated in the cover letter.

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**Review Articles** In-depth reviews of the empirical research in an area relevant to the journal, including analytical discussion of contemporary issues and controversies (maximum 5000 words not including references and tables)
**Short Communications** Brief articles in any of the above categories will also be considered (maximum 1500 words not including references and tables).
**Reflective practice**We welcome personal narratives on caring, patient-clinician relationships, humanism in healthcare, professionalism and its challenges, patients' perspectives, and collaboration in patient care and counseling. Most narratives will describe personal or professional experiences that provide a lesson applicable to caring, humanism, or relationships in health care. No abstract is needed. No (section) headings, no numbering. Maximum 1500 words. Submissions are peer-reviewed.For further information, see the editorial published in PEC: Hatem D, Rider EA. Sharing stories: narrative medicine in an evidence-based world. Patient Education and Counseling 2004;54:251-253.
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**Correspondence** Papers (up to 1500 words) with brief comments on articles in previous issues of the journal.

**Guidelines**

We encourage authors to consult appropriate guidance, depending on the design of their study.For randomized trials, consult CONSORT (Consolidated Standards Of Reporting Trials) http://www.consort-statement.org/
For systematic reviews and meta-analyses consult PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) http://www.prisma-statement.org/
For statistical analysis and reporting, consult SAMPL (Basic Statistical Reporting for Articles Published in Biomedical Journals: The "Statistical Analyses and Methods in the Published Literature") http://www.equator-network.org/reporting-guidelines/sampl/
For qualitative studies, see specific editorials published in PEC: Finset A. Qualitative methods in communication and patient education research. Patient Educ Couns, Volume 73, Issue 1, October 2008, Pages 1-2. DOI: 10.1016/j.pec.2008.08.004
Salmon P. Assessing the quality of qualitative research. Patient Educ Couns Volume 90, Issue 1, January 2013, Pages 1-3. DOI: 10.1016/j.pec.2012.11.018
Salmon P, and Young B. Qualitative methods can test and challenge what we think we know about clinical communication - if they are not too constrained by methodological 'brands'. Patient Educ Couns Volume 101, Issue 9, September 2018, Pages 1515-1517. DOI: 10.1016/j.pec.2018.07.005

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[2] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, 2018. The art of writing a scientific article. Heliyon. 19, e00205. https://doi.org/10.1016/j.heliyon.2018.e00205.
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[3] W. Strunk Jr., E.B. White, The Elements of Style, fourth ed., Longman, New York, 2000.
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[4] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 2009, pp. 281–304.
Reference to a website:
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Reference citations should be numbered consecutively throughout using Arabic numerals in parentheses or square brackets (not superscripts). References should be double-spaced and start on a separate page. References should conform to the system used in Uniform Requirements for Manuscripts Submitted to Biomedical Journals (Brit Med J 1991;302:338-41; N Engl J Med 1991;324:424-8), using standard abbreviations of the journal titles cited in Current Contents.

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SECTION TWO

Empirical Paper

# Health professionals' attitudes towards deaf people with mental health problems

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## Abstract

***Objectives.*** Stigma towards deaf people has been reported in previous research, however research in this area is limited. The study aimed to understand whether stigma towards deaf mental health service users was different to stigma towards hearing mental health service users. Additionally it investigated the association between individual factors such as attachment styles and empathy, and the relationship between implicit and explicit attitudes. .

***Participants*.** The study recruited 76 participants; all health professionals who had worked with people with mental health problems.

***Study method.*** Participants completed an online study involving five explicit measures and one implicit measure. The measures included a self-report adult attachment measure (Experiences in Close Relationships), two compassion/empathy measures (Interpersonal Reactivity Index and Emotional Competence), a measure of stigma (Social Distance Scale) and a one-question explicit measure. Implicit attitudes were measured using the Implicit Association Task (IAT).

***Findings.*** There was no significant difference in stigma scores towards deaf mental health service users as compared to hearing mental health service users. Respondents with more contact with deaf people appear to hold more stigmatising views towards hearing service users with mental health problems than their deaf counterparts. Explicit and implicit attitudes were not significantly correlated and the IAT did not reveal a significant preference for deaf or hearing people

***Conclusions*.** The results of this study suggest that there may have been stigmatised attitudes towards people with mental health problems, more so than towards deaf people with mental health problems, although conclusions are tentative due to methodological limitations. Attitudes towards deaf people with mental health problems were relatively positive.

Conclusions drawn present a complex issue; limitations and recommendations for further research are discussed.

## Health professionals' attitudes towards deaf people with mental health problems

Around 6% of the population worldwide are affected by disabling hearing loss (World Health Organisation, 2018). Those with severe or profound hearing loss within the population in the United Kingdom is estimated to be 900,000 and it is estimated that over 87,000 individuals in the United Kingdom use British Sign Language (BSL) as their main language, although the exact numbers are unknown (British Deaf Association, 2019). Around 7 in 10,000 people in the general population are severely or profoundly deaf, before the onset of language (Mitchell, 2006). The term 'deaf' is widely accepted, in the main, to describe a group defined by their audiological profile, however there is some debate over the term. Historically, a cultural definition which uses the term 'Deaf' (with a capital D) indicates an affiliation to deaf culture and the use of sign language (Ladd, 2003), however there is no consensus regarding when these different terms should be used as deaf individuals themselves hold differing views on the matter. As there is a lack of agreement on a specific term (Pudans-Smith, Cue, Wolsey, & Clark, 2019), for the purposes of this study, which focused on health professionals' attitudes towards deaf people and their varied understandings, the term 'deaf' was used to capture both those described with audiological deafness and those who identify as culturally deaf individuals.

The direct and indirect consequences of being deaf have been found to affect many aspects of a deaf individual's life including interaction with hearing people, educational attainment and social-cognitive development (Schick, De Villiers, De Villiers, & Hoffmeister, 2007). Miscommunication and incorrect attributions of behaviour by the hearing population can lead to frustration and mental distress (Fellinger, 2011) and interfere with intergroup relations (Carvill, 2001). Perhaps indicative of these social difficulties, previous research shows that many deaf people are affected by mental health problems, but there are suggestions that the health system is not best equipped to deal with this population

(Cooper, Rose, & Mason, 2003). A review by Fellinger, Holzinger & Pollard (2012) found that the overall prevalence of mental illness within the deaf population is significantly higher than in the hearing population (Fellinger, Holzinger, & Pollard, 2012), although the authors noted that empirical studies on this topic were relatively sparse. There is some evidence that suggests that deaf people are more likely to be diagnosed with a mental health problem, but it may be representative of clinician bias due to lack of effective communication and misunderstanding of needs (Kvam, Loeb, & Tambs, 2007). Overall the evidence base on mental health and deafness is limited, therefore conclusions regarding the prevalence of mental health problems within the deaf population remain tentative (Øhre, 2011). However, research highlights that the implications of being deaf can lead to an increased vulnerability to developing mental health problems (Hindley, 1997) often due to social isolation within the hearing community and inappropriate mental health care and treatment (Kitson, 1990).

Research highlights that deaf people experience poorer psychological and physical health than their hearing counterparts (Fellinger et al., 2012). Deaf individuals are often considered to be in a marginalised group due to their unique communication and accessibility needs that accentuate their differences from hearing society (Mousley & Chaudoir, 2018). Communication methods such as using British Sign Language (BSL) or the need to lip-read in order to understand spoken language may be viewed as disruptive to social interaction and lead to difficulties in building relationships with hearing people (Coryell, Holcomb, & Scherer, 1992). Hearing people often view deafness as a disability, focusing on the loss of hearing and seeing them as impaired and therefore deaf individuals are perceived as different from the 'norm' of hearing society (Hindley & Kitson, 2000). As a result, many deaf individuals experience stigma within several aspects of their lives such as in the workplace (Komesaroff, 2004), schools (Batten, Oakes, & Alexander, 2014), and from family and friends (Hauser, O'Hearn, McKee, Steider, & Thew, 2010).

Stigma is defined as a negative attribute given to a person or group, which devalues their social status and creates social distance (Goffman, 1968); it often stems from fear and ignorance, some of which is driven by media portrayals of marginalised groups of people such as those with mental health problems (Angermeyer & Matschinger, 2003). Rejection and exclusion of others is a core component of the definition of stigma reported by the World Health Organisation (WHO) (2001) and it can lead to negative attitudes towards those with "stigmatised identities" and result in isolation and discrimination towards these individuals (Foss, 2014; Komesaroff, 2004). Stigma has been defined as a social process (Goffman, 1990), which is concerned with both interpersonal communication and real-life interactions with stigma targets. The concept of stigma was outlined by Link and Phelan (2001) and described several components which lead to stigmatised attitudes. Firstly, people notice and label differences in others; secondly specific cultural beliefs lead to attributions of undesirable characteristics to these labelled individuals. Thirdly, there is a separation of "us" versus "them" between the individuals and labelled others. Fourth, the labelled individual experiences loss of status and discrimination which disadvantages them in some way. Finally, the resulting outcome is that the role of power becomes apparent and the stigmatised attitude is operationalised within society. In this context, it is clear that stigmatised attitudes often negatively affect individuals with a stigmatised identity and two of those identities found to be stigmatised within the literature is people with mental health problems (Jorm & Oh, 2009) and deaf people (Mousley & Chaudoir, 2018). However, there is limited research which investigates stigma related to individuals who may have two or more stigmatising identities, such as deaf people with mental health problems, and it is important to understand the impact of this on such individuals. Research suggests that having two or more stigmatised identities is common, yet an understanding of how these interact within the concept of stigmatised attitudes is lacking. One recent study, identified that those with multiple stigmatised identities reported feeling “invisible” within society and this resulted in discrimination and disadvantage for that group (Remedios & Snyder, 2018). The researchers emphasise that having two stigmatised identities has a unique impact on stigmatised attitudes which is not necessarily cumulative.

Much of the stigma research focuses on the individual experiences of those who belong to one stigmatised group, which is particularly the case within the literature on stigma towards deaf people. Perceived stigma by deaf individuals has been reported for many years, with research focusing on the sense of shame, fear and exclusion a deaf person feels within the hearing society (Mousley & Chaudoir, 2018). Research has suggested that negative attitudes and stereotypical thinking towards people with disabilities often exist and can affect access to education and health care services and influence the care this group subsequently receives (Jenkins & Davies, 2006). However, the relationship between attitudes and deaf people, although often viewed as disabled by the hearing population, are complex; one particular study that investigated nurses attitudes and emotions towards people with intellectual disabilities suggested that nurses hold less positive attitudes towards people with intellectual disabilities compared to people with physical disabilities (Lewis & Stenfert-Kroese, 2010).

However, with an increased focus on being deaf as an identity and part of a community by deaf individuals, self-stigmatising may be an important coping strategy for these individuals; deaf people may increase their social distance from the hearing population in order to “preserve” their deaf identity and their sense of belonging within the deaf community (Mousley & Chaudoir, 2018). This may lead to a sense of perceived hostility by the hearing population due to a lack of understanding of the deaf world and may increase the level of stigma directed at deaf individuals (Harmer, 1999). Self-stigma is the negative attributes that stigmatised individuals internalise and can lead to negative emotional reactions such as low self-esteem and low self-efficacy; however it can also lead to reactions which empower those individuals to act against injustices (Corrigan & Watson, 2002). Public stigma is the reaction of the general population to a certain group and can lead to discrimination and reduced life opportunities for those individuals (Corrigan & Watson, 2002). It is important therefore to understand whether stigma towards deaf people exists, not only in the perceptions and experiences of those who are deaf, but in a quantifiable measurable way, particularly from groups of people who would have a necessity to interact with deaf people in an appropriate and compassionate way, such as health professionals. In the UK, the Health Advisory Service of the NHS concluded that the main barriers to providing appropriate care to deaf people are mental health professionals' inability to communicate effectively with this client group and these professionals' lack of awareness of deaf culture (Cooper et al., 2003). Evidence highlights the importance of knowledge and training, as well as increased contact with deaf people, to instil a more positive and compassionate approach (Cooper et al., 2003).

Stigma towards deaf people has been identified within the general population, however, there is a lack of studies focusing on stigma perpetuated by health professionals towards their deaf patients. Previous research has shown that many health professionals felt discomfort and reported feeling less trusted when working with deaf patients, however it is not clear whether this is due to difficulties in communication or existing negative attitudes towards these patients (Ralston, Zazove, & Gorenflo, 1996). One study highlighted that nurses working with deaf patients who had more contact with deaf people felt increased levels of self-efficacy in caring for them, which suggests that this is an important factor in improving relationships and the care provided to this population (Velonaki et al., 2015).

Studies suggest that stigma towards people with mental health problems (who may or may not be deaf) is present and the desire to be socially distant from this group is reportedly higher than in the rest of the population (See review by Jorm & Oh, 2009). There is a wealth of research highlighting the negative perceptions of individuals with mental health problems (Wahl & Aroesty-Cohen, 2010), they are often seen as dangerous and unpredictable (Angermeyer & Matschinger, 2003) and are subject to discrimination in employment, education, and many other aspects of life (Thornicroft, 2006). A large-scale study found that negative perceptions of people with psychiatric diagnoses are prevalent within the general public and that targeted campaigns to reduce stigma must be considered long-term (Wood, Birtel, Alsawy, Pyle, & Morrison, 2014).

There is less research on the attitudes of those caring for these individuals, mental health professionals, whose influence can have a profound and lasting impact on their patients and the attitudes of those surrounding the individual (Wahl & Aroesty-Cohen, 2010). A review by Schulze (2007) highlighted that the literature regarding mental health professionals' attitudes towards their patients was inconsistent, however, much of the research reported equally less positive, and even more negative, reactions to people with mental health problems as the general public. Taking this into account, it is of interest to determine whether the literature focusing on mental health stigma is relevant within the deaf population and whether having two stigmatised identities affects stigmatised attitudes.

Although, to the author's knowledge, research examining stigma towards deaf people with mental health problems is lacking, people with multiple stigmatised identities have been the subject of investigation, often focusing on race, gender and sexual orientation (Purdie-Vaughns & Eibach, 2008), and the findings present a complex picture of how multiple identities intersect. There is evidence from research on other stigmatised groups that suggests there are disparities in the medical and mental health treatment of those from racial and ethnic minorities (Blanco et al., 2007); however, those people with more than one stigmatising identity may experience further stigma and discrimination (Purdie-Vaughns & Eibach, 2008). Studies focusing on the experiences of deaf people with mental health problems are limited and as a result, many of them are unable to advocate for appropriate, accessible services, despite many deaf service users reporting difficulties with accessing mental health services (Feldman & Gum, 2007). Deaf mental health service users may be misunderstood and stereotyped within mental health services due to a lack of cultural awareness and communication difficulties (Glickman, 2013) which adds to the stigma and discrimination towards this group. Therefore further understanding of health professionals' stigmatised attitudes towards deaf people with mental health problems in comparison to hearing people with mental health problems, and what factors influence these attitudes, is required.

Several factors have been argued to affect stigma; one of the most consistent findings within the research is that contact with stigma targets reduces the desire for social distance (Pettigrew & Tropp, 2008). As deaf people are within a linguistic and cultural minority, hearing others may consider them to be part of an 'outgroup' (Cooper et al., 2003). Considering deaf people are linguistically different from hearing individuals, it is plausible that hearing individuals may view them as an 'outgroup' and hold negative attitudes towards this group. It is vital to gain an understanding of these attitudes, particularly when an intergroup context is established as well as other factors involved in the formation of negative attitudes and stigma.

Several individual factors have been argued to influence stigma tendencies and therefore the likelihood a minority group will be stigmatised by individuals, such as individual attachment styles and the capacity for empathy (Cherry, Fletcher, & O' Sullivan, 2014; Gencoglu, Topkaya, Sahin, & Kaya, 2016; Khodabakhsh, 2012). Attachment theory has been used widely in the study of emotional regulation, personality development and interpersonal relationships (Fraley, 2002). Adult attachment is argued to be made up of two dimensions (attachment anxiety and attachment avoidance) and these are developed over time using strategies which either hyper-activate or deactivate the attachment system (Brennan, Clark, & Shaver, 1998). The theory argues that those that have more secure attachment styles are more able to direct attention to others and provide support; they can cope more effectively with another's distress because security is related to optimistic beliefs and self-efficacy (Mikulincer, Pereg & Shaver, 2003). Studies have found that individuals with more secure attachments are more likely to have positive social relationships and lower stigmatising tendencies (Gencoglu et al., 2016). Positive social networks, often resulting from secure attachments, have been found to reduce the effects of stigma; studies report less desire for social distance from marginalised groups when individuals have a secure attachment and high levels of social support (Zhao et al., 2015). These results may suggest that individuals have developed empathy and are less threatened by others in need.

In line with this, research has linked attachment with the capacity for empathy; it has been associated with emotional intelligence including aspects such as the ability to manage one's own emotions, interpersonal skills and conflict resolution (Mikolajczak et al., 2015). Empathy is described in many different ways, however, it refers to the reaction of individuals to others' experiences and their response to it (Davis, 1983). Commonalities in definition highlight the affective and behavioural, as well as the cognitive component involved in empathy (Chrysikou & Thompson, 2016). Theoretical understandings outline that empathy develops from early caregiving experiences and has a role in social interactions such as the ability to respond to others in need and to manage one's own emotions (Rieffe, Ketelaar, & Wiefferink, 2010). Empathy has been suggested to influence stigmatising attitudes; studies showed that higher levels of empathy were related to lower levels of stigma towards specific groups (Naylor, Cowie, Walters, Talamelli, & Dawkins, 2009; Webb et al., 2016). Considering the highlighted importance of empathy in providing care to others, empathy literature can shed some light on the healthcare system and the treatment that deaf service users with mental health problems receive. Understanding the link between empathy and attitudes towards deaf patients might provide knowledge on how these attitudes can change and the resulting care needs of deaf patients be met.

Stigmatised attitudes have been measured explicitly by using self-report questionnaires in most of the previous research, however, explicit measures have been criticised because they can be easily distorted by participants (Greenwald, McGhee, & Schwartz, 1998). The effect of social desirability when answering these questionnaires can lead to socially appropriate responses or certain self-presentation strategies (Karpinski, Steinman, & Hilton, 2005). Therefore, it is important to determine other measures which may not be affected by social desirability such as indirect measures. Evidence suggests that implicit attitudes develop over time with repeated encounters of an attitude object (Wilson, Lindsey, & Schooler, 2000). These implicit attitudes are believed to be unconscious or inaccurately identified and therefore not influenced by conscious thought (Greenwald & Banaji, 1995). The relationship between implicit and explicit attitudes is unclear; some evidence suggests that implicit preferences are correlated with explicit attitudes (Greenwald et al., 1998) whilst contrasting research suggests that implicit and explicit attitudes are individual constructs (Wilson et al., 2000). It is important to investigate both explicit and implicit attitudes in order to understand the relationship between attachment, empathy and stigma. Considering that to the author's knowledge there is no research on implicit attitudes related to deaf service users, it is important to determine whether the results from this study reflect similar preferences for hearing service users. Similarly there is limited research into stigma towards individuals with two stigmatised identities, particularly deaf people with mental health problems, and whether these two identities lead to further stigma and discrimination; therefore further understanding of the impact of this is warranted.

## Research questions

1) Is stigma towards *deaf* mental health service users different from stigma towards hearing mental health service users?

    2a)Are attachment and empathy related to stigma towards deaf or hearing people with mental health problems??

    2b)Does contact with deaf people influence stigma towards deaf or hearing people with mental health problems??

    2c) Are implicit and explicit attitudes correlated?

## Method

### Inclusion and exclusion criteria

Inclusion criteria: Health professionals or those currently enrolled in clinical training of any specialism; All participants were over 18 years old; Professionals of any gender; There was no minimum years in practice or training; Participants must have been able to read English. Exclusion criteria: Those who were not health professionals; Those who do not work with mental health service users.

### Participants

Participants were health professionals working with mental health service users or those currently enrolled in clinical training of any specialism. The study aimed to recruit at least 82 participants based on a power calculation using G Power (Erdfelder, Faul & Buchner, 1996) for correlation analysis with a medium effect size = 0.3, power = 0.80, error = 0.05, total sample size = 82.

### Sampling procedures

Opportunity sampling was used in this study. Participants were recruited online using Qualtrics (Provo, UT) as a host, via social media, online websites, snowballing through the field and external supervisors, through United Kingdom (UK) based doctorate in clinical psychology training programmes and UK based medical schools, nursing schools and social work training courses.

## Design

This study utilised a cross sectional design, an experimental randomised vignette design and a reaction speed test. Quantitative methodology was utilised using several explicit measures questionnaires and an implicit association task (IAT). See appendix 4-C for questionnaires.

## Materials

A sociodemographic questionnaire was completed by participants to determine specialism of the health professional e.g. psychologist, nurse and other sociodemographic questions. The study determined whether participants had professional or social contact with deaf people. Professional contact was measured using a question asking if the participant had regular contact with deaf people and there were three possible responses (‘yes’, ‘occasionally’ or ‘no’). Social contact was measured using a question asking the participant if they had ever had social contact with a deaf person and there were two possible responses (‘yes’ or ‘no’).

### Stigma measure

The 7-question social distance scale (adapted by the authors to deaf service users) (Link, Cullen, Frank, & Wozniak, 1987) was used to measure stigmatised attitudes towards deaf people with mental health problems. The social distance measure is commonly utilised with the presentation of comparable vignettes to identify differences in stigmatised attitudes between described individuals. The vignettes used in this study were reviewed by Dr Margaret De Feu (deaf person) who is a psychiatrist specialising in mental health and deafness. One of two vignettes was presented randomly to participants with "Dorothy" being a deaf person with mental health problems (deaf MH vignette) or a hearing person with mental health problems (hearing MH vignette). These vignettes were identical aside from the inclusion of the descriptor 'deaf'. Participants were asked 7 questions which assessed their desire for social distance from "Dorothy"; each question related to a level of social closeness (e.g., "How would you feel about renting a room in your home to someone like Dorothy?" and "How would you feel about recommending someone like Dorothy for a job working for a friend of yours?") and used a 4-item Likert-scale with responses ranging from 0 (definitely willing) to 3 (definitely unwilling). The total stigma score was the sum of the scores for each question with a minimum total score of 0 and maximum total score of 21. Each participant completed *either* the deaf MH vignette or the hearing MH vignette. Cronbach's alpha for the social distance measure was .82 in this study.

### Attachment measure

The 12 item 'experience in close relationships' short form (ECR- short form) measure (Wei, Russell, Mallinckrodt, & Vogel, 2007) was used in this study to measure adult attachment. Previous research has indicated that there are two factors, labelled anxiety and avoidance; there appears to be consensus within the literature that adult attachment consists of these two dimensions (Mikulincer et al. 2003). A 7-point Likert scale, containing options that extend from 1 (strongly disagree) to 7 (strongly agree) is used to score each item. Sample items include "I want to get close to my partner, but I keep pulling back" and "I am nervous when people get too close to me". Individuals receive two scores upon completion which correspond with the two dimensions underlying adult attachment. Each score ranges from 6 to 42; a high score represents high attachment anxiety or attachment avoidance and a low score represents the opposite. In this study, reliability analysis showed a Cronbach’s alpha of .82, Cronbach’s alpha for anxiety and avoidance respectively were .74 and .87.

### Empathy measures

The study used two previously developed measures to assess the capacity for empathy the interpersonal reactivity index (IRI) (Davis, 1983) and the emotional competence short form (S-PEC) questionnaire (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014). The final version of the IRI consists of three seven-item subscales, each of which taps a separate aspect of empathy (cognitive and affective empathy and personal distress) which is the ability to put oneself in other people’s shoes and experience feelings such as sympathy, compassion and tenderness (Batson et al., 1997). The measure assesses both the emotional and cognitive aspects of empathy. Items are scored on a Likert-scale ranging from 0 (does not describe me well) to 4 (describes me very well) and items in each sub-scale are totalled to obtain the sub-scale score (score range for each scale = 0 - 28). Empathic concern (EC) measures “other-oriented” feelings of sympathy and concern for unfortunate others (e.g., “When I see someone being taken advantage of, I feel kind of protective towards them”). Perspective taking (PT) assesses attempts to take into consideration the point of view of others (e.g., “I try to look at everybody's side of a disagreement before I make a decision.” Personal distress (PD) assesses ‘self-oriented’ feelings and the tendency to feel anxious when confronted with negative situations (e.g., “I sometimes feel helpless when I am in the middle of a very emotional situation”). Reliability analysis showed a Cronbach’s alpha of .72 for the IRI in this study.

The S-PEC questionnaire (Mikolajczak et al., 2014) measures 'emotional intelligence'; high levels of emotional intelligence are believed to facilitate greater abilities to correctly identify and respond appropriately to emotions (self and others). There are 20 items in the S-PEC (10 items measure intrapersonal emotional intelligence and 10 items measure interpersonal intelligence) rated on a Likert-scale ranging from 1 (does not describe me well) to 5 (describes me very well). Sample items include "When I am touched by something, I immediately know what I feel" (intrapersonal) and "I am good at sensing what others are feeling" (interpersonal). The total scale is the sum of scores for all items and range from 20 – 100) with individual subscales for intrapersonal and interpersonal emotional intelligence ranging from 10 – 50. Reliability analysis showed the Cronbach's alpha was .80 for the S-PEC in this study.

### Implicit Association Task (IAT)

One of the most well-known measures of implicit attitudes is the Implicit Association Task (IAT) (Greenwald et al., 1998). The IAT assesses mental associations via a stimuli-sorting task (e.g., valenced associations with race, gender, etc.) and predicts cognition, affect, and behaviour (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). The IAT assesses the degree to which target pairs (e.g., deaf vs. hearing) and categories (e.g., compassion vs. indifferent) are mentally associated. The target words for this study were agreed upon by the researchers, see appendix 2-B for stimuli used in the IAT and the description of the IAT procedure. The premise behind the IAT is that one can more rapidly sort stimuli when pairings are compatible with associations. A standardized difference score (D-score) is calculated for each participant indicating in which condition (compatible vs. incompatible) they were faster. A D-score of 0 indicates no difference in speeds; a positive score indicates one was faster in the compatible block; a negative score indicates one was faster in the incompatible block. Those who scored faster in the compatible block suggest a preference for hearing people, those who scored faster in the incompatible block suggests a preference for deaf people. This IAT scores were compared with the explicit measures.

### Explicit Measure

Alongside the IAT measure, a one-question explicit measure was utilised as a direct comparison with the implicit measure. This question asked participants to rate their explicit preferences for deaf or hearing patients on a 7-point Likert scale from, 'I strongly prefer hearing patients to deaf patients' to a neutral response 'I like hearing and deaf patients equally' to ' I strongly prefer deaf patients to hearing patients'. Higher scores represent a preference for deaf patients and lower scores represent a preference for hearing patients.

## Procedure

The study was conducted online, and participants were given information at the start of the study which outlined the aims of the study and explained how the study will be conducted and what was expected from participants. At the end of the information page, it was highlighted that by continuing to the study questionnaires they were consenting to participate in the study. Participants were guided through the online questions and asked to pick a response for each item, then participants were directed to take part in the implicit association task. The study took approximately twenty minutes to complete. Once the online study had been completed the participants were asked if they were happy to submit their responses. All data was automatically anonymised, and participants' responses were not linked back to individuals.

## Data analysis

In reported results, *N* sizes varied due to missing data, therefore all available data were analysed to optimise *N* sizes. Pearson's correlation co-efficient was used to analyse the data for significant correlations as all the data was normally distributed. A total stigma score was used for analysis regardless of whether the participant completed the deaf MH vignette (*n* =37) or the hearing MH vignette (*n* = 38). The total stigma score was the sum of the scores for each question with a minimum score of 0 and a maximum score of 21.

A contact variable was computed which grouped participants' level of contact into two separate categories labelled 'most contact' and 'least contact'. Participants were assigned to the 'most contact' group if they reported social contact ('yes') and regular ('yes') or 'occasional' professional contact. Participants with only one type of contact (either professional or social, but not both) or no professional or social contact were assigned to the 'least contact' group.

### Research question 1

An independent samples t-test was employed to determine whether there were any significant differences in total stigma scores between the deaf MH and the hearing MH vignette.

### Research question 2a

The relationship between adult attachment (anxiety, avoidance), empathy and stigma towards deaf or hearing people with mental health problems were examined with Pearson's correlations.

### Research question 2b

A 2x2 analysis of variance (ANOVA) investigated group mean stigma scores by vignette (deaf MH, hearing MH) and contact groups (most contact, least contact).

### Research question 2c

The IAT scores were analysed using IATGEN software (Carpenter, 2019) The relationship between IAT scores, the explicit attitude score and the stigma scores were examined with Pearson's correlations.

### Ethics

Ethical approval of this study was obtained from the Faculty of Health and Medicine Research Ethics Committee (FHMREC Reference: FHMREC17084) and was granted by the University of Lancaster. Study procedures and data management was in line with General Data Protection Regulation (GDPR) (2018).

## Results

### Demographics and descriptive statistics

115 responses were recorded, however after incomplete responses were removed it left a total of 76 participants who completed all the online study, of which 56 completed the IAT component. See figure 1 for flow diagram of responses.

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Insert Figure 1 here

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Most participants were female (*n* = 60) and the age range was 21 to 64 with a mean age of 34 years. Most of the participants who reported their hearing status were hearing (*n* = 66). The reported job roles varied, however the majority identified as allied health professionals or other (*n* = 59) and 64% of the participants were trainee clinical psychologists or clinical psychologists (*n* = 49). Over half of the participants were still in training (*n* = 39). See table 1 for demographic information. See table 2 for means and descriptive data.

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Insert Table 1 here

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Insert Table 2 here

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The results are reported in line with the research questions.

1) **Is stigma towards deaf mental health service users different from stigma towards hearing mental health service users?**

There was no significant difference in stigma scores between the deaf MH vignette (M = 6.49, SD = 3.69) and the hearing MH vignette (M = 6.89, SD = 3.48); t(-.493), p > .05.

### 2a) Are attachment and empathy related to stigma towards deaf or hearing people with mental health problems?

The study hypothesised that attachment anxiety and avoidance would correlate with stigmatised attitudes, however, the results do not support this. There was no significant correlation between attachment anxiety or avoidance and the stigma vignette scores. The study hypothesised that empathy would be related to stigma scores and this hypothesis is partially supported by the results. Stigma scores in the hearing MH vignette had a negative correlation with empathic concern (r = -.378, p < .05). Those higher in empathic concern, scored lower on the stigma measure in the hearing MH vignette. The deaf MH vignette stigma scores did not correlate with the other measures. See table 3 for the correlations between the main variables.

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Insert Table 3 here

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**2b) Does contact with deaf people influence stigma towards deaf or hearing people with mental health problems?**

A 2x2 factorial analysis of variance yielded a main effect for contact with deaf people on stigma scores (F (1, 71) = 5.249, p < .05). The main effect of vignette was not significant. However, the interaction effect was significant (F (1, 35) = 4.515, p < .05) indicating that the contact effect was greater in the hearing MH vignette than the deaf MH vignette. Those with the most contact with deaf people, had higher stigma scores in the hearing MH vignette (M = 9.14, SD = 3.13) than those who had the least contact with deaf people (M = 5.58, SD = 3.01). Contact did not have a significant effect on stigma scores in the deaf MH vignette. See table 4 for the stigma scores on the two vignettes based on contact with deaf people. See figure 2 for the graph of the interaction effect.

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Insert Table 4 here

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Insert Figure 2 here

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### 2c) Are implicit and explicit attitudes correlated?

Results indicated that there were no significant correlations between the one-question explicit score, the IAT, or the stigma scores. There was no significant implicit attitude bias found suggesting that the scores did not significantly differ from zero, either positively or negatively. In other words, there was no implicit preference for deaf or hearing targets within the IAT component of the study.

Overall, the results partially support the study hypotheses, these are discussed further within the context of relevant research findings.

## Discussion

The study aimed to investigate whether stigma towards deaf mental health service users was different from stigma towards hearing mental health service users. Additionally the study investigated the association between attachment styles, empathy, and stigmatised attitudes and whether contact with deaf people was an influence on stigma. Finally, the study investigated implicit attitudes and whether these were related to explicit attitudes. The most noteworthy finding, although only tentative conclusions can be drawn, as it may have been due to chance, was that stigma attitudes were affected by the amount of contact with deaf people, although not in the way that was initially expected.

There was no significant difference between stigma scores in the deaf MH vignette and the hearing MH vignette suggesting that stigma towards deaf mental health service users did not differ from stigma towards hearing mental health service users. However, the results indicated that those who had the most contact with deaf individuals, held more stigmatised attitudes towards the hearing MH vignette than the deaf MH vignette. Considering previous research has highlighted the existence of negative attitudes and stigma towards deaf people (Cooper et al., 2003), these results, on the contrary, suggest that the attitudes were less negative in relation to deaf people. The effect of contact may not have been apparent in the deaf MH vignette due to a floor effect; the stigma scores were already relatively low so contact with deaf people did not reduce stigma. Other studies which have used the social distance scale to assess stigma towards people with mental health problems have varied in scores due to adaptation of the measure and differences in scoring, however a comparable study using the same measure indicated a similar stigma score towards people with mental health problems to that found in this study (in the most contact/hearing MH vignette group) (Corrigan, Edwards, Green, Diwan, & Penn, 2001) suggesting that overall stigma scores were lower than expected. The results indicated that respondents with more contact with deaf people may have held more stigmatised attitudes towards people with mental health problems, rather than deaf people with mental health problems which highlights the complex nature of stigmatised attitudes towards people with more than one stigmatising identity. Although this conclusion is tentative due to methodological limitations, there could be several explanations for this finding.

Firstly, it could be that due to participants understanding the research question through explanations in the information sheet, participants were aware of the focus of the study (on attitudes towards deaf people) and therefore reported socially desirable responses when presented with questions regarding their attitudes towards deaf people with mental health problems. Those who completed the stigma measure related to the hearing MH vignette may not have been primed to give socially desirable responses and the scores may reflect more representative attitudes towards this group. The explicit measure did not correlate with the implicit measure and although not statistically significant the IAT contrasted with the explicit measure in that those with most contact showed a preference for hearing people; therefore, it could be concluded that social desirability had some influence on the stigma scores and explicit measure. Research has identified that people with mental health problems are often subject to social stigma and prejudice (Hinshaw & Stier, 2008). A meta-analysis on public perceptions of mental illness over 20 years concluded that stigma attitudes have not significantly improved over this time (Schomerus et al., 2012). Therefore, this finding may reflect persistent stigmatised attitudes towards people with mental health problems amongst health professionals. It has been suggested from previous research that stigma towards people with mental health problems is greater than stigma towards people in the general population or those with physical illnesses (Phelan, 2005). Although the research into health professionals' attitudes towards people with mental health problems has not received the same level of interest as the general public, there is evidence to suggest that health professionals equally hold negative attitudes and perceptions of this marginalised group which may affect the resulting care that these individuals receive (Wahl & Aroesty-Cohen, 2010) .

Secondly, a further explanation may be that, although the hearing MH vignette and the deaf MH vignette were identical except for the inclusion of the person being deaf in the deaf MH vignette, the difficulties described in the deaf MH vignette may have been perceived to be 'normal' reactions to being deaf. In other words, participants responding to the vignettes did not recognise the description of mental health problems within the deaf MH vignette due to a perception that these difficulties are associated with being deaf; however, this is a stigmatising perception in itself and may perpetuate the ongoing difficulties that deaf people have when accessing health care services (Harmer, 1999). Deaf people often have problems communicating with the hearing population (Harris & Bamford, 2001) and this makes it difficult for them to develop social relationships; deaf people who communicate poorly with the hearing population tend to be more socially isolated (Bain, Scott, & Steinberg, 2004). Considering both vignettes refer to social isolation as part of the description of mental health problems, in the deaf MH vignette it may have been perceived as representative of deaf communication difficulties and respondents felt less desire for social distance. There was no significant difference between the stigma scores in the deaf mental health vignette and the mental health vignette overall, therefore it could be argued that contact with deaf people, although may have a de-stigmatising effect towards deaf people with mental health problems, it could be argued that it has a stigmatising influence on attitudes towards people with mental health problems. The rationale for investigating stigma towards deaf people with mental health problems was based on the research on multiple stigmatised identities which suggested that those with more than one stigmatising identity may experience more stigma and discrimination (Vaughns-Purdie & Eibach, 2008). However, the results do not support this, in fact, it could be argued that the inclusion of the deaf identity reduced the stigma towards deaf people with mental health problems; however, the study limitations should be taken into account when interpreting these findings.

The implicit measure (IAT) scores were not significantly correlated with any of the variables, which suggests thatimplicit attitudes towards deaf people are different to self-reported attitudes and presents a much more complex view of attitudes towards deaf people. There was no correlation between the implicit and one-question explicit attitude score which supports research that indicates that these attitudes are individual constructs and not related (Wilson et al., 2000). The lack of significant findings within the IAT measure may be due to the small sample size, so results are interpreted with caution.

The study hypothesised that attachment, empathy and stigmatised attitudes would be correlated. This was not supported by the results, although those higher in empathy scored lower on stigma scores in the hearing MH vignette, which suggests some evidence of a link between empathy and stigma. Perhaps the lack of a relationship with stigma scores reflect a more complex relationship between attachment, empathy and stigma.

## Clinical Implications

Although many of the findings are unclear due to the small sample size and mixed results, there are several clinical implications that can be drawn from the study. The results on the stigma vignettes may highlight the presence of persistent stigma towards people with mental health problems. Given that all the participants were health professionals, this demonstrates the need for increased understanding and awareness of the issues regarding mental health problems and stigma towards these individuals. Attitudes and behaviour are inextricably linked and if health professionals continue to hold these attitudes towards people with mental health problems, the provision of care to these individuals will be affected (Ajzen & Fishbein, 2000). It also highlights complications for mental health professionals when working with deaf individuals, such as misinterpretation of symptoms and a misunderstanding of deaf quality of life due to communication barriers, inappropriate assessment measures and culturally different perspectives (Connolly, Rose, & Austen, 2006). On the other hand, stigma towards deaf people was less apparent in this context, and it could be argued that health professionals have an awareness of deaf issues, but perhaps in showing positivity towards this group, further stigma towards other groups may have been increased; understanding why this may be the case is important to practitioners within this field.

## Limitations and further research

The present study has some limitations which may affect the overall validity and generalisability of the study. Given the limited sample size, the study may not be representative of the wider population. All the data was collected at the same time point, using a cross-sectional design, therefore, the results are correlational and directional causality cannot be determined. The findings indicate associations among variables, but further research into these factors is required to gain a better understanding of their associations.

In particular, the possible effect of contact found in this study does not allow for speculations on causality due to the correlational nature of the research. Whilst some researchers assume that increased contact leads to less stigmatised attitudes, others argue the reverse; that having more understanding and awareness of stigma targets increases the amount of contact they have with such individuals (Hein , Grumm, & Fingerle, 2011). Only experimental manipulation of the variables would allow for either hypothesis to be tested and there has been limited research in this area. There is no research on the causal direction of the relationship between contact and attitudes within the deaf population, but this could be the focus of further research. The importance of quality of contact with stigma targets has been reported for many years (Allport, 1954) and although this study distinguished between social and professional contact, there was no specific measure of amount or quality of contact with deaf people. Additionally the questions used to measure contact with deaf people in this study were not sufficient to fully explore this concept. The grouped contact variable resulted in uneven group sizes due to two thirds of the sample having limited or no contact with deaf people. Therefore the resulting conclusions may not be representative of the true relationship between the variables. Despite this, using a validated measure of amount and quality of contact may not have yielded significant findings, as there are many nuances that make up the experience of contact, which leads to the conclusion that some qualitative investigation may be appropriate for further research.

It must be noted that most findings were based on self-report measures and these could be subject to response bias and may not reflect true attitudes of health professionals. Although an implicit attitude measure was utilised to combat this, perhaps due to limited sample size, the findings were not significant. The lack of a significant finding can be attributed in part to technical difficulties during the set-up of the study; only 58 participants completed the IAT, which is fewer participants than completed the rest of the study and means that appropriate power may not have been achieved.

Although all efforts were made to ensure a mixed sample, some of the variables of interest had unequal sample sizes. For instance, 79% of the participants were female,88% were hearing individuals and 64% were clinical psychologists or trainee clinical psychologists which potentially adds a level of bias in the sample, resulting in skewed findingsThis may indicate problems with the recruitment strategy, such as using online collection of data and social media platforms to advertise the study. It was also not stipulated that health professionals had to be working with deaf people or people with mental health problems which means that results may not be generalisable and conclusions are limited. Further investigation, particularly regarding these variables is required considering that gender and membership of a minority group have been found to affect attitudes (Cooper et al., 2003).

Consideration must be focussed on the stigma measure, which included a description of either a deaf person with mental health problems or a hearing person with mental health problems. On reflection, the subject of the vignettes was presented as a female in all cases and this was not counterbalanced. It may be of interest to determine if the gender of the subject would affect the stigma attitudes towards them. No gender effects were found in the study, however, if the vignettes had included both male and female subjects, the results might have been different. Previous research has highlighted that females are generally more positive in their attitudes to certain groups (Herek & Glunt, 1993). In addition, studies which have used the same stigma measure have found that when identical vignettes have described behaviours exhibited by males and females, scores of social distance are more likely to be higher towards males (Jorm & Oh, 2009). This could be investigated in further research and would provide further detailed information regarding the influence of gender on attitudes, both as evaluators and stigma targets.

## Conclusion

Although the findings in this study are mixed and somewhat unexpected regarding stigmatised attitudes, it can be tentatively concluded that contact with deaf people might have an influence on attitudes, and that there is some evidence of a persistent stigma towards people with mental health problems. A positive finding was that the stigma measure highlighted comparatively less negative attitudes towards deaf people with mental health problems, which may be reflective of the sample, or that the inclusion of the deaf identity may have reduced the stigmatising impact of having a mental health problem. Implicit and explicit attitudes were not related in this study, suggesting further understanding regarding the relationship between implicit and explicit attitudes towards deaf people with mental health problems is required. The implications on deaf research are apparent; greater understanding of the relationships between the variables in this study is necessary in order to understand the complexities that clearly exist within attitudes towards deaf people.

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**Figure 1. Participant Flow Diagram**

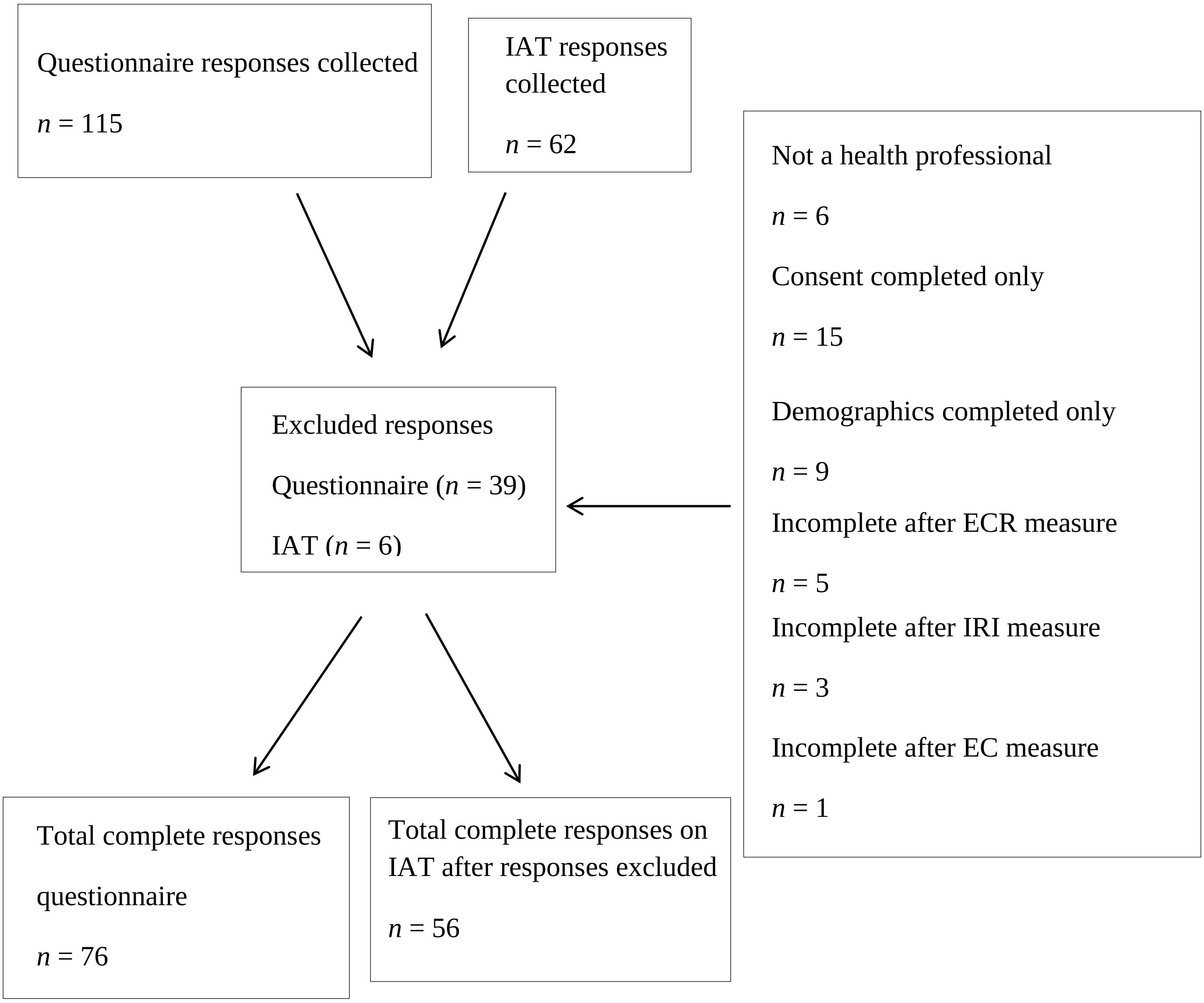

**Figure 2** – Showing the interaction effect on stigma scores for contact and vignette

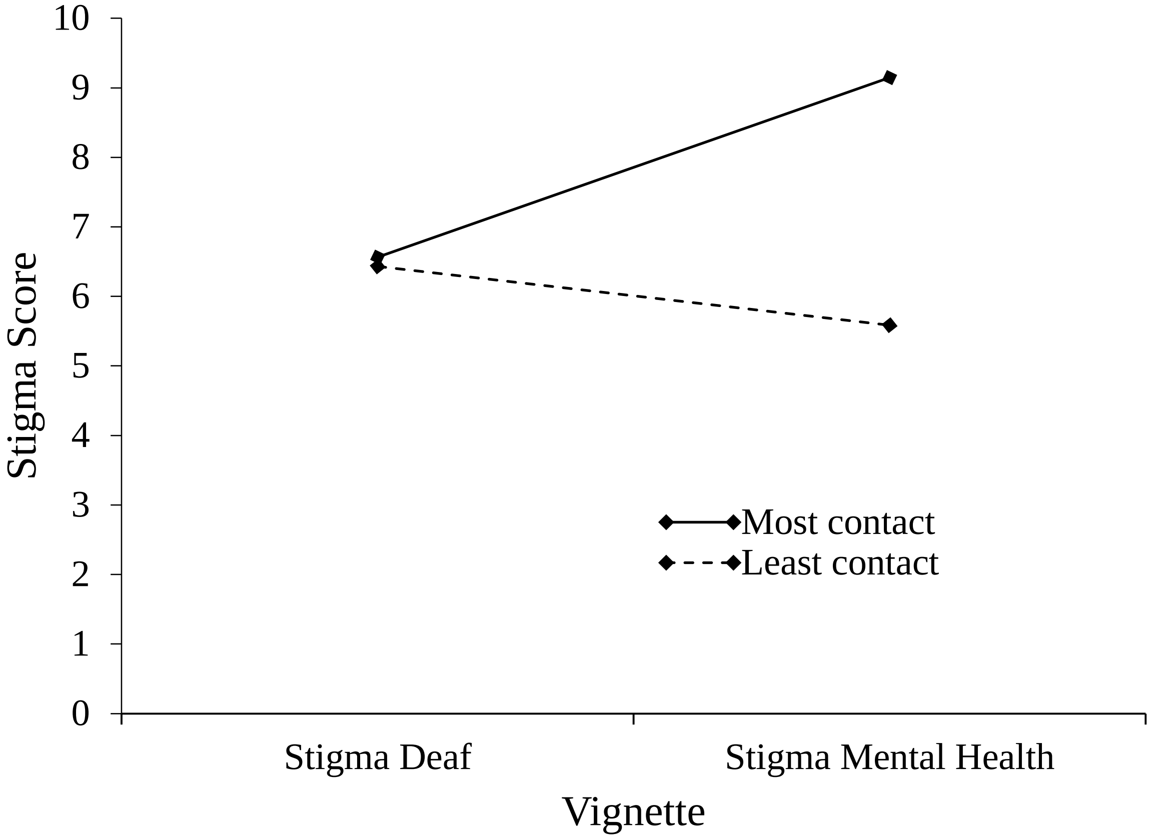

**Table 1** showing demographics of participants

| Demographic information | *N* |
|---|---|
| Hearing status | |
| Hearing | 66 |
| Deaf or hearing impaired | 9 |
| Total | 75 |
| Gender | |
| Male | 16 |
| Female | 60 |
| Total | 76 |
| Job Role | |
| Doctor | 6 |
| Nurse | 11 |
| Allied Health Professional | 35 |
| Other | 24 |
| Total | 76 |
| Job Title | |
| Doctor | 1 |
| Medical Student | 5 |
| Nurse | 9 |
| Student Nurse | 1 |
| Clinical Psychologist | 17 |
| Trainee Clinical Psychologist | 32 |
| Social Worker | 2 |
| Occupational Therapist | 1 |
| Mental Health Practitioner | 2 |
| Counsellor | 1 |
| Forensic Psychiatrist | 2 |
| Art Psychotherapist | 1 |
| Other | 2 |
| Total | 76 |
| In training | |
| Yes | 39 |
| No | 37 |

**Table 2** showing the mean and standard deviation of all the variables in the study.

| Variable | Mean | Std. Deviation | N |
|---|---|---|---|
| Explicit Attitude Score | 3.72 | 1.02 | 74 |
| IAT score | 0.04 | 0.36 | 58 |
| Attachment Anxiety | 19.12 | 6.14 | 76 |
| Attachment Avoidance | 12.83 | 5.81 | 76 |
| Empathic Concern IRI | 17.93 | 3.66 | 76 |
| Perspective Taking IRI | 16.18 | 3.45 | 76 |
| Personal Distress IRI | 8.24 | 2.96 | 76 |
| EI - Total | 74.96 | 8.79 | 76 |
| EI - Intrapersonal | 36.45 | 5.87 | 76 |
| EI - Interpersonal | 38.51 | 4.39 | 76 |
| Stigma - Deaf Vignette | 6.49 | 3.69 | 37 |
| Stigma - Mental Health Vignette | 6.89 | 3.48 | 38 |

**Table 3** showing correlations for main variables

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Attachment anxiety | .. | | | | | | | | |
| 2. Attachment avoidance | .355** | .. | | | | | | | |
| 3. IRI - Empathic Concern | -0.222 | -.295** | .. | | | | | | |
| 4. IRI - Perspective Taking | -.262* | -0.039 | .513** | .. | | | | | |
| 5. IRI - Personal Distress | 0.045 | -0.048 | 0.216 | .464** | .. | | | | |
| 6. EC Intrapersonal | -.362** | -.519** | .243* | 0.158 | -0.133 | .. | | | |
| 7. EC Interpersonal | -0.032 | -.283* | .228* | 0.067 | -0.183 | .456** | .. | | |
| 8. Stigma Deaf | -0.058 | -0.065 | -0.229 | -0.28 | -0.215 | -0.059 | -0.04 | .. | |
| 9. Stigma Mental Health | 0.151 | -0.111 | -.405* | -0.26 | -0.061 | 0.009 | 0.016 | | .. |

*Note:* **p* < .05, ***p* < .01, ****p* < .001, two-tailed. *N* = 76.

**Table 4** – showing stigma scores on the two vignettes based on contact with deaf people.

| Vignette | Contact | N | Mean | Std. Deviation |
|---|---|---|---|---|
| Stigma Deaf | Most Contact | 16 | 6.56 | 4.59 |
| | Least Contact | 21 | 6.43 | 2.96 |
| Stigma Mental Health | Most Contact | 14 | 9.14 | 3.13 |
| | Least Contact | 24 | 5.58 | 3.01 |

## Appendix 2-A

### *Journal of Personality and Social Psychology* - Author Guidelines

*Journal of Personality and Social Psychology* ® publishes original papers in all areas of personality and social psychology and emphasizes empirical reports, but may include specialized theoretical, methodological, and review papers.

The journal is divided into three independently edited sections.

**Attitudes and Social Cognition** addresses all aspects of psychology (e.g., attitudes, cognition, emotion, motivation) that take place in significant micro- and macrolevel social contexts.

Topics include, but are not limited to, attitudes, persuasion, attributions, stereotypes, prejudice, person memory, motivation and self-regulation, communication, social development, cultural processes, and the interplay of moods and emotions with cognition.

We accept papers using traditional social-personality psychology methods. However, we also strongly welcome innovative, theory-driven papers that utilize novel methods (e.g., biological methods, neuroscience, large-scale interventions, social network analyses, or "big data" approaches).

Papers that are driven by such methods may be processed under a new category of "Innovations in Social Psychology" and potentially handled in an expedited fashion (see Editorial published on-line).

All papers will be evaluated with criteria that are consistent with those of the best empirical outlets in social, behavioral, and biological sciences.

# Manuscript Preparation

Until May 31st 2020, prepare manuscripts according to the *Publication Manual of the American Psychological Association* using the 6th or 7th edition. Starting June 1st 2020, all manuscripts should be submitted in the 7th edition. Manuscripts may be copyedited for bias-free language (see Chapter 3 of the 6th edition or Chapter 5 of the 7th edition).

Review APA's Journal Manuscript Preparation Guidelines before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*. Additional guidance on APA Style is available on the APA Style website.

## Masked Review Policy

The journal has adopted a policy of masked review for all submissions. The cover letter should include all authors' names and institutional affiliations. The first page of text should omit this information but should include the title of the manuscript and the date it is submitted. Every effort should be made to see that the manuscript itself contains no clues to the authors' identity.

## Word Limits

Although papers should be written as succinctly as possible, there is no formal word limit on submissions.

## Abstract and Keywords

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.

## References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

- **Journal Article:**
  Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin, 139,* 133–151. http://dx.doi.org/10.1037/a0028566
- **Authored Book:**
  Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach.* Cambridge, MA: MIT Press.
- **Chapter in an Edited Book:**
  Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

## Tables

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

## Figures

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, please see the general guidelines.

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

For authors who prefer their figures to be published in color both in print and online, original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay:

- $900 for one figure
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## Display Equations

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

- Go to the Text section of the Insert tab and select Object.
- Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

## Computer Code

Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

### In Online Supplemental Materials

We request that runnable source code be included as supplemental material to the article. For more information, visit Supplementing Your Article With Online Material.

### In the Text of the Article

If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

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APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see Supplementing Your Article With Online Material for more details.

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Please note that APA does not endorse or take responsibility for the service providers listed. It is strictly a referral service.

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In light of changing patterns of scientific knowledge dissemination, APA requires authors to provide information on prior dissemination of the data and narrative interpretations of the data/research appearing in the manuscript (e.g., if some or all were presented at a conference or meeting, posted on a listserv, shared on a website, including academic social networks like ResearchGate, etc.). This information (2–4 sentences) must be provided as part of the Author Note.

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# Ethical Principles

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In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive claims through reanalysis and who intend to use such data only for that purpose, provided that the confidentiality of the participants can be protected and unless legal rights concerning proprietary data preclude their release" (Standard 8.14).

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Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

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The APA Ethics Office provides the full Ethical Principles of Psychologists and Code of Conduct electronically on its website in HTML, PDF, and Word format. You may also request a copy by emailing or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.

## Other Information

Visit the Journals Publishing Resource Center for more resources for writing, reviewing, and editing articles for publishing in APA journals.

# Appendix 2-B

## Stimuli for the IAT

| Positive words (attribute A - "Compassion") | Negative words (attribute B -"Indifference") | Target A words (Hearing patient) | Target B words (Deaf patient) |
|---|---|---|---|
| Affection | Challenging | Speaker | Signer |
| Care | Difficult | Oral | Visual |
| Healing | Selfish | Listener | Interpreter |
| Warmth | Weak | | |
| Hopeful | Ungrateful | | |
| Considerate | Stressful | | |
| Understanding | Unpleasant | | |
| Protective | Irresponsible | | |

## IAT Procedure

Participants place hands on the keyboard and complete seven blocks of stimuli sorting trials. In each trial, a word appears on the screen representing a category or target. The participant sorts the stimulus by pressing a key with the designated hand (e.g., left for deaf or indifferent; right for hearing or compassion). During the sorting, stimuli alternate between target trials (deaf and hearing) and category trials (compassion and indifference words). The premise behind the IAT is that one can more rapidly sort stimuli when pairings are compatible with associations. A standardized difference score (D-score) is calculated for each participant indicating in which condition (compatible vs. incompatible) they were faster. A D-score of 0 indicates no difference in speeds; a positive score indicates one was faster in the compatible block; a negative score indicates one was faster in the incompatible block. Those who scored faster in the compatible block suggest a preference for hearing patients, those who scored faster in the incompatible block suggests a preference for deaf patients.

## Appendix 2-C: Qualtrics declaration

The survey created and used for data collection for this paper was generated using Qualtrics software, Version XM of Qualtrics. Copyright © 2019 Qualtrics. Qualtrics and all other Qualtrics product or service names are registered trademarks or trademarks of Qualtrics, Provo, UT, USA.

SECTION THREE

Critical Appraisal

# Reflections on researching attitudes towards deaf people: Processes and challenges

Susan Saskia Doak

Submitted for partial fulfilment of the

Lancaster University Doctorate in Clinical Psychology

Word count (exc. title page, appendices, and references): 3554

Requests for reprints should be addressed to Susan Doak, Doctorate in Clinical Psychology, Furness Building, Lancaster University, Lancaster, LA1 4YG, United Kingdom (e-mail: s.doak@lancaster.ac.uk)

This paper will offer a critical appraisal of the thesis including the literature review and the empirical paper and provide reflections on the process of conducting online research investigating attitudes towards deaf service users. In order to effectively reflect on the research process, this paper will be written in the first person. The literature review focussed on general attitudes towards people who are deaf and the factors that affect these attitudes; the empirical paper investigated specifically the role of attachment and empathy on health professionals' stigmatising attitudes towards deaf service users using both explicit and implicit measures. This critical appraisal will summarise the main findings in both papers, following with discussion on how the project idea was developed. Reflections on the key stages of the research process will be provided including setting up an online study, recruitment, data collection, and data analysis. Finally, some personal reflections on the study will be considered and suggestions for future research.

## Main findings

The results of the literature review found that negative attitudes towards people who are deaf do exist and that there are several variables that have been shown to affect these attitudes. The most significant finding was the effect of contact on improving attitudes towards people who are deaf; those with more contact with deaf people had more positive attitudes towards them. Other variables such as gender, age, intergroup anxiety, social dominance orientation, meta-stereotypes, and knowledge of deaf issues and deaf awareness training were also found to affect attitudes towards people who are deaf. The gaps in the literature highlighted interpersonal and relational factors, which have not been investigated in relation to attitudes towards deaf people, which provided the rationale for the empirical paper.

The empirical paper was focussed on the attitudes of health professionals towards deaf mental health service users (an area of attitude research not often studied) and investigated the influence of attachment and empathy on both implicit and explicit attitudes.. Although attachment and empathy were not found to significantly correlate with stigmatising attitudes (implicit or explicit), the effect of contact was found to be a possible influence. Health professionals who had more contact with deaf individuals were not more or less stigmatising towards deaf mental health service users but results indicated they may have been more stigmatising towards mental health service users than deaf mental health service users. This finding  suggests there is a persistent stigma towards individuals with mental health problems that is less apparent when the individual is also deaf, but this warrants further understanding of the processes involved and more methodologically robust investigation. . Interpretations considered the findings to partially reflect socially desirable responses, but also that the deafness aspect within the stigma measure was possibly perceived as representative of deaf individuals' experiences, hence the mental health difficulties within the non-deaf vignette was more starkly apparent. The attachment measures correlated with the empathy measures, which emphasises the link between adult attachment and the capacity for empathy; however there was no relationship between attachment or empathy and the stigma scores. There was no association between the implicit and explicit measures suggesting that these are separate individual constructs. Limitations of the study were considered within the empirical paper, but this section aims to examine more in-depth some of the challenges faced in conducting, analysing and interpreting this research.

## Project development

The idea was initially developed as I was initially interested in the idea of compassion and empathy within mental health services and I was particularly keen to do quantitative research involving this topic. Given the wealth of research in the area of mental health, I chose another area of interest, which was the deaf population, given that this population can be subject to prejudiced and stereotyped attitudes (Mousley & Chaudoir, 2018), and a scoping review of the literature highlighted that there was limited research regarding compassion towards deaf service users. Compassion is one of the six core values within the National Health Service (NHS), therefore it was considered the most appropriate population to investigate in relation to attitudes towards deaf service users, as understanding compassion towards deaf service users in this context would be of most value in the field of clinical psychology. Further discussions regarding what compassion was highlighted three understandings: another name for empathic distress (label for vicarious experience of distress); a variant or blend of sadness or love; a distinct affective state (which evolutionary analyses supports). These understandings highlighted the similarity between compassion and empathy and considering there is no consensus on the definition of compassion and a lack of a psychometrically robust measure (Strauss et al., 2016),therefore it was agreed that the focus would be on empathy. Further reading highlighted factors that affect compassion and empathy such as individual differences, attachment styles, emotional flexibility and emotional intelligence.

The search for suitable measures identified the adult attachment measure, which has been used in previous studies to explore the link between attachment and empathy (Cherry, Fletcher, & O' Sullivan, 2014; Cherry, Fletcher, & O’Sullivan, 2013) and was appropriate for this study. Furthermore, two other measures were identified which tapped into the concept of emotional flexibility and emotional intelligence and were appropriate for the study. The consideration of investigating implicit attitudes included a rationale based upon the suggestion that implicit attitudes tap into the concept of compassion in ways that self-report measures fail to do and there is an argument that implicit attitudes have a stronger relationship with compassion and are not affected by social desirability (Greenwald et al., 2002). However, it was important to investigate the explicit attitudes of health professionals to give a foundation for understanding the attitudes held by health professionals towards deaf service users and the social distance measure (Jorm & Oh, 2009), which measures stigmatised attitudes towards groups of people, was considered appropriate for this study. The ability to manipulate the vignettes to represent a deaf or hearing person with mental health problems enabled a comparative measure of attitudes towards this population to be developed. Given the limited research that exists regarding explicit and implicit attitudes towards deaf service users by health professionals, the study design was the most appropriate to enable exploratory research into this under researched topic.

## Stages of research

### Setting up the online study

An online study was chosen simply for the advantages associated with this research methodology such as readily available user-friendly software and tools to collect and analyse data, access to wider audiences and low to zero costs (Keshnee, 2016). Qualtrics (Provo, UT), hosted by the University, was utilised to create the survey using the validated measures obtained from the literature and although it was a useful tool, it proved a challenging and time-consuming task, which delayed the start of the data collection. The Doctorate in Clinical Psychology is an academic and clinical training course, which aims to train practitioners in fulfilling the responsibilities of a clinical psychologist and although the requirements state proficiency in research methods, the additional technological and specific nuances of using Qualtrics (Provo, UT) as a data collection method was a further skill to acquire, which although challenging at the time, has enhanced my overall learning experience.

### Measures

The measures that were used in the study were chosen based on the literature within the relevant subject areas, however on reflection some aspects of these measures could have been improved to ensure the data collected was relevant and comparable. The social distance measure, which used vignettes to distinguish between a person with mental health problems and a deaf person with mental health problems would have benefitted from a further comparison vignette which included a person without mental health problems. It is noted, however that in order to achieve appropriate power in the analysis, a much higher response rate would be necessary. Furthermore, as mentioned within the empirical paper, the individual described within the vignettes was female in all cases, perhaps on reflection this should have been counterbalanced to reduce any gender effects.

Although the attachment measure and the empathy methods were useful in understanding the impact of these on attitudes towards deaf service users, on reflection it may have been more appropriate to use adapted measurement scales which targeted empathy *towards* deaf service users. The interpersonal reactivity index and the emotional competence measure were an overall measure of the respondents’ capacity for empathy and the fact that the results did not show a relationship with stigmatised attitudes may be simply because the measure was too broad overall. On further consideration, perhaps a measure of which encompasses empathy such as compassion satisfaction and compassion fatigue/burnout may have identified a relationship with stigma and attitudes towards deaf service users. The Professional Quality of Life scale (ProQOL) (Stamm, 2009) which is a measure of compassion satisfaction and compassion fatigue amongst health professionals might have been most appropriate, particularly if it was adapted towards working with deaf service users.

### Online research

As discussed, there are numerous advantages to conducting research online over traditional methods, however, there are equally many challenges to overcome and these can affect not only the validity of the study, but the justifiability of utilising this method. One of the biggest challenges of this kind of research is low responses rates (Monroe & Adams, 2012) and this is a challenge that I encountered when conducting this research. Low response rates threaten the validity of online research because it is argued participation is not random and those individuals that choose to take part may differ significantly from those individuals that choose *not* to take part (Manzo & Burke, 2012) which could be due to differing motivations or interest in the study subject (Sinclair, O'Toole, Malawaraarachchi, & Leder, 2012). In addition, younger respondents were identified as more likely to participate in web-based studies than older respondents, which may create a bias in the sample studied (Sinclair et al., 2012). One positive, however, is that research conducted online reduces the effect of interviewer bias, and respondents may feel more able to express their true feelings, therefore the results may be deemed to have more validity (Selm & Jankowski, 2006). However, there is a lack of control over online studies meaning that anyone is able to participate whether they are eligible or not and the responses could be skewed as a result (Selm & Jankowski, 2006). These variables must be considered when discussing the generalisability of the research findings, but it is impossible to know specifically regarding this study without further investigation. However, low response rates were a factor within this project and considerations relating to the recruitment process and strategies must be reflected upon.

### Recruitment and data collection

Participants were recruited online via social media (Twitter), via doctorate in clinical psychology training programmes, medical schools, nursing schools and social work training courses. This was a purposeful strategy which aimed to reach a wide audiencehowever there may have been barriers preventing a number of health professionals from taking part. As the

NHS ethics process usually requires to be sought through a specific trust, or location, it was thought not to be feasible or practical to apply for approval through these avenues, which meant that many health professionals within the NHS who would have been eligible to participate were not aware of the study. Publicising the study via social media was not an easy task, given the complexities of involving anonymous participants without directly contacting individuals, which may explain the overall response rate which in this study was 76 participants. There was significant bias within the sample collected; over 60% of the participants were clinical psychologists or trainee clinical psychologists which suggests it was not a representative sample of health professionals. It was not specified that health professionals required experience of working with deaf people or deaf people with mental health problems, therefore it limited the variability within the sample; nearly two thirds of the sample had limited or no contact with deaf people, which created uneven group sizes for the analysis.

Technological issues also complicated recruitment and data collection; it became apparent partway through the data collection that although the IAT was linked to the initial survey through Qualtrics (Provo, UT), some participants were not directed to complete this aspect (or dropped out at this stage) and this resulted in fewer responses on this component which meant the overall analysis had less power. The technological issues were resolved at a later stage and all further participants were directed to the IAT. However, it was emphasised in the participant information sheet before commencing the study that the survey could not be completed on a mobile phone or a tablet, as the IAT was only compatible with a laptop or desktop computer, but it is unknown whether any participants attempted this, in which case the survey results would have been recorded, but not the IAT component. Overall 56 out of 76 participants completed the IAT, which significantly affected the resulting power in the analysis and the subsequent conclusions based on the results.

### Data Analysis

Due to the low sample size, appropriate power was not achieved for analysis, therefore the results had to be interpreted with caution. Although the hypotheses of the study, which were based on previous research and the evidence base, were not fully supported by the results in the empirical study, the study design and implementation, and the resulting sample size could have had a large influence on the overall findings therefore it is unclear what conclusions can be drawn.

## Personal reflections

I will now consider some personal reflections on the process of conducting this research using some of the questions posed in the reflective model framework by Rolfe, Freshwater, and Jasper (2001). I will discuss some of the critical issues of the research, how I addressed them and will highlight the impact on my learning and the outcome of the research.

As a hearing person, conducting research into issues related to being deaf was a new experience for me. I had to not only understand the issues for deaf people, but also consider the issues for health professionals and their conceptualisations of what it is to be deaf. I found it difficult at first to understand the deaf perspective as there is so much variation in the identification of being deaf, as well as the terminology; whilst some identify with deaf culture and language by using a capital ‘D’ in Deaf, others prefer the term ‘deaf’ as an inclusive term for all those who are deaf (Pudans-Smith, Cue, Wolsey, & Clark, 2019). There is much debate on the topic of whether to use capitalisation to denote the affiliation to deaf culture; it has been used for many years within research and academia, but some have argued that it could create division between communities which is not a positive outcome (Pudans-Smith et al., 2019). When embarking on this project, there was no consensus on how to refer to the deaf population and for the purposes of my study, I reflected on the different terms, but chose to use the term ‘deaf’ in order to be inclusive and to reflect a lay persons understanding of being deaf.

After considering the terminology, and justifying its use in this research, I had to consider the best approach in determining attitudes towards deaf people. My role in this project was to identify and collate evidence regarding attitudes towards deaf people, which was not a simple task given that there is limited research in this area. Initially, after undertaking the literature review, I felt that attitudes to deaf individuals were unfairly represented in a lot of the research and considered to be overly negative (Foss, 2014), perhaps due to specific measures used within studies and assumptions about the experience of being deaf. Many of the measures used to assess attitudes included aspects specific to being deaf, which may have led to overly negative reactions; descriptions of being deaf may skew the assessment of attitudes towards this group (Kottke, Mellor, & Schmidt, 1987). Furthermore, using measures of attitudes that have been adapted to deaf people, may itself increased the negativity of those attitudes. Although negative and stigmatising attitudes towards deaf people have been identified within the literature, and provided the rationale for this project, my overall understanding after conducting this research is that there are equally positive attitudes towards this group and that considering the way it is measured and defined is important. I equally do not wish to dismiss the experiences of deaf individuals, who have often felt stigmatised and rejected by many within the hearing population; there is research which highlights the negative experiences of deaf people (Mousley & Chaudoir, 2018), therefore I do not deny that there are still many issues to address.

My objective was to include measures that were not specifically asking questions about what deaf people can and cannot do, but simply measured health professionals’ stigmatised attitudes towards them, to gain a better understanding about how this group are perceived by those providing their care. Therefore, I used a social distance measure that has been used in previous research to study stigmatised attitudes towards many different groups, most widely towards individuals with mental health problems (Jorm & Oh, 2009). The rationale for choosing this measure was to gain an objective measure of the level of acceptance by health professionals of deaf people and was chosen over other measures for its simplicity and lack of specificity to deaf issues. In other words, it can be applied to any population who are considered an outgroup and enables researchers to determine the level of rejection and isolation an individual may experience based on these judgements. One positive outcome of the research was that overall the stigma scores did not suggest the presence of stigma towards deaf people, however it did identify persistent stigma towards people with mental health problems, which is a concerning finding itself that needs addressing in future research. The implicit measure which also found no significant preference for deaf or hearing people, further demonstrates this positive finding.

The consequences of undertaking this research on both my knowledge and learning and the practical value it provides to clinical psychology is apparent. Whilst the literature identified several ways that interventions such as increasing contact and deaf awareness training can do to reduce stigma towards deaf people, the empirical paper showed a much more complex formulation of attitudes towards deaf people and further research is required on a much wider scale. Taking into account the demographics of the participants, many of whom were clinical psychologists or trainee clinical psychologists, these positive findings must be considered in this context.

On a personal level, I have overcome the assumption that attitudes towards deaf people are overly negative i.e. there may be aspects of being deaf which might be assumed to be negative, but overall the research provides a much more holistic, comprehensive and positive understanding of what it is to be deaf, which clearly varies between individuals. I have learnt that research should not be biased or led by assumptions and that in doing so, the value is lost; although the results of the empirical paper may have been unexpected to some degree, in the process of removing initial expectation, more clarity is provided.

## Further considerations

In the process of conducting this project and reflecting on some of the limitations, it is important to consider what could be done differently in the future. As highlighted earlier, the recruitment strategy used did not result in a large number of responses, which could be partially attributed to time constraints and feasibility of online recruitment but could also be due to the overall approach taken. Although online research has its advantages such as access to a wider audience, it may be useful when aiming to recruit large numbers of participants for a more comprehensive recruitment strategy to be employed. For example, the study could be publicised through attendance at health professional conferences where large numbers of health professionals would have the opportunity to hear about the study or obtaining invitations to health professional training programmes in order to present the study to potential participants. If repeated, the study could be more widely publicised within the NHS, if appropriate ethical approval was obtained in advance, which would have increased the number of responses significantly. Overall the sample size and demographics might have been in limiting factor in providing knowledge and understanding in this topic area and therefore it is important for the recruitment strategy to be improved upon in further research.

It is important to consider the use of quantitative methodology when conducting research into this area; the study identified a wide variation in the reported attitudes and stigma towards deaf people and there may be aspects of the relationships between variables that have not been explored. Qualitative methodology could be employed alongside this research in order to provide a richer account of health professionals conceptualisations of deaf service users and further the knowledge base, given that qualitative research can be useful in exploring complex or relatively unexplored areas (Clarke & Jack, 1998). In addition, explorations of the perspectives of deaf people, who are the ones receiving care from health professionals, might provide a more balanced account.

My aim in further research would be to enhance the knowledge and understanding gained through conducting this research and to provide a more comprehensive framework to conceptualise the relationships between the relevant factors. There is limited research in this area, which suggests that there is lack of knowledge regarding the complex relationships between attitudes, attachment, empathyand stigma in relation to deaf people with mental health problems, therefore further research is necessary. Although initially the research was focused on the deaf population, the finding that a possible persistent stigma towards people with mental health problems was more problematic suggests that further exploration is required, especially considering there is evidence to suggest that deaf people are more likely to be diagnosed with mental health problems (Kvam, Loeb, & Tambs, 2007). The overall complexity of the inter-relationships between the variables in the study and the synthesised understandings provided by the literature review require further exploration, but I have learnt a lot throughout this process and I would be keen to further the knowledge base in this area.

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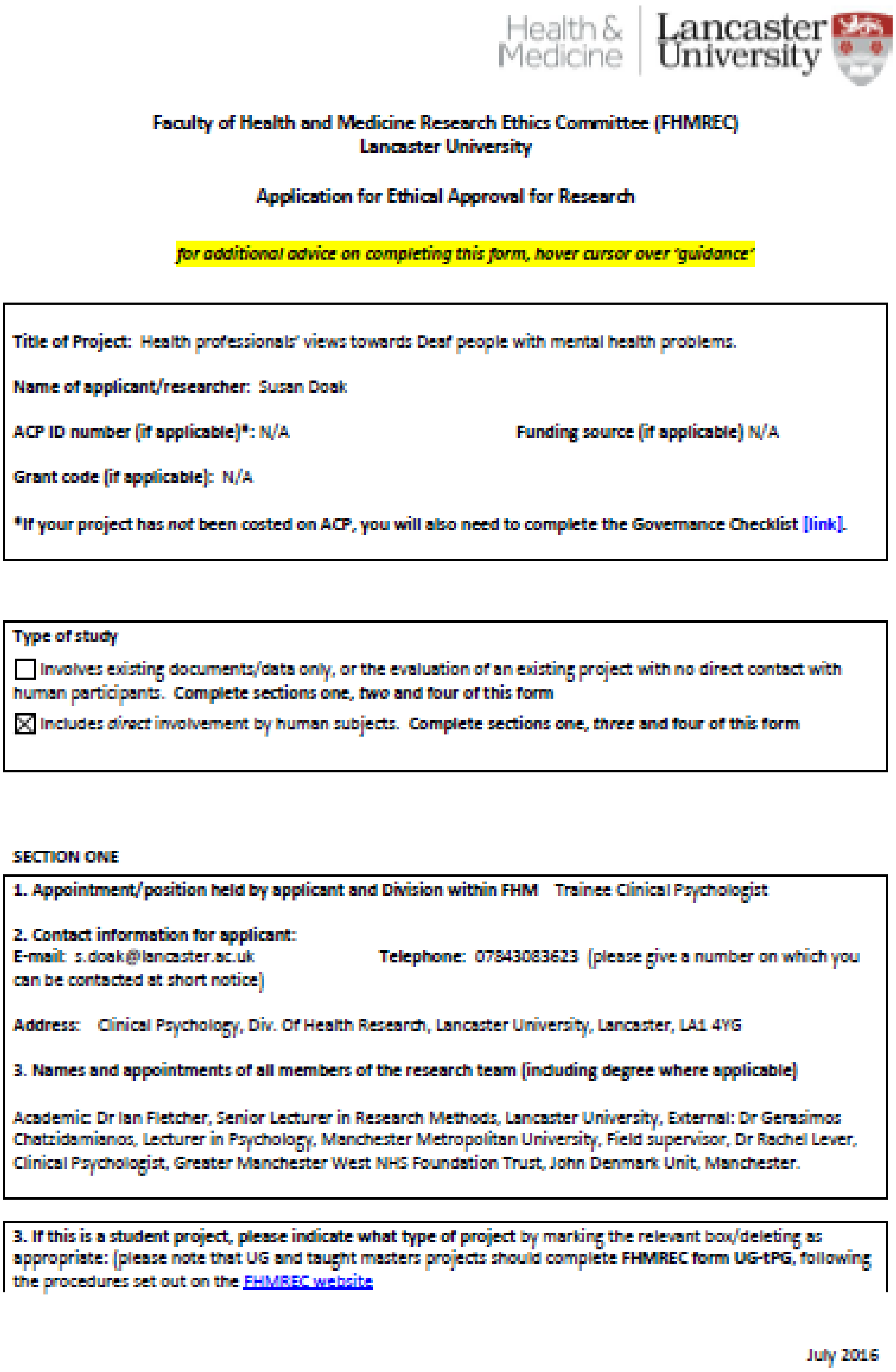
# SECTION FOUR

## Ethics Forms

Word count (exc. title page and appendices): 4,777

Requests for reprints should be addressed to Susan Doak, Doctorate in Clinical Psychology, Furness Building, Lancaster University, Lancaster, LA1 4YG, United Kingdom (e-mail: s.doak@lancaster.ac.uk)

# FHMREC Application Form



**Faculty of Health and Medicine Research Ethics Committee (FHMREC)**
**Lancaster University**

**Application for Ethical Approval for Research**

*for additional advice on completing this form, hover cursor over 'guidance'*

**Title of Project:** Health professionals' views towards Deaf people with mental health problems.

**Name of applicant/researcher:** Susan Doak

**ACP ID number (if applicable)*:** N/A **Funding source (if applicable)** N/A

**Grant code (if applicable):** N/A

***If your project has *not* been costed on ACP, you will also need to complete the Governance Checklist [link].**

**Type of study**

☐ Involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants. **Complete sections one, *two* and four of this form**

☒ Includes *direct* involvement by human subjects. **Complete sections one, *three* and four of this form**

**SECTION ONE**

**1. Appointment/position held by applicant and Division within FHM** Trainee Clinical Psychologist

**2. Contact information for applicant:**
**E-mail:** s.doak@lancaster.ac.uk **Telephone:** 07843083623 (please give a number on which you can be contacted at short notice)

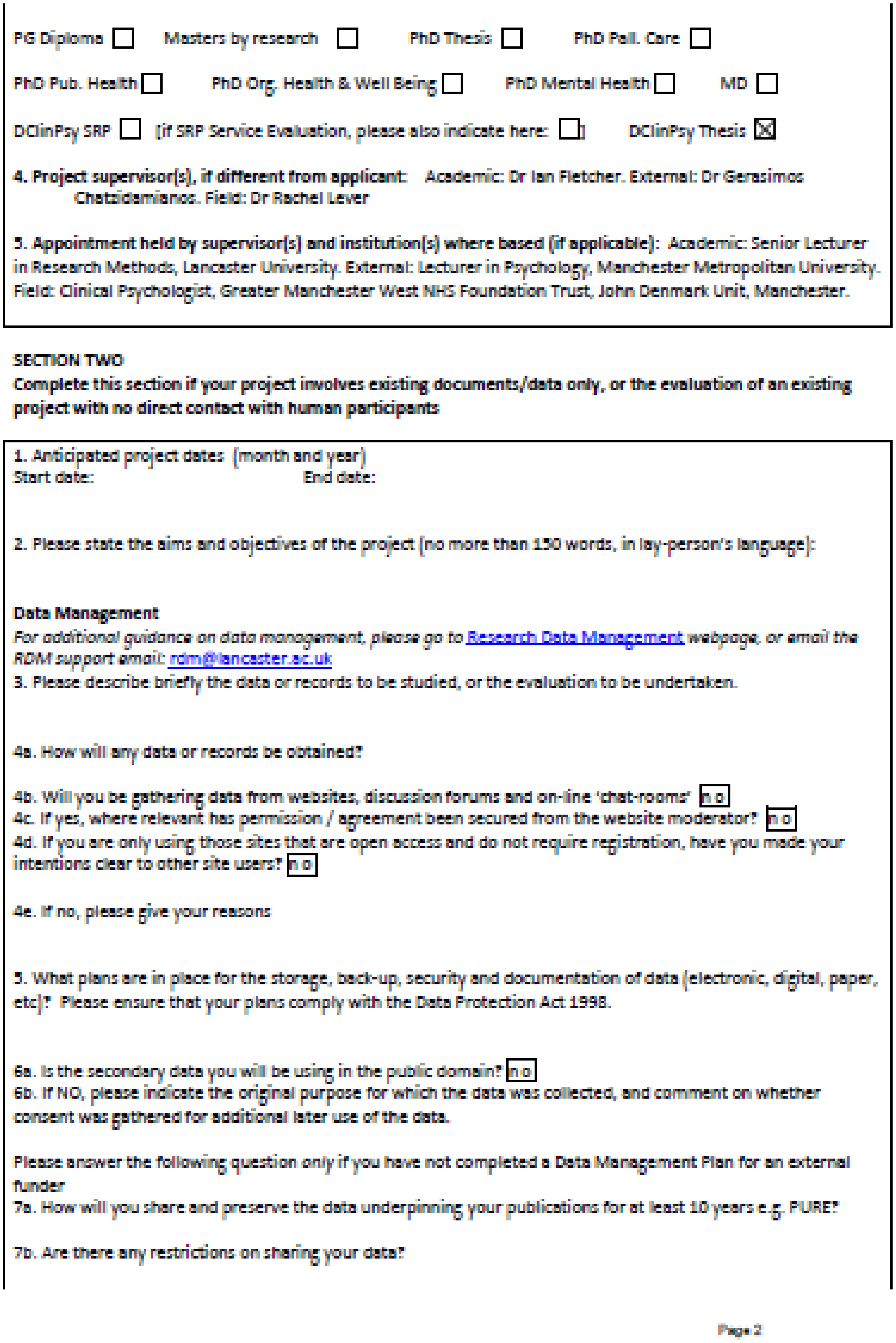
**Address:** Clinical Psychology, Div. Of Health Research, Lancaster University, Lancaster, LA1 4YG

**3. Names and appointments of all members of the research team (including degree where applicable)**

Academic: Dr Ian Fletcher, Senior Lecturer in Research Methods, Lancaster University, External: Dr Gerasimos Chatzidamianos, Lecturer in Psychology, Manchester Metropolitan University, Field supervisor, Dr Rachel Lever, Clinical Psychologist, Greater Manchester West NHS Foundation Trust, John Denmark Unit, Manchester.

**3. If this is a student project, please indicate what type of project** by marking the relevant box/deleting as appropriate: (please note that UG and taught masters projects should complete **FHMREC form UG-tPG**, following the procedures set out on the FHMREC website

July 2016



PG Diploma ☐ Masters by research ☐ PhD Thesis ☐ PhD Pall. Care ☐

PhD Pub. Health ☐ PhD Org. Health & Well Being ☐ PhD Mental Health ☐ MD ☐

DClinPsy SRP ☐ [if SRP Service Evaluation, please also indicate here: ☐] DClinPsy Thesis ☒

**4. Project supervisor(s), if different from applicant:** Academic: Dr Ian Fletcher. External: Dr Gerasimos Chatzidamianos. Field: Dr Rachel Lever

**5. Appointment held by supervisor(s) and institution(s) where based (if applicable):** Academic: Senior Lecturer in Research Methods, Lancaster University. External: Lecturer in Psychology, Manchester Metropolitan University. Field: Clinical Psychologist, Greater Manchester West NHS Foundation Trust, John Denmark Unit, Manchester.

**SECTION TWO**

**Complete this section if your project involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants**

1. Anticipated project dates (month and year)
Start date: End date:

2. Please state the aims and objectives of the project (no more than 150 words, in lay-person's language):

**Data Management**

*For additional guidance on data management, please go to* Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

3. Please describe briefly the data or records to be studied, or the evaluation to be undertaken.

4a. How will any data or records be obtained?

4b. Will you be gathering data from websites, discussion forums and on-line 'chat-rooms' no

4c. If yes, where relevant has permission / agreement been secured from the website moderator? no

4d. If you are only using those sites that are open access and do not require registration, have you made your intentions clear to other site users? no

4e. If no, please give your reasons

5. What plans are in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc)? Please ensure that your plans comply with the Data Protection Act 1998.

6a. Is the secondary data you will be using in the public domain? no

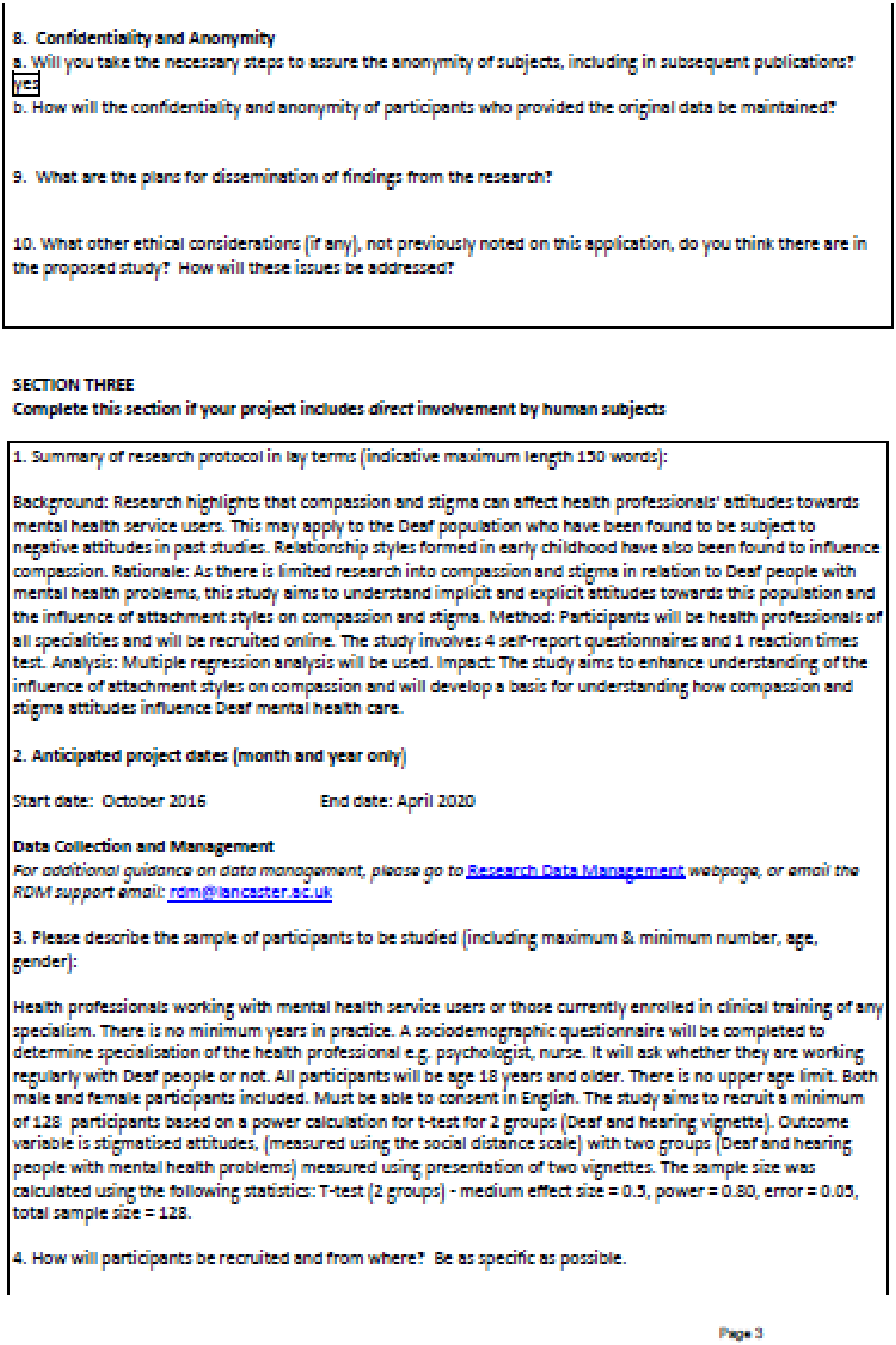
6b. If NO, please indicate the original purpose for which the data was collected, and comment on whether consent was gathered for additional later use of the data.

Please answer the following question *only* if you have not completed a Data Management Plan for an external funder

7a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

7b. Are there any restrictions on sharing your data?

Page 2



**8. Confidentiality and Anonymity**

a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications? yes

b. How will the confidentiality and anonymity of participants who provided the original data be maintained?

9. What are the plans for dissemination of findings from the research?

10. What other ethical considerations (if any), not previously noted on this application, do you think there are in the proposed study? How will these issues be addressed?

**SECTION THREE**

**Complete this section if your project includes *direct* involvement by human subjects**

1. Summary of research protocol in lay terms (indicative maximum length 150 words):

Background: Research highlights that compassion and stigma can affect health professionals' attitudes towards mental health service users. This may apply to the Deaf population who have been found to be subject to negative attitudes in past studies. Relationship styles formed in early childhood have also been found to influence compassion. Rationale: As there is limited research into compassion and stigma in relation to Deaf people with mental health problems, this study aims to understand implicit and explicit attitudes towards this population and the influence of attachment styles on compassion and stigma. Method: Participants will be health professionals of all specialities and will be recruited online. The study involves 4 self-report questionnaires and 1 reaction times test. Analysis: Multiple regression analysis will be used. Impact: The study aims to enhance understanding of the influence of attachment styles on compassion and will develop a basis for understanding how compassion and stigma attitudes influence Deaf mental health care.

**2. Anticipated project dates (month and year only)**

Start date: October 2016 End date: April 2020

**Data Collection and Management**

*For additional guidance on data management, please go to* Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

3. Please describe the sample of participants to be studied (including maximum & minimum number, age, gender):

Health professionals working with mental health service users or those currently enrolled in clinical training of any specialism. There is no minimum years in practice. A sociodemographic questionnaire will be completed to determine specialisation of the health professional e.g. psychologist, nurse. It will ask whether they are working regularly with Deaf people or not. All participants will be age 18 years and older. There is no upper age limit. Both male and female participants included. Must be able to consent in English. The study aims to recruit a minimum of 128 participants based on a power calculation for t-test for 2 groups (Deaf and hearing vignette). Outcome variable is stigmatised attitudes, (measured using the social distance scale) with two groups (Deaf and hearing people with mental health problems) measured using presentation of two vignettes. The sample size was calculated using the following statistics: T-test (2 groups) - medium effect size = 0.5, power = 0.80, error = 0.05, total sample size = 128.

4. How will participants be recruited and from where? Be as specific as possible.

Page 3

Participants will be recruited online via social media (not Facebook) using a twitter feed, online websites such as the Lancaster DClinPsy website and other health profession training websites (with permission form the administrator), snowballing through the field and external supervisors, through DClinPsy training programmes and UK based medical schools, nursing schools and social work training through publically available advertisement in print and electronic format. Potential participants will be directed to the online study.

Where clinical/medical training programmes will be approached, all material will be sent to programmes' administrators asking to forward the study material to suitable individuals who meet inclusion criteria to take part. At no point will any member of the research team initiate direct contact with potential participants

5. Briefly describe your data collection and analysis methods, and the rationale for their use.

Data collection: Data will be collected via responses to the 4 online questionnaires and the online implicit association test. Participants will be presented with a general measure of empathy, adult attachment and emotional competence. Participants will then be presented randomly with 1 of 2 vignettes followed by a questions related to social distance (stigma) to assess any differences between reponses to the vignettes. Participants will then complete the single category Implicit Association Test (IAT). Permission is not required to use the questionnaires for this study. The platform I will be using to develop the online study will be Qualtrics and I will make it compatible for desktops, laptops, tablets and mobile phones. Once the online study is developed it will be tried out by the research team to check for ease of use and clarity.
All data will be collected anonymously and it will only be stored on the University password protected H drive for data analysis and storage, and the H drive will be accessed via the virtual private network (VPN). If there are less than 10 participants who have taken part in the study, the data will not be used. This will protect anonymity for those who have provided contact details. Analysis: Quantitative analysis will be used. Parametric and non-parametric tests will be conducted as appropriate. The researcher will conduct exploratory data analysis (EDA) followed by multiple regression analysis. ANOVA will also be used to compare the differences between responses to the vignettes.

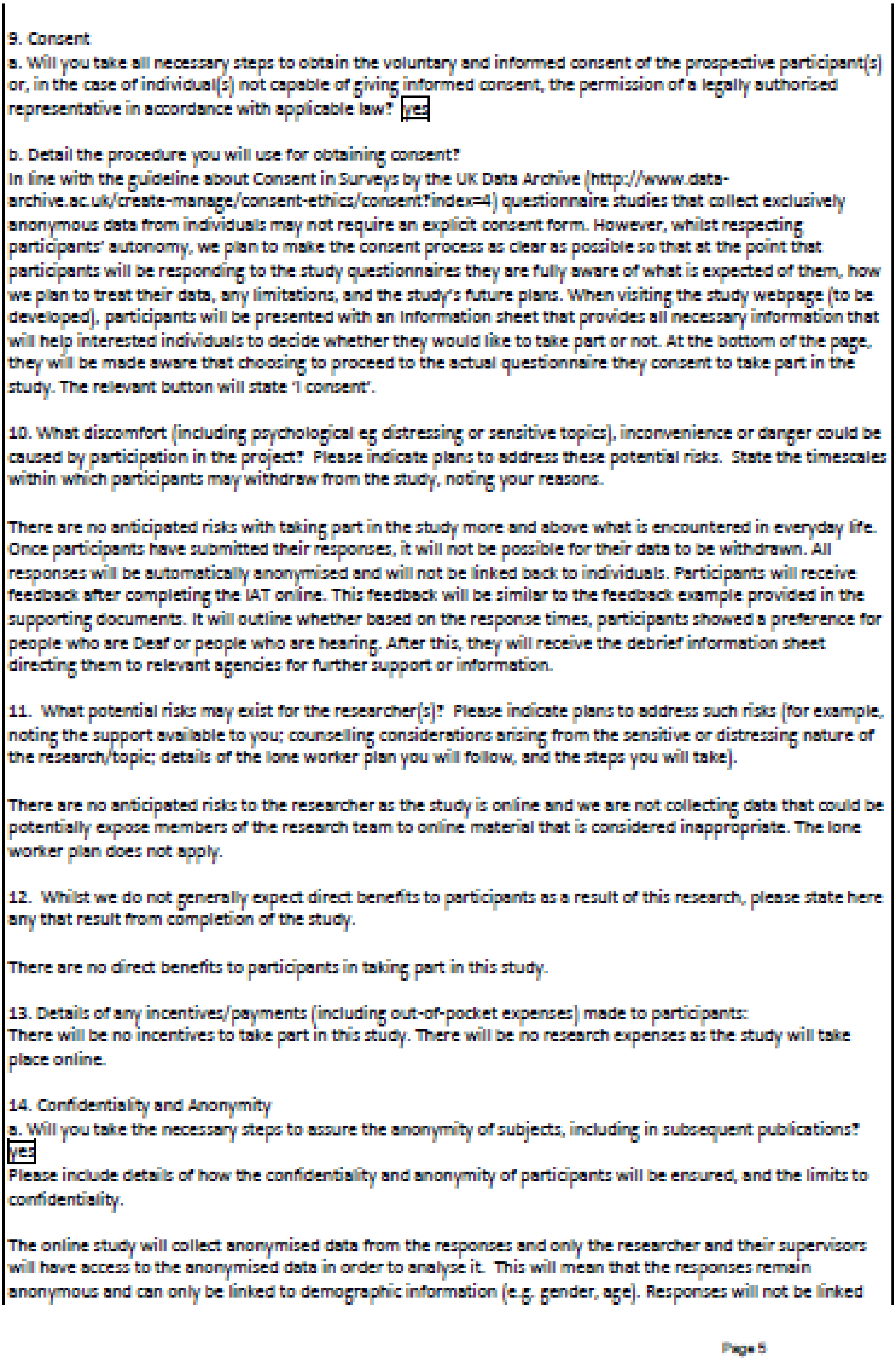
6. What plan is in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc.)? Please ensure that your plans comply with the Data Protection Act 1998.

All data will be stored electronically on the University's secure server (H drive) and only the researcher and their supervisors will have access to the raw data via the VPN. Contact details will only be retained if participants request to be informed about the results at the end of the study. These will be stored on the University's secure server (H drive) separately to the study data and only the researcher will have access to this information. As we will only be collecting anonymous data, it will not be possible for contact details of those interested in the study findings to be linked with their responses. If there are less than 10 participants that take part in the study, then the data will not be used. This will protect the anonymity of those who have provided contact details. The academic supervisor, Dr Ian Fletcher, will act as custodian for the data and keep it securely for 10 years and then it will be deleted/destroyed after this period of time.

7. Will audio or video recording take place? ☒ no ☐ audio ☐ video
a. Please confirm that portable devices (laptop, USB drive etc) will be encrypted where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data.

b What arrangements have been made for audio/video data storage? At what point in the research will tapes/digital recordings/files be destroyed?

Please answer the following questions *only* if you have not completed a Data Management Plan for an external funder
8a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?
Data will be stored on the research drive anonymously in electronic format for 10 years, at which point it will be destroyed.
8b. Are there any restrictions on sharing your data ?
Data will not be shared.



9. Consent

a. Will you take all necessary steps to obtain the voluntary and informed consent of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law? yes

b. Detail the procedure you will use for obtaining consent?

In line with the guideline about Consent in Surveys by the UK Data Archive (http://www.data-archive.ac.uk/create-manage/consent-ethics/consent?index=4) questionnaire studies that collect exclusively anonymous data from individuals may not require an explicit consent form. However, whilst respecting participants' autonomy, we plan to make the consent process as clear as possible so that at the point that participants will be responding to the study questionnaires they are fully aware of what is expected of them, how we plan to treat their data, any limitations, and the study's future plans. When visiting the study webpage (to be developed), participants will be presented with an information sheet that provides all necessary information that will help interested individuals to decide whether they would like to take part or not. At the bottom of the page, they will be made aware that choosing to proceed to the actual questionnaire they consent to take part in the study. The relevant button will state 'I consent'.

10. What discomfort (including psychological eg distressing or sensitive topics), inconvenience or danger could be caused by participation in the project? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.

There are no anticipated risks with taking part in the study more and above what is encountered in everyday life. Once participants have submitted their responses, it will not be possible for their data to be withdrawn. All responses will be automatically anonymised and will not be linked back to individuals. Participants will receive feedback after completing the IAT online. This feedback will be similar to the feedback example provided in the supporting documents. It will outline whether based on the response times, participants showed a preference for people who are Deaf or people who are hearing. After this, they will receive the debrief information sheet directing them to relevant agencies for further support or information.

11. What potential risks may exist for the researcher(s)? Please indicate plans to address such risks (for example, noting the support available to you; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you will follow, and the steps you will take).

There are no anticipated risks to the researcher as the study is online and we are not collecting data that could be potentially expose members of the research team to online material that is considered inappropriate. The lone worker plan does not apply.

12. Whilst we do not generally expect direct benefits to participants as a result of this research, please state here any that result from completion of the study.

There are no direct benefits to participants in taking part in this study.

13. Details of any incentives/payments (including out-of-pocket expenses) made to participants:

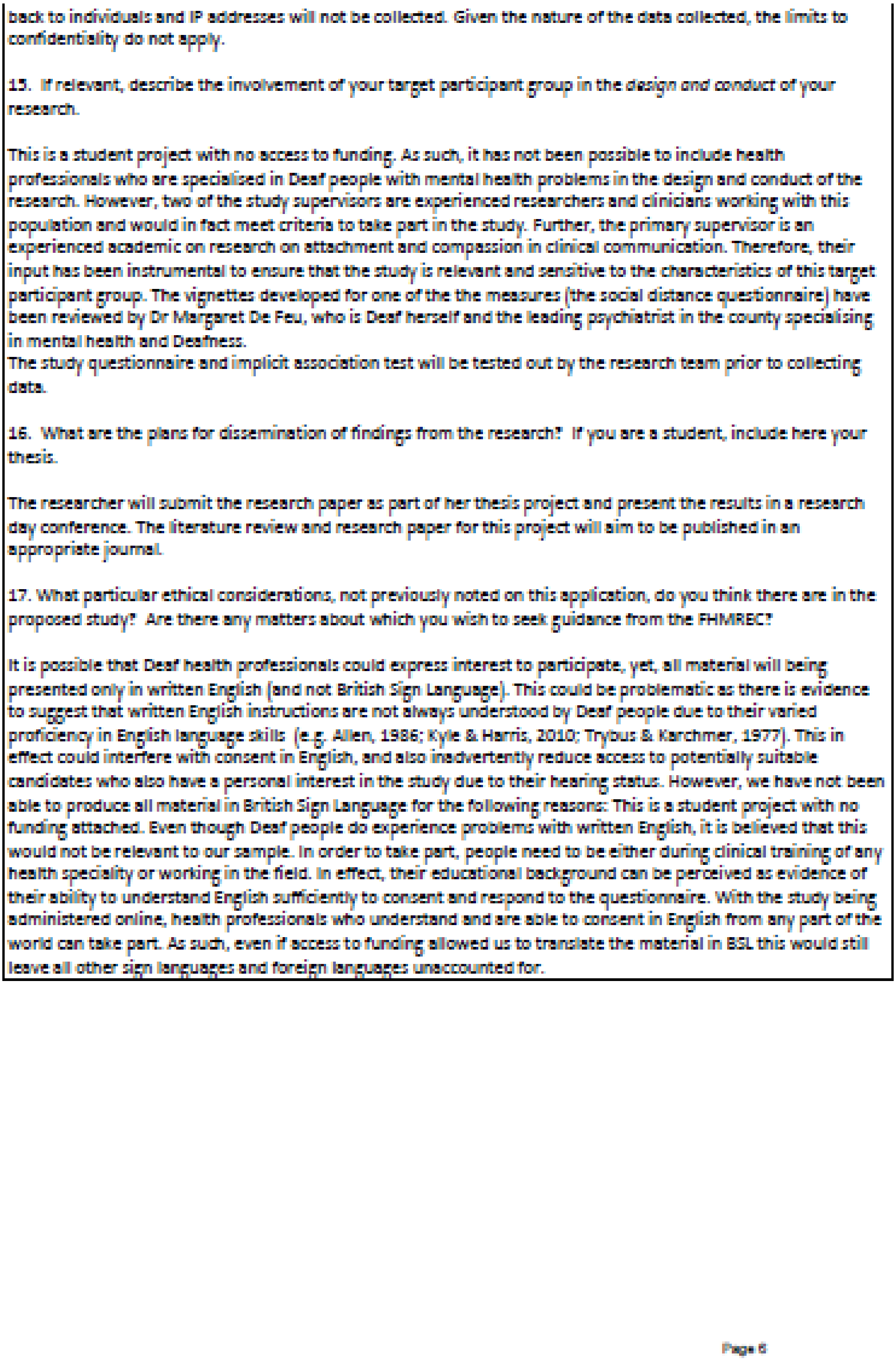
There will be no incentives to take part in this study. There will be no research expenses as the study will take place online.

14. Confidentiality and Anonymity

a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications? yes

Please include details of how the confidentiality and anonymity of participants will be ensured, and the limits to confidentiality.

The online study will collect anonymised data from the responses and only the researcher and their supervisors will have access to the anonymised data in order to analyse it. This will mean that the responses remain anonymous and can only be linked to demographic information (e.g. gender, age). Responses will not be linked



back to individuals and IP addresses will not be collected. Given the nature of the data collected, the limits to confidentiality do not apply.

15. If relevant, describe the involvement of your target participant group in the *design and conduct* of your research.

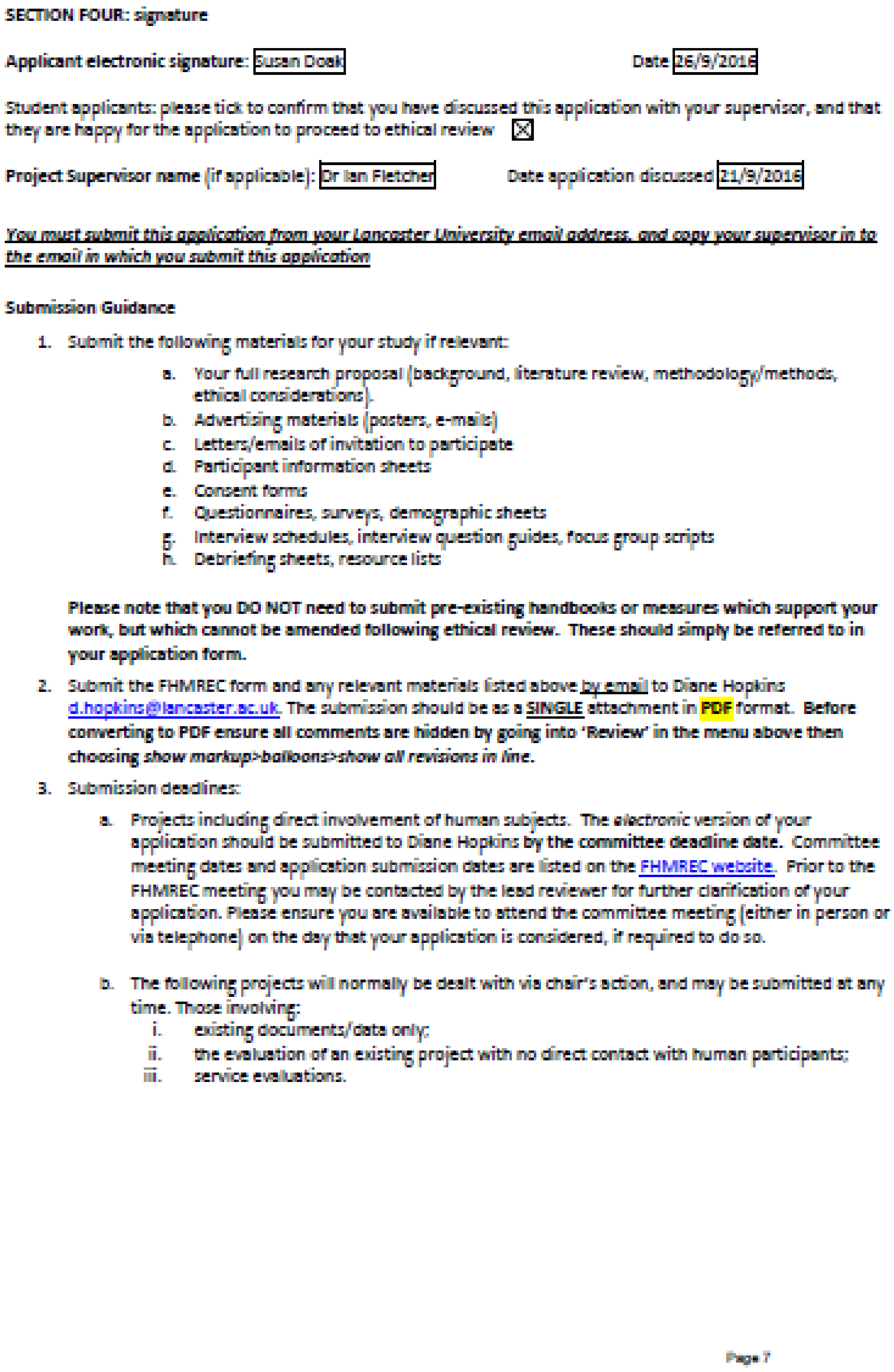
This is a student project with no access to funding. As such, it has not been possible to include health professionals who are specialised in Deaf people with mental health problems in the design and conduct of the research. However, two of the study supervisors are experienced researchers and clinicians working with this population and would in fact meet criteria to take part in the study. Further, the primary supervisor is an experienced academic on research on attachment and compassion in clinical communication. Therefore, their input has been instrumental to ensure that the study is relevant and sensitive to the characteristics of this target participant group. The vignettes developed for one of the the measures (the social distance questionnaire) have been reviewed by Dr Margaret De Feu, who is Deaf herself and the leading psychiatrist in the county specialising in mental health and Deafness.
The study questionnaire and implicit association test will be tested out by the research team prior to collecting data.

16. What are the plans for dissemination of findings from the research? If you are a student, include here your thesis.

The researcher will submit the research paper as part of her thesis project and present the results in a research day conference. The literature review and research paper for this project will aim to be published in an appropriate journal.

17. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FHMREC?

It is possible that Deaf health professionals could express interest to participate, yet, all material will being presented only in written English (and not British Sign Language). This could be problematic as there is evidence to suggest that written English instructions are not always understood by Deaf people due to their varied proficiency in English language skills (e.g. Allen, 1986; Kyle & Harris, 2010; Trybus & Karchmer, 1977). This in effect could interfere with consent in English, and also inadvertently reduce access to potentially suitable candidates who also have a personal interest in the study due to their hearing status. However, we have not been able to produce all material in British Sign Language for the following reasons: This is a student project with no funding attached. Even though Deaf people do experience problems with written English, it is believed that this would not be relevant to our sample. In order to take part, people need to be either during clinical training of any health speciality or working in the field. In effect, their educational background can be perceived as evidence of their ability to understand English sufficiently to consent and respond to the questionnaire. With the study being administered online, health professionals who understand and are able to consent in English from any part of the world can take part. As such, even if access to funding allowed us to translate the material in BSL this would still leave all other sign languages and foreign languages unaccounted for.



**SECTION FOUR: signature**

**Applicant electronic signature:** Susan Doak **Date** 26/9/2016

Student applicants: please tick to confirm that you have discussed this application with your supervisor, and that they are happy for the application to proceed to ethical review ☒

**Project Supervisor name** (if applicable): Dr Ian Fletcher Date application discussed 21/9/2016

***You must submit this application from your Lancaster University email address, and copy your supervisor in to the email in which you submit this application***

**Submission Guidance**

1. Submit the following materials for your study if relevant:
    - a. Your full research proposal (background, literature review, methodology/methods, ethical considerations).
    - b. Advertising materials (posters, e-mails)
    - c. Letters/emails of invitation to participate
    - d. Participant information sheets
    - e. Consent forms
    - f. Questionnaires, surveys, demographic sheets
    - g. Interview schedules, interview question guides, focus group scripts
    - h. Debriefing sheets, resource lists

    **Please note that you DO NOT need to submit pre-existing handbooks or measures which support your work, but which cannot be amended following ethical review. These should simply be referred to in your application form.**

2. Submit the FHMREC form and any relevant materials listed above by email to Diane Hopkins d.hopkins@lancaster.ac.uk. The submission should be as a **SINGLE** attachment in **PDF** format. **Before converting to PDF ensure all comments are hidden by going into 'Review' in the menu above then choosing *show markup>balloons>show all revisions in line.***
3. Submission deadlines:
    - a. Projects including direct involvement of human subjects. The electronic version of your application should be submitted to Diane Hopkins **by the committee deadline date.** Committee meeting dates and application submission dates are listed on the FHMREC website. Prior to the FHMREC meeting you may be contacted by the lead reviewer for further clarification of your application. Please ensure you are available to attend the committee meeting (either in person or via telephone) on the day that your application is considered, if required to do so.
    - b. The following projects will normally be dealt with via chair's action, and may be submitted at any time. Those involving:
        - i. existing documents/data only;
        - ii. the evaluation of an existing project with no direct contact with human participants;
        - iii. service evaluations.

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# Research Protocol

The influence of attachment styles on compassion and attitudes towards Deaf people with mental health problems.

Applicant: Susan Doak

Field Supervisor: Dr Rachel Lever, John Denmark Unit, Manchester

Research Supervisor: Dr Ian Fletcher, Lancaster University

External Supervisor: Dr Gerasimos Chatzidamianos, Manchester Metropolitan University

## Introduction

### *Compassion*

In the UK, one of the six National Health Service (NHS) core values is compassion (Department of Health, 2013) and there has recently been a greater emphasis placed on improving compassion in healthcare following reports of serious failings in some care homes and hospitals (Strauss et al., 2016). Treating patients compassionately has been argued to have wide-ranging benefits such as improving clinical outcomes and increasing patient satisfaction with services (Epstein et al., 2005; Rendelmeir et al., 1995). Despite the importance of compassion, a lack of consensus on the definition of compassion remains, as well as difficulties in finding suitable psychometrically robust measurement tools (Strauss et al., 2016). The defining aspect of compassion is argued to be an inclination to help in relation to the suffering of others (e.g. Goetz et al., 2010; Lazarus, 1991). Commonalities in definitions highlight the affective and behavioural, as well as, the cognitive component involved in compassion (Strauss et al. 2016). Considering the highlighted importance of compassion in providing care to others, the compassion literature can shed some light on the healthcare system. Compassion fatigue in relation to professional caregiving is defined as the reduced capacity of being empathic towards those within their care (Figley, 1995). In contrast, compassion satisfaction is defined as the pleasure and gratitude derived from professional caregivers providing care for patients (Simon, Pryce, Roff, & Klemmack, 2005) and from being able to help others

(Stamm, 2002). Both these concepts are relevant to health professionals' ability to provide compassionate care and is particularly relevant in the context of a reported “compassion deficit” in mental health services (Spandler & Stickley, 2011).

### *Attachment*

A number of other factors have been associated with compassion, in particular, attachment styles have been linked with compassion (e.g. Kunce and Shaver, 1994; Westmaas and Silver, 2001). More specifically, the theory argues that those that have more secure attachment styles (as opposed to anxious or avoidant attachment styles) are more able to direct attention to others and provide support (Mikulincer & Shaver, 2005). This is because they are able to cope more effectively with another's distress, because security is related to optimistic beliefs and self-efficacy (Mikulincer & Shaver, 2003).

### *Stigma*

Stigmatisation of specific groups of people may also influence compassion. Stigmatisation attitudes towards mental health service users has been observed to be present in previous studies and these attitudes can affect how people behave towards stigma targets (Angermayer and Matschinger, 2003; Goffman, 1974; Katz, 1981; Link et al., 1999; Link and Phelan, 2001; Pescosolido et al., 1999). Stigma is defined as a negative attribute given to a person or group, which devalues their social status and creates social distance (Goffman, 1974). Stigma often stems from fear and ignorance, some of which is driven by media portrayals of people with mental health problems (Angermayer & Matschinger, 2003).

### *Implicit attitudes*

Attitudes can be measured explicitly by using self-report questionnaires. However, explicit measures have been criticised because they can be easily distorted by participants (Greenwald, McGhee, & Schwartz,1998). In particular, the effect of social desirability when answering these questionnaires can lead to faked responses or certain self-presentation strategies (Feinberg 1967). Therefore, it is important to determine other measures which may not be affected by social desirability such as implicit measures. Evidence suggests that implicit attitudes develop over time with repeated encounters of an attitude object (Wilson, Lindsey, & Schooler, 2000). These implicit attitudes are believed to be unconscious or inaccurately identified (Greenwald & Banaji,1995) and therefore not influenced by conscious thought. One of the most well-known measures of implicit attitudes is the Implicit Association Test (IAT; Greenwald, McGhee, and Schwartz, 1998).This test has been used, among many others, to study attitudes towards people with disability.

One particular study which used an online version of the IAT found that there was a mid-level preference for ‘abled’ compared to ‘disabled’ persons, suggesting that implicit attitudes towards disabled are more negative (Lane Banaji, Nosek, & Greenwald, 2006). The relationship between implicit and explicit attitudes is unclear. Some evidence suggests that particular implicit preferences are correlated with explicit attitudes (Greenwald, McGhee, & Schwartz,1998). Other research suggests that implicit and explicit attitudes are individual constructs (Wilson, Lindsay & Schooler, 2000).

### *Mental health problems*

Stigma and negative attitudes have been reported to exist towards people with mental health problems since the 1950’s (Nunnally, 1961). In particular, research has shown that the general public show a desire to create social distance between themselves and people with mental health problems (Roman & Floyd, 1981). This can contribute to social isolation, rejection and distress, which can be detrimental to those individuals as well as affecting the way professionals provide care to those individuals. It is important to understand the views and attitudes towards people with mental health problems, in order to understand compassion related to this population. Furthermore, Deaf people with mental health problems may be another population which also experiences negative attitudes, although there is limited research investigating the Deaf population.

### *Deaf research*

The compassion and stigma literature may be relevant to people who are Deaf and have mental health problems. Previous research suggests that Deaf people have been the subject of negative attitudes from others within the hearing population (e.g. Lane, 1988; Coryell, Holcomb, & Scherer, 1992) with a focus on loss of hearing, seeing them as disabled or impaired (Meadow-Orlans and Erting, 2000). According to the Royal National Institute for the Deaf, Deaf with a capital ‘D’ refers to those that identify with the Deaf community, often whose preferred language is British Sign Language

(BSL). Many people within the Deaf community do not view their lack of hearing as pathological and do not see themselves as disabled, which is in contrast to the prevailing dominant narrative of the hearing population (Ladd, 2003; Lane, 1992). In the UK, the Health Advisory Service of the NHS concluded that the main barriers to providing appropriate care to people who are Deaf are mental health professionals’ inability to communicate effectively with this client group and these professionals’ lack of awareness of Deaf culture (Cooper, Rose & Mason, 2004). As Deaf people are within a linguistic and cultural minority, others may consider them to be part of an ‘outgroup’ (Cooper, Rose & Mason, 2003). Research within psychology widely uses the terms ‘ingroup’ and ‘outgroup’ when investigating relationships between different groups (Cooper, Rose & Mason, 2003). Psychological research provides evidence that contact with ‘outgroup’ members significantly reduces negative attitudes (Hewstone and Brown, 1986).

There is limited research investigating compassion and stigma towards Deaf people with mental health problems. The current study aims to investigate the implicit and explicit attitudes of health professionals towards Deaf people with mental health problems. Considering that the hearing population may view Deaf people as impaired or disabled (Meadow-Orlans and Erting, 2000), it is hypothesised that compassion towards this group may be limited and stigma may be present. Given the previous findings regarding attachment styles, it is also hypothesised that those with secure attachment styles will have higher levels of compassion than those with anxious or ambivalent attachment styles. Previous research highlights that contact with an ‘outgroup’ reduces negative attitudes (Hewstone & Brown, 1986), therefore it is hypothesised that health professionals with regular contact with Deaf people with mental health problems may have higher levels of compassion and lower levels of stigma than those who have less contact or none at all. The study will consider both contact in a professional setting, as well as contact in personal context. This study will also aim to find out whether implicit and explicit attitudes are related and whether these have an effect on levels of compassion and stigma. Considering that there is limited research on compassion and attitudes towards Deaf people with mental health problems, it is important to determine whether the compassion literature focusing on the hearing population can be applied to the Deaf population.

## Methods

### *Participants*

Participants will be health professionals working with mental health service users or those currently enrolled in clinical training of any specialism. Inclusion criteria: All participants will be over 18 years old; Both males and females will be invited to take part; There is no minimum years in practice; Must be able to consent in English.

A sociodemographic questionnaire will be completed to determine specialisation of the health professional e.g. psychologist, nurse. The study will determine whether participants are working regularly with Deaf people or not, as well as if they've ever had contact with a Deaf person. Participants will be recruited online via social media, online websites, snowballing through the field and external supervisors, through DClinPsy training programmes and UK based medical schools, nursing schools and social work training courses. Participation will be voluntary and there will be no material incentives to take part. The study aims to recruit at least 128 participants based on a power calculation for t-test for 2 groups (Deaf and hearing vignette). Outcome variable is stigmatised attitudes, (measured using the social distance scale) with two groups (Deaf and hearing people with mental health problems) measured using presentation of two vignettes. The sample size was calculated using the following statistics: medium effect size = 0.5, power = 0.80, error = 0.05, total sample size = 128. The individual responses will remain anonymous and can only be linked to demographic information.

### *Design*

This study will be quantitative involving explicit measures questionnaires and an implicit association (IAT) task. See appendix I for questionnaires. There will be 4 explicit measures and 1 implicit measure.

### *Materials*

This study will use a series of measures exploring compassion, stigma, attachment and explicit and implicit attitudes. None of the measures used in this study require explicit permission to be used and they are all validated measures.

Compassion measures

As there is no universally agreed validated measure of compassion, the study will use both the interpersonal reactivity scale (Davis, 1983) and the emotional competence short form (S-PEC) questionnaire (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014) to assess the capacity for empathy and compassion. The final version of the interpersonal reactivity scale will consist of three seven-item subscales, each of which taps a separate aspect of the global concept "empathy" which is related to compassion. The items included in this study will be the ‘empathic concern’ which measures the affective component, ‘perspective taking’ which measures the cognitive component and ‘personal distress’ which will be compared with the emotional intelligence measure. There are a total of 21 items, with a total possible score of 105. Internal validity of the interpersonal reactivity index is reported as αs=.70 to .78

The S-PEC questionnaire measures ‘emotional intelligence’ which has been shown to demonstrate an ability to process one’s own emotions and emotions of others. There are a total of 20 items with a total possible score of 100. The short version of this questionnaire was reported to have acceptable internal validity (αs >.70) (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014).

Stigma measure

The social distance scale (adapted to Deaf service users) (Link, Cullen, Frank, & Wozniak, 1987) will be used to measure stigma towards Deaf people with mental health problems. The measure comprises seven questions that refer to interaction with the target individual. One of two vignettes will be presented to participants randomly. Vignette one describes a Deaf person with mental health problems and vignette two describes a person with mental health problems. Each question is rated by the subject on a 4-point Likert scale (0 = definitely unwilling to 3 = definitely willing). A composite measure of social distance is derived by totalling the sum of all items. The internal consistency (Cronbach's alpha) of this measure was reported to be 0.75 (Penn et al. 1994).

Attachment measure

The ‘experience in close relationships’ short form (ECR- short form) measure (Wei, Russell, Mallinckrodt & Vogel, 2007) will be used to measure attachment security. Previous research has indicated that 2 factors, labelled anxiety and avoidance, provided a good fit to the data after removing the influence of response sets measure (Wei, Russell, Mallinckrodt & Vogel, 2007). Internal consistency (coefficient alpha) for anxiety was found to be .77 and .86 and for avoidance was .78 to .88. Test-retest reliability was r = .80 and .82 for anxiety and r = .83 and .86 for avoidance. In conclusion, the study found internal consistency and test-retest reliability to be acceptable for the short and the original versions of the ECR across studies therefore justification for use of the ECR-short form is valid.

Implicit Association Test

One of the most well-known measures of implicit attitudes is the Implicit Association Test (IAT; Greenwald, McGhee, and Schwartz, 1998).This test has been used, among many others, to study attitudes towards people with disability. The single category IAT will be used in this study and will be adapted to measure attitudes towards Deaf people with mental health problems. This test will be compared with the self report measures and explicit measure of attitudes.

Explicit Measure

A measure of explicit attitudes will be included to compare with the results of the implicit association task. This is a one-question measure which has been used as part of previous implicit association tasks (IAT; Greenwald, McGhee, and Schwartz, 1998).

### *Procedure*

The study will be conducted online and participants will be given information at the start of the study which will outline the aims of the study and will explain how the study will be conducted and what is expected from participants. At the end of the information page (which will be akin to a Participant Information Sheet), it will be highlighted that by continuing to the study questionnaires they will be consenting to participate in the study. Participants will be guided through the online questions and asked to pick a response for each item. All questions will be made mandatory. Participants will also take part in the implicit association test. The study will take about 20 minutes in total to complete. Once the online study has been completed the participants will be asked if they are happy to submit their responses. It will be made clear that once they submit their responses at the end of the study, it will not be possible for their data to be withdrawn. All data will be automatically anonymised and participants' responses will not be linked back to individuals.

### *Proposed analysis*

Quantitative analysis will be used. Parametric and non-parametric tests will be conducted as appropriate. The researcher will use SPSS to analyse the data, and the file will be stored on the University's secure server and only the researcher and their supervisors will have access to the raw data. The researcher will conduct exploratory data analysis (EDA) followed by multiple regression analysis.

## Ethical Concerns

The participants must be able to provide informed consent so they must be given sufficient information and be given the opportunity to ask questions in order to ensure they fully understand what their participation in the study will involve and can make an informed choice. It will be emphasised that it is the participants' free choice to decide whether they want to participate in the study. Participants are free to withdraw from the study before submitting their responses, but once their responses have been submitted, it will not be possible for their data to be withdrawn.

It is possible that Deaf health professionals could express interest to participate, yet, all material will being presented only in written English (and not British Sign Language). This could be problematic as there is evidence to suggest that written English instructions are not always understood by Deaf people due to their varied proficiency in English language skills  (e.g. Allen, 1986; Kyle & Harris, 2010; Trybus & Karchmer, 1977).. This in effect could interfere with consent in English, and also inadvertently reduce access to potentially suitable candidates who also have a personal interest in the study due to their hearing status. However, we have not been able to produce all material in British Sign Language for the reasons outlined below:

1. This is a student project with no funding attached.

2. Even though Deaf people do experience problems with written English, it is believed that this would not be relevant to our sample. In order to take part, people need to be either during clinical training of any health speciality or working in the field. In effect, their educational background can be perceived as evidence of their ability to understand English sufficiently to consent and respond to the study material.
3. With the study being administered online, health professionals, irrespective of hearing status, who understand and are able to consent in English from any part of the world can take part. As such, even if access to funding allowed us to translate the material in BSL this would still leave all other sign languages and foreign languages unaccounted for.

## Planned dissemination

The researcher will write up the study using the anonymised data and aim to publish in an appropriate service related journal. The researcher will also submit the research paper as part of her thesis project.

## Timescale

March - Prepare research protocol for submission to ethics board.

September – October - Ethical review and write literature review.

September - October – Prepare online study

October - December – recruitment and data collection.

December – submit first draft of literature review.

2017

January – March – data analysis and write up of research paper.

Feb – submit second draft of literature review.

March – submit first draft of research paper.

April – submit first draft of critical appraisal and submit second draft of research paper.

May – submit second draft of critical appraisal.

May - submit thesis.

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# Appendix 4-A: Participant Information Sheet

## Participant Information Sheet – V3 – 1st Feb 2018

## Health professionals' views towards Deaf people with mental health problems

My name is Sue Doak and I am carrying out this research as a student on the Lancaster University Clinical Psychology Doctorate programme, as part of my thesis project.

### What is the study about?

I am conducting research into health professionals' views and attitudes towards Deaf people with mental health problems. The study will ask you a series of questions and ask you to complete an online test which will measure attitudes towards Deaf people with mental health problems. I will be particularly investigating the relationship between relationship styles, compassion, empathy and attitudes.

### Why have I been approached?

You are either a qualified health professional or in clinical or medical training and work with people with mental health problems; you may also work with Deaf people.

### What will I be asked to do if I take part?

If you choose to take part, you will participate in an online survey. The online survey will guide you through a series of questions that will ask you some general information about yourself such as your age, gender and job title. You will then be guided through a series of brief questionnaires about relational styles, empathy, compassion and stigma. You will then complete an online task as part of the study. **You will need access to a keyboard to complete the study, you will be unable to complete the study using a mobile device.** The online study takes around 20 minutes to complete and once your responses are submitted you won't need to do anything else.

### Do I have to take part?

No. It is completely up to you whether you choose to take part or not. All participation in this study is voluntary. If you agree to take part you may withdraw from the study at any point before submitting responses on the final screen. By submitting your responses you consent to the information being used in this study. Once you have submitted your responses, it won't be possible to withdraw your data. Choosing not to take part or withdrawing from the study will not affect your relationship with the organisation you are affiliated with. This is an anonymous survey and responses cannot be linked back to you.

**Will my data be identifiable?**

The online study is anonymous and no one will be made aware that you have chosen to take part.

All responses collected from this study will be kept confidential. All data collected in this study are anonymous and therefore unidentifiable. The data collected for this study will be stored securely and only the researchers conducting this study will have access to this data

**What will happen to the results?**

The data will be summarised and reported as part of my thesis project and may be submitted for publication in an academic or professional journal.

**Are there any risks of taking part?**

There are no risks anticipated with taking part in this study.

**Are there any benefits of taking part?**

Although you may find participation interesting, there are no direct benefits in taking part.

**Who has reviewed the project?**

This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University.

**Where can I obtain further information about the study if I need it?**

If you have any questions about the study, please contact the main researcher:

Sue Doak, Clinical Psychology, Div. Of Health Research, Lancaster University, Lancaster, LA1 4YG.
Email: s.doak@lancaster.ac.uk

You can also find more general information about taking part in a research study on the Health Research Authority’s website: http://www.hra.nhs.uk/patients-and-the-public-2/

Or alternatively you can contact one of the supervisors of the project:

Dr Ian Fletcher, Clinical Psychology, Div. of Health Research, Lancaster University, Lancaster, LA1 4YG. Tel: Email: i.j.fletcher@lancaster.ac.uk

**How can you take part in the project?**

If you wish to take part in the project, please follow the link to the online study: (link)

**Complaints**

Any complaints should be directed to:

Professor Roger Pickup Tel: +44 (0)1524 593746

Associate Dean for Research Email: r.pickup@lancaster.ac.uk

Faculty of Health and Medicine

(Division of Biomedical and Life Sciences)

Lancaster University

Lancaster

LA1 4YG

If you wish to speak to someone else, you may also contact:

Bill Sellwood

Programme Director

Division of Health Research

Furness Building

Lancaster University

Bailrigg

Lancaster LA1 4YG

United Kingdom

Tel: 01524 592858

Email:b.sellwood@lancaster.ac.uk

Thank you for taking the time to read this information sheet.

**Resources in the event of distress**

Should you feel distressed either as a result of taking part, or in the future, please contact:

Mind – www.mind.org.uk – 0300 123 3393

I confirm that I have read and understood the information sheet and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study. By clicking this link you will be taken to the study. [I consent, link]

# Appendix 4-B: Demographic Questions

## Demographic Questions – V1 – 20th Aug 2016

Are you a health professional? (Yes, No)

Do you work with people with mental health problems? (Yes, No)

Title of job role? (Doctor, nurse, allied health professional, other)

Years of qualification (or in training)? (Training: 1, 2, 3, 4, 5; Qualification: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+).

Years in current job role?

Hearing status? (Deaf, Hearing, Hard of hearing, Hearing Aid User, Cochlear Implant)

Gender? (Male, Female)

Age? (Free text box)

Have you ever had contact with a Deaf person? (Yes, No)

Are you regularly in contact with Deaf clients? (Yes, No, Occasionally)

# Appendix 4-C: Questionnaire

## Questionnaire for participants – V1 – 20th Sept 2016

Experience in Close Relationships Scale

Instruction: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Mark your answer using the following rating scale:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly Agree |

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner(s) don't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner.
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

Interpersonal Reactivity Index

The following statements enquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, click on the letter next to the item number to select your response. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

| A | B | C | D | E |
|---|---|---|---|---|
| DOES NOT DESCRIBE ME WELL | | | | DESCRIBES ME VERY WELL |

1. I often have tender, concerned feelings for people less fortunate than me.
2. I sometimes find it difficult to see things from the "other guy's" point of view.
3. Sometimes I don't feel very sorry for other people when they are having problems.
4. In emergency situations, I feel apprehensive and ill-at-ease.
5. I try to look at everybody's side of a disagreement before I make a decision.
6. When I see someone being taken advantage of, I feel kind of protective towards them.
7. I sometimes feel helpless when I am in the middle of a very emotional situation.
8. I sometimes try to understand my friends better by imagining how things look from their perspective.
9. When I see someone get hurt, I tend to remain calm.
10. Other people's misfortunes do not usually disturb me a great deal.
11. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
12. Being in a tense emotional situation scares me.
13. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
14. I am usually pretty effective in dealing with emergencies.
15. I am often quite touched by things that I see happen.
16. I believe that there are two sides to every question and try to look at them both.
17. I would describe myself as a pretty soft-hearted person.
18. I tend to lose control during emergencies.
19. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
20. When I see someone who badly needs help in an emergency, I go to pieces.
21. Before criticising somebody, I try to imagine how I would feel if I were in their place.

## Emotional Competence

The questions below are designed to provide a better understanding of how you deal with your emotions in daily life. Please answer each question spontaneously, taking into account the way you would normally respond. There are no right or wrong answers as we are all different on this level.

For each question, you will have to give a score on a scale from 1 to 5, with 1 meaning that the statement does not describe you at all or you never respond like this, and 5 meaning that the statement describes you very well or that you experience this particular response very often.

1. When I am touched by something, I immediately know what I feel

2. When I feel good, I can easily tell whether it is due to being proud of myself, happy or relaxed.

3. I do not always understand why I respond in the way I do

4. When I am feeling low, I easily make a link between my feelings and a situation that affected me

5. I find it difficult to explain my feelings to others even if I want to

6. I am good at describing my feelings

7. When I am angry, I find it easy to calm myself down

8. I find it difficult to handle my emotions

9. My emotions inform me about changes I should make in my life

10. I never base my personal life choices on my emotions

11. I am good at sensing what others are feeling

12. Quite often I am not aware of people’s emotional state

13. I do not understand why the people around me respond the way they do

14. Most of the time, I understand why the people feel the way they do

15. Other people tend to confide in me about personal issues

16. I find it difficult to listen to people who are complaining

17. When I see someone who is stressed or anxious, I can easily calm them down

18. If someone came to me in tears, I would not know what to do

19. I can easily get what I want from others

20. If I wanted, I could easily make someone feel uneasy

## Social Distance

### Vignette 1

Dorothy, a 27-year-old Deaf young woman, has come to see you and an interpreter has accompanied her. She has been feeling depressed as her only close friend has recently married and moved away. Dorothy lives with and takes care of her mother, who has a long history of alcohol problems. She was recently made redundant when the factory she was working at was closed. She now feels isolated and negative about her future, and fears she will take to alcohol like her mother.

Vignette 2

Dorothy, a 27-year-old young woman, has come to see you. Dorothy is an only child. She has been feeling depressed as her only close friend has recently married and moved away. Dorothy lives with and takes care of her mother, who has a long history of alcohol problems. She was made redundant when the factory she was working at was closed. She now feels isolated and negative about her future, and fears she will take to alcohol like her mother.

[Vignette 1 or 2 presented randomly]

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings in the box to the right of the statement.

| Definitely Willing | Probably Willing | Probably Unwilling | Definitely Unwilling |
|---|---|---|---|
| 0 | 1 | 2 | 3 |

1) How would you feel about renting a room in your home out to someone like Dorothy?

2) How about as a worker on the same job as someone like Dorothy?

3) How would you feel having someone like Dorothy as a neighbour?

4) How about as the carer of your children for a couple of hours?

5) How about having your children marry someone like Dorothy?

6) How would you feel about introducing Dorothy to a young man you are friendly with?

7) How would you feel about recommending someone like Dorothy for a job working for a friend of yours?

Explicit Attitudes

Which statement best describes you? (please select)

- I strongly prefer hearing patients to deaf patients
- I moderately prefer hearing patients to deaf patients
- I slightly prefer hearing patients to deaf patients
- I like hearing and deaf patients equally
- I slightly prefer deaf patients to hearing patients
- I moderately prefer deaf patients to hearing patients
- I strongly prefer deaf patients to hearing patients

[Link to Implicit Association Test]

## Appendix 4-D: Debrief Sheet

# Debrief Sheet – V1 – 20th Aug 2015

## Health professionals' views towards Deaf people with mental health problems

Thank you taking the time to complete this questionnaire. Your participation in this study is very much appreciated as it will allow us to understand health professionals' views and attitudes towards Deaf people with mental health problems.

You have reached the end of the questionnaire, your responses have been recorded and you are now free to close down your browser.

If you have any questions regarding this study, or you would like to receive a summary report of the results please feel free to email me: s.doak@lancaster.ac.uk or you can contact the academic supervisor:

Dr Ian Fletcher, Clinical Psychology, Div. of Health Research, Lancaster University, Lancaster, LA1 4YG. Tel: Email: i.j.fletcher@lancaster.ac.uk

In the event that you feel distressed by participation in this study, we encourage you to contact:

Mind – www.mind.org.uk – 0300 123 3393

**Thanks again for your participation.**

# Appendix 4-E: Email

## Email – V1 – 20th Aug 2016

Dear (gatekeeper of the organisation),

I am writing to invite all health professionals and those currently training within your organisation to participate in my Thesis Research Project.

I am investigating health professionals' views and attitudes towards Deaf people with mental health problems. The study will use online questionnaires and an implicit association task. I will be particularly investigating the relationship between attachment styles, compassion, and stigma. There is little published research into the area and this study will be contributing to a wider understanding of health professionals' views of Deaf people with mental health problems.

The online study will take approximately 20 minutes. Participation will not impact on participants training or job as part of their organisation in any way.

Please direct potential participants to click on the link to take part in the study (link). My contact details are in the information sheet at the beginning of the study if you would like to discuss the study further. I would be more than happy to answer any questions.

Many thanks,

Susan Doak, Trainee Clinical Psychologist, Lancaster University

Supervised by: Dr Ian Fletcher, Lancaster University, Dr Gerasimos Chatzidamianos, Manchester Metropolitan University, Dr Rachel Lever, John Denmark Unit, Manchester.

# Appendix 4-F: Advertising material

## Advertising material – V1 – 2nd Sept 2016

Lancaster University

Health professionals' views towards Deaf people with mental health problems

Study looking at compassion and attitudes towards Deaf people with mental health problems

Are you a health professional?

Are you a nurse, doctor, social worker, psychologist or other health professional?

20 minute online questionnaire

Please click this link to find out about the study and take part:

https://lancasteruni.eu.qualtrics.com/jfe/form/SV_9NWpWcRHdJ5Lc5D

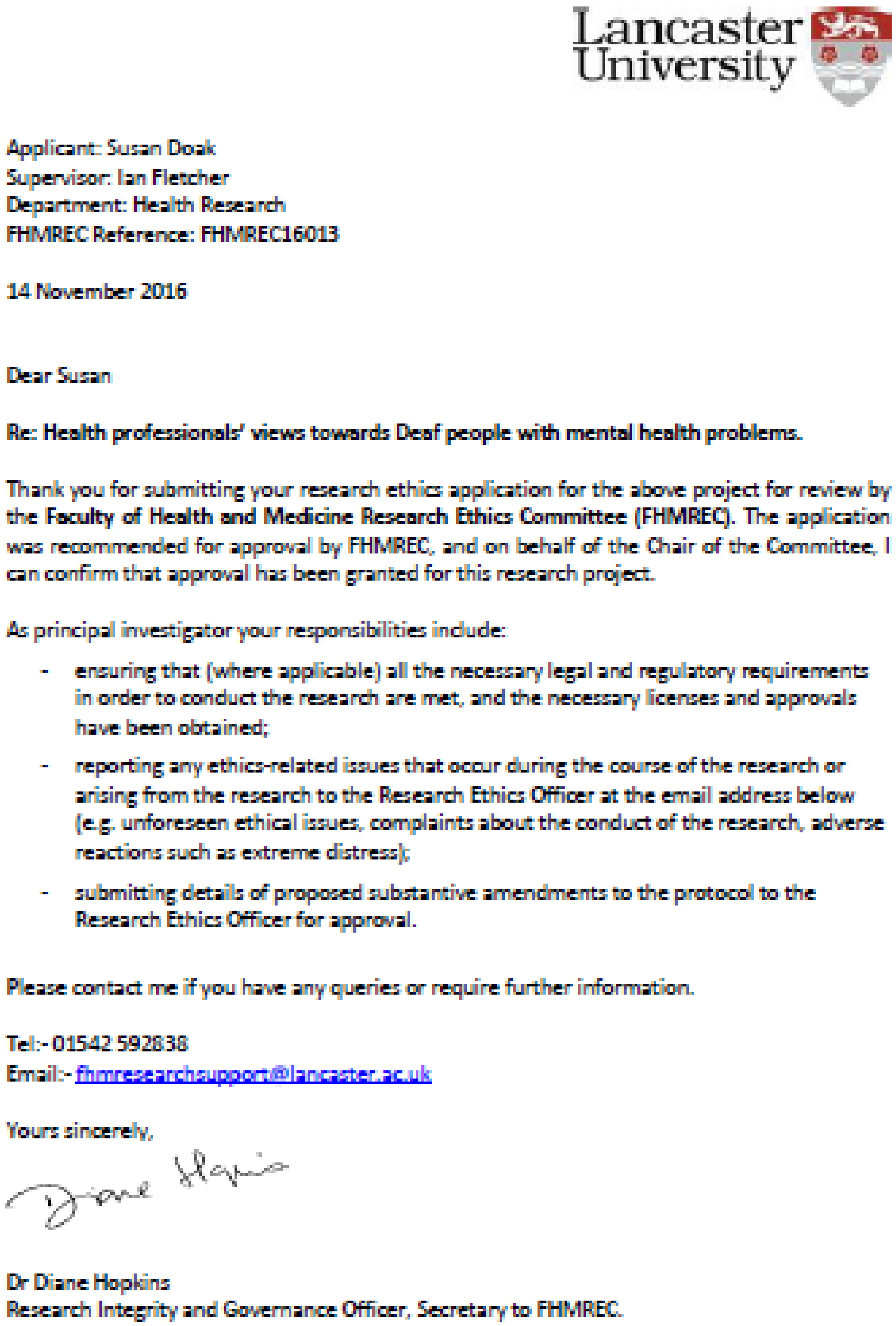
Working or in training?

You can help!

For more info:

S.doak@lancaster.ac.uk

# Appendix 4-G: FHMREC Approval letter



Lancaster
University

Applicant: Susan Doak
Supervisor: Ian Fletcher
Department: Health Research
FHMREC Reference: FHMREC16013

14 November 2016

Dear Susan

**Re: Health professionals' views towards Deaf people with mental health problems.**

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee** (FHMREC). The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

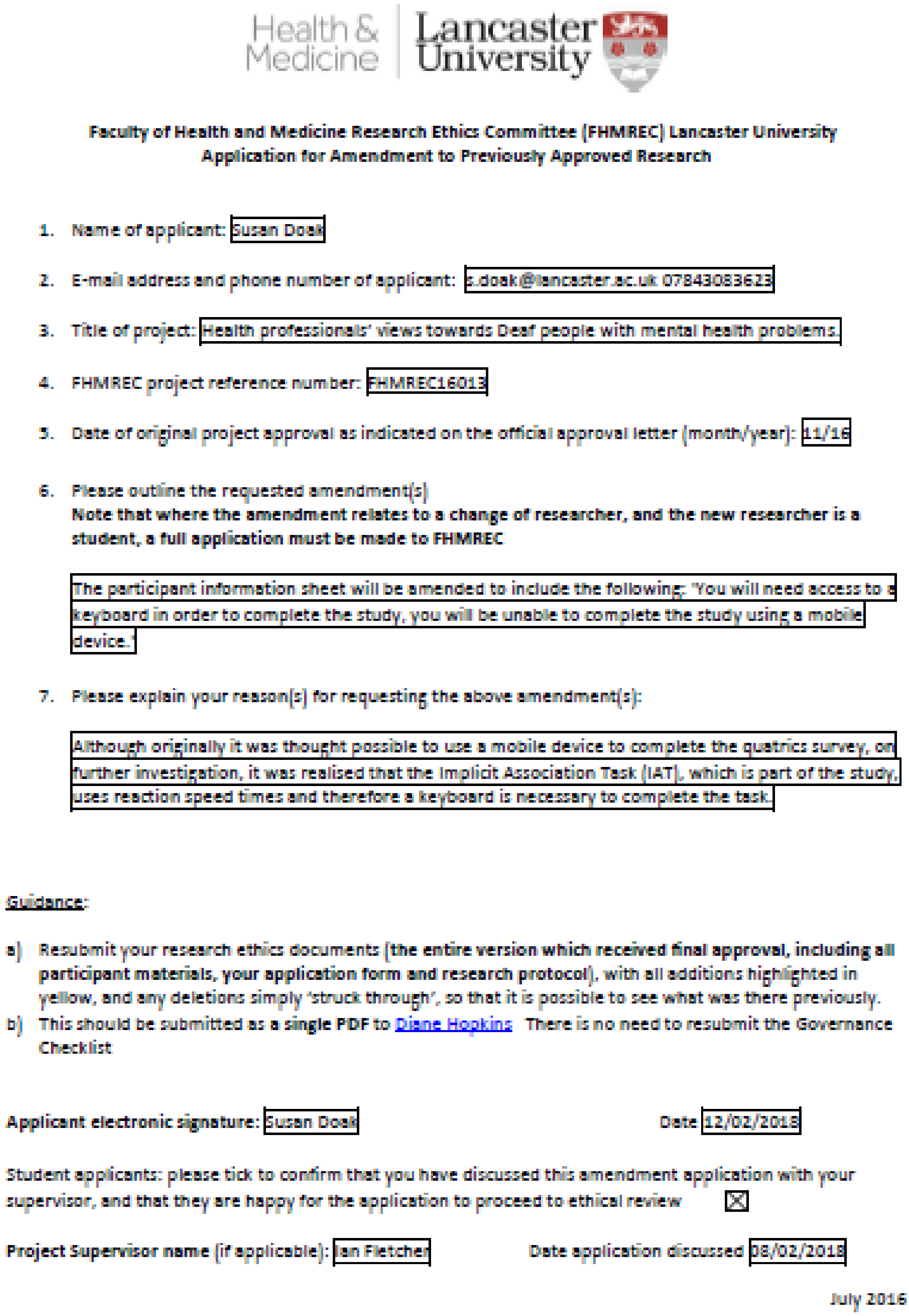
Tel:- 01542 592838
Email:- fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Diane Hopkins

Dr Diane Hopkins
Research Integrity and Governance Officer, Secretary to FHMREC.

# Appendix 4-H: FHMREC Amendment Request – February 2018



Health & Medicine | Lancaster University

**Faculty of Health and Medicine Research Ethics Committee (FHMREC) Lancaster University**
**Application for Amendment to Previously Approved Research**

1. Name of applicant: Susan Doak
2. E-mail address and phone number of applicant: s.doak@lancaster.ac.uk 07843083623
3. Title of project: Health professionals' views towards Deaf people with mental health problems.
4. FHMREC project reference number: FHMREC16013
5. Date of original project approval as indicated on the official approval letter (month/year): 11/16
6. Please outline the requested amendment(s)
**Note that where the amendment relates to a change of researcher, and the new researcher is a student, a full application must be made to FHMREC**

The participant information sheet will be amended to include the following: 'You will need access to a keyboard in order to complete the study, you will be unable to complete the study using a mobile device.'

7. Please explain your reason(s) for requesting the above amendment(s):

Although originally it was thought possible to use a mobile device to complete the quatrics survey, on further investigation, it was realised that the Implicit Association Task (IAT), which is part of the study, uses reaction speed times and therefore a keyboard is necessary to complete the task.

Guidance:

a) Resubmit your research ethics documents (**the entire version which received final approval, including all participant materials, your application form and research protocol**), with all additions highlighted in yellow, and any deletions simply 'struck through', so that it is possible to see what was there previously.
b) This should be submitted as a **single PDF** to Diane Hopkins. There is no need to resubmit the Governance Checklist

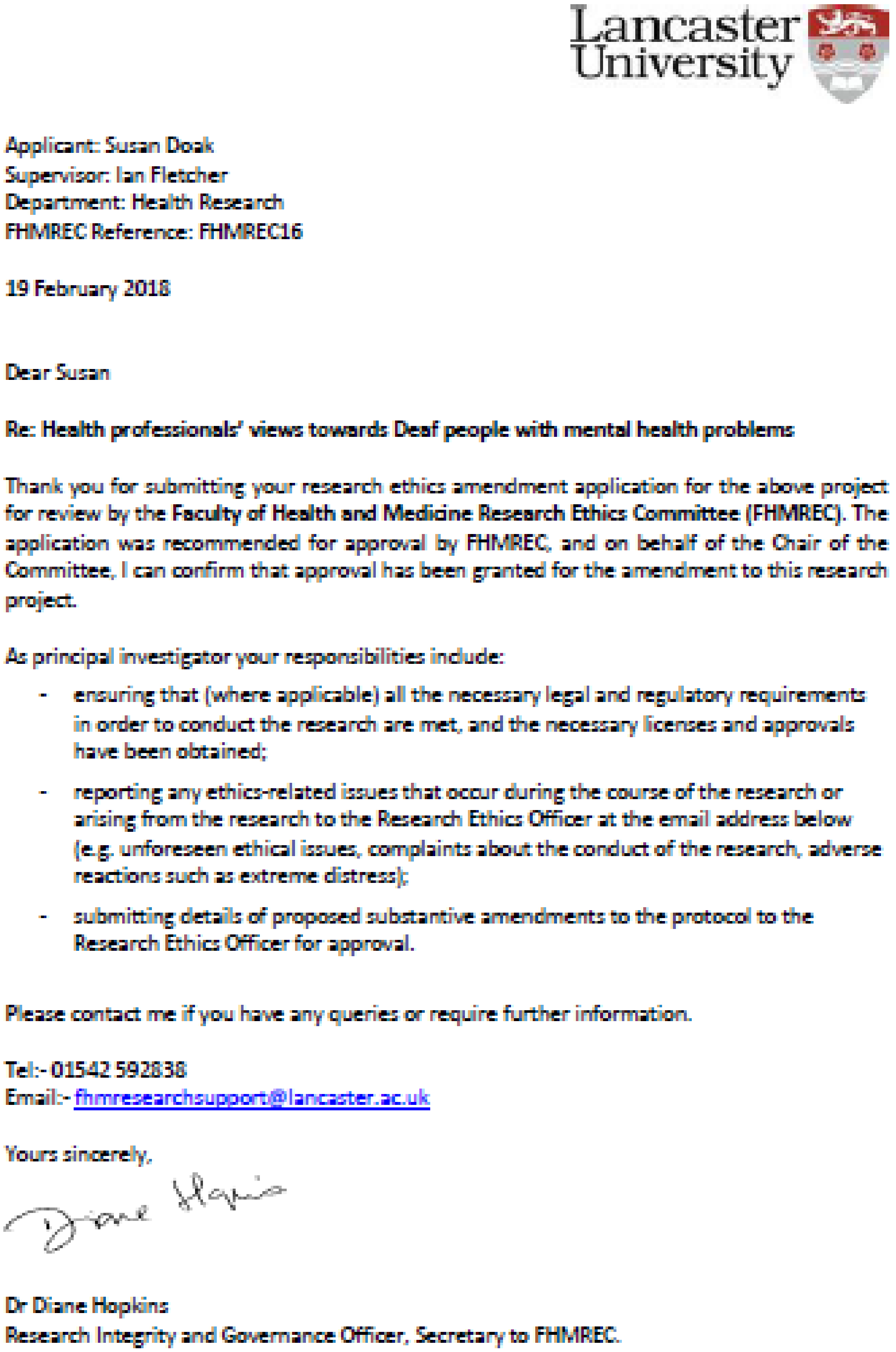
**Applicant electronic signature:** Susan Doak Date 12/02/2018

Student applicants: please tick to confirm that you have discussed this amendment application with your supervisor, and that they are happy for the application to proceed to ethical review ☒

**Project Supervisor name** (if applicable): Ian Fletcher Date application discussed 08/02/2018

July 2016

## Appendix 4-I: FHMREC Amendment Approval Letter – February 2018



Lancaster
University

Applicant: Susan Doak
Supervisor: Ian Fletcher
Department: Health Research
FHMREC Reference: FHMREC16

19 February 2018

Dear Susan

**Re: Health professionals' views towards Deaf people with mental health problems**

Thank you for submitting your research ethics amendment application for the above project for review by the Faculty of Health and Medicine Research Ethics Committee (FHMREC). The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for the amendment to this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

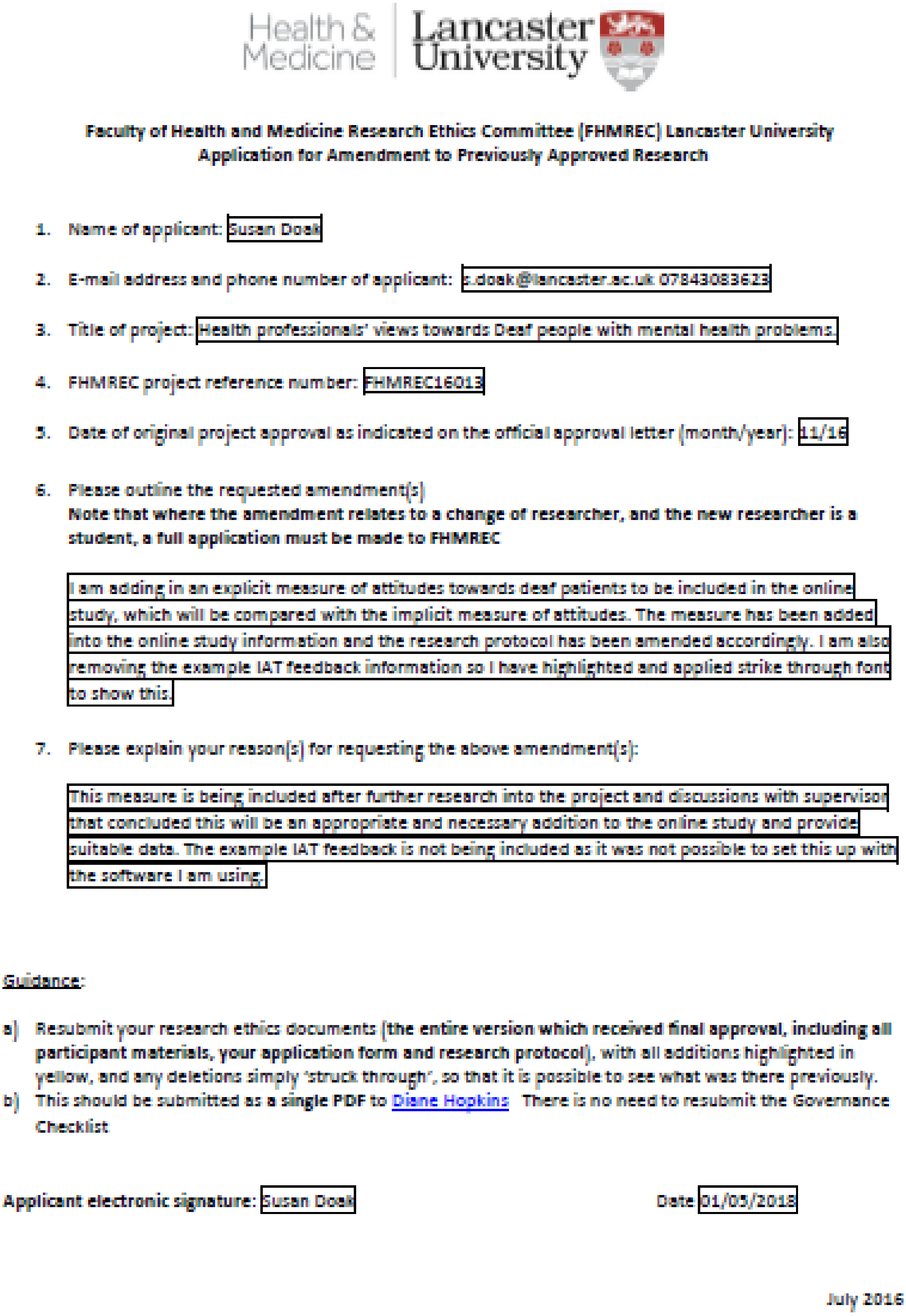
Tel:- 01542 592838
Email:- fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Diane Hopkins

Dr Diane Hopkins
Research Integrity and Governance Officer, Secretary to FHMREC.

# Appendix 4-J: FHMREC Amendment Request – April 2018



Health & Medicine | Lancaster University

**Faculty of Health and Medicine Research Ethics Committee (FHMREC) Lancaster University**
**Application for Amendment to Previously Approved Research**

1. Name of applicant: Susan Doak
2. E-mail address and phone number of applicant: s.doak@lancaster.ac.uk 07843083623
3. Title of project: Health professionals' views towards Deaf people with mental health problems.
4. FHMREC project reference number: FHMREC16013
5. Date of original project approval as indicated on the official approval letter (month/year): 11/16
6. Please outline the requested amendment(s)
   **Note that where the amendment relates to a change of researcher, and the new researcher is a student, a full application must be made to FHMREC**

   I am adding in an explicit measure of attitudes towards deaf patients to be included in the online study, which will be compared with the implicit measure of attitudes. The measure has been added into the online study information and the research protocol has been amended accordingly. I am also removing the example IAT feedback information so I have highlighted and applied strike through font to show this.

7. Please explain your reason(s) for requesting the above amendment(s):

   This measure is being included after further research into the project and discussions with supervisor that concluded this will be an appropriate and necessary addition to the online study and provide suitable data. The example IAT feedback is not being included as it was not possible to set this up with the software I am using.

Guidance:

a) Resubmit your research ethics documents (**the entire version which received final approval, including all participant materials, your application form and research protocol**), with all additions highlighted in yellow, and any deletions simply 'struck through', so that it is possible to see what was there previously.
b) This should be submitted as a **single PDF** to Diane Hopkins There is no need to resubmit the Governance Checklist

**Applicant electronic signature:** Susan Doak **Date** 01/05/2018

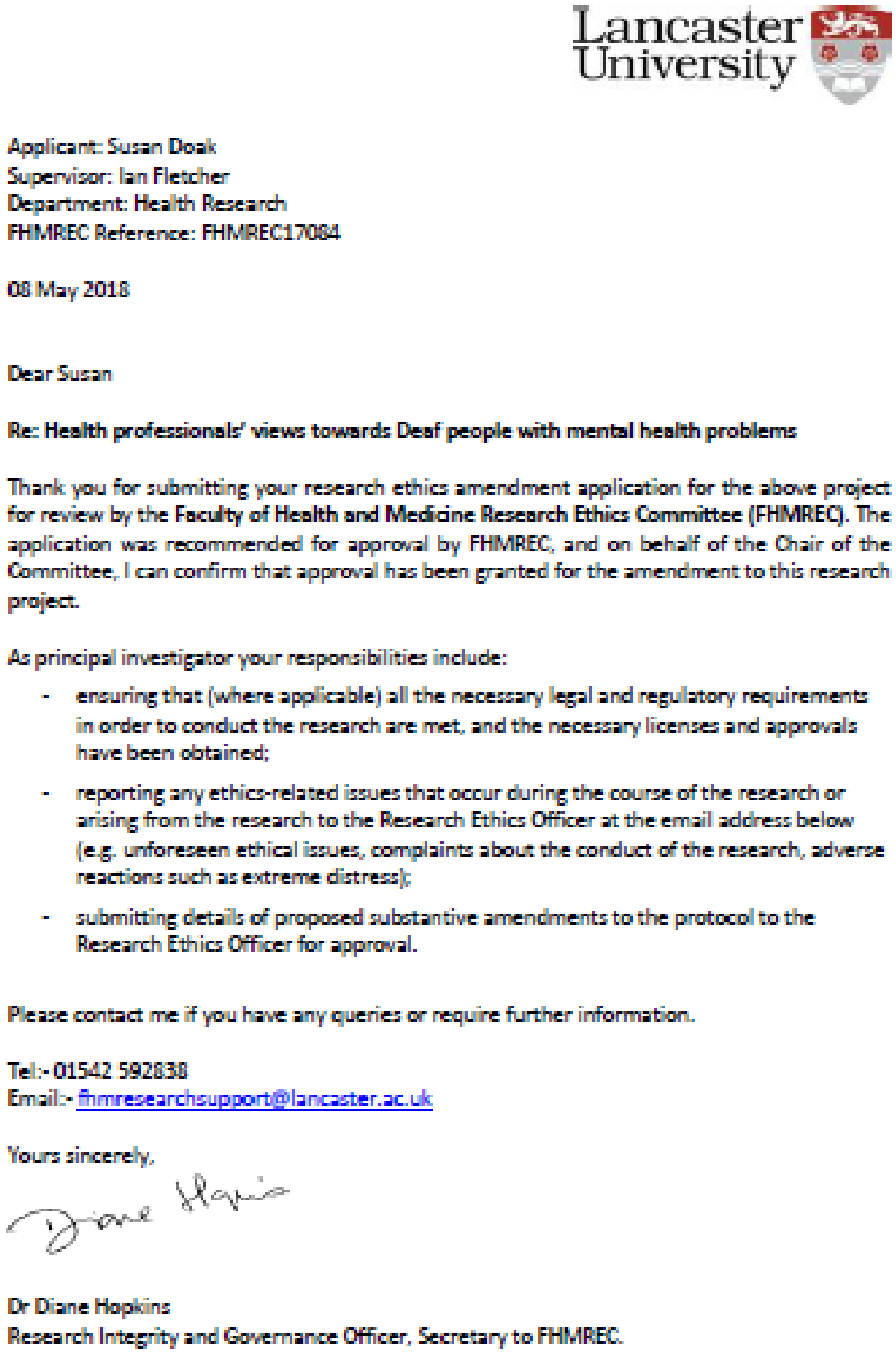
July 2016

Student applicants: please tick to confirm that you have discussed this amendment application with your supervisor, and that they are happy for the application to proceed to ethical review ☒

**Project Supervisor name (if applicable):** Ian Fletcher Date application discussed 30/04/2018

***<u>You must submit this application from your Lancaster University email address, and copy your supervisor in to the email in which you submit this application</u>***

## Appendix 4-K: FHMREC Amendment Approval Letter – April 2018



Lancaster University

Applicant: Susan Doak
Supervisor: Ian Fletcher
Department: Health Research
FHMREC Reference: FHMREC17084

08 May 2018

Dear Susan

**Re: Health professionals' views towards Deaf people with mental health problems**

Thank you for submitting your research ethics amendment application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for the amendment to this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Tel:- 01542 592838
Email:- fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Dr Diane Hopkins
Research Integrity and Governance Officer, Secretary to FHMREC.