

1 **Abstract (200/200)**

2 **Objective** – To examine the psychosocial experiences of hearing loss from the perspectives of both the person
3 with hearing loss and their communication partner.

4 **Design** - A meta-synthesis of the qualitative literature.

5 **Study Sample** – From 880 records, twelve qualitative papers met the inclusion criteria, (i) adults with hearing
6 loss, communication partners, or both, and (ii) explored psychosocial issues.

7 **Results** - Four themes related to the psychosocial experience of hearing loss were found, (i) the effect of the
8 hearing loss, (ii) the response to hearing aids, (iii) stigma and identity, and (iv) coping strategies. Hearing loss
9 affected both people with hearing loss and communication partners. Hearing aids resulted in positive effects,
10 however, these were often outnumbered by negative effects. Non-use of hearing aids was often influenced by
11 stigma. Coping strategies used were related to how the person with hearing loss perceived their self and how the
12 communication partner perceived the relationship. Aligned coping strategies appeared to have a positive effects.
13 **Conclusions** – Hearing loss affects both people with hearing loss and their communication partners. Aligned
14 coping strategies can facilitate adjustment to hearing loss.

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27 Introduction

28 Previous research has shown that chronic health conditions can impact upon a person's sense of self [that](#) can in
29 turn lead to low mood and psychosocial problems (Haslam et al., 2008; Barker, 2016). Recent audiological
30 research points to a similar process for those with hearing loss, the psychosocial consequences of which can
31 include depression (Strawbridge et al., 2000), and feelings of loneliness for the person with hearing loss (PHL)
32 (Heffernan et al., 2016). Experiencing hearing loss can impact upon a person's sense of self and social identity
33 (Espmark & Scherman, 2003). Social identity refers to the sense of belonging and definition that people ascribe
34 from the social groups they see themselves as being part of (Jetten et al., 2012). Together, the different identities
35 that a person has make up a person's self-concept (i.e. what comes to mind when they think of their self (Tajfel,
36 1981; Neisser, 1993)). Changes to social identity and sense of self can have consequences for psychological
37 health (Haslam, Holme et al., 2008) and may require some adjustment on the part of the individual (Iyer et al.,
38 2008). This change in social identity, and any resulting stigma (Goffman, 1963; Wallhagen, 2010), can make it
39 difficult for a person with hearing loss to communicate effectively with groups they once saw themselves as part
40 of, which can lead to loneliness and isolation (Hogan et al., 2013). [Stigma can also affect help-seeking](#)
41 [behaviours](#) (Southall et al., 2010).

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43 The impact of hearing loss can have collateral psychosocial effects on communication partners (CPs), which
44 have been defined as spouses, partners, close family members, or caregivers (Kamil & Lin, 2015). CPs may be
45 affected by every stage in the diagnosis and rehabilitation process, and may embark on their own journey to
46 adapt to the diagnosis of hearing loss in others (Manchaiah et al., 2013). CPs may also see the person differently
47 as a result of the hearing loss (Wallhagen, 2010), and may need to adjust to the PHL's changed sense of self,
48 such as assisting in group conversations (Hetu et al., 1988; Scarinci et al., 2008).

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50 Studies exploring coping with the psychosocial experiences of hearing loss have distinguished between engaged
51 coping and disengaged coping (Heffernan et al., 2016). Engaged coping involves taking action to manage the
52 effects of hearing loss, such as using hearing aids or communication strategies. Disengaged coping refers to
53 avoiding addressing hearing loss, such as by denying or ignoring it, or by withdrawing from social situations.
54 Studies exploring the coping response of the CPs in response to the psychosocial effects of hearing loss have
55 drawn a similar distinction between different coping strategies (Hallberg & Barrenas, 1993; Hallberg, 1999;

56 Scarinci et al., 2008). In PHL, engaged coping may lead to greater adjustment to hearing loss, whereas
57 disengaged coping may prevent adjustment (Wanstrom et al., 2014)

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59 Research into the interaction between the PHL and CP is important because the opinions and behaviors of the
60 CP may shape the PHL's experience of audiological enablement and rehabilitation. Similarly, the PHL's
61 experiences may affect their CP (Manchaiah et al., 2012). Yet, despite this, the majority of studies have focused
62 solely upon the PHL (Scarinci et al., 2008), and, where the CP is recognized and considered this is done
63 separately as if distinct from the experience of the PHL (Manchaiah et al., 2012). Whilst there is a recognition in
64 studies investigating the effect of hearing loss in CPs that the PHLs hearing loss affects them, experiences are
65 rarely considered together.

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67 A systematic review on the effects of hearing loss on CPs has shown that their quality of life is affected and that
68 hearing loss can put a strain on relationships between the PHL and their CP (Kamil & Lin, 2015). This review
69 takes an aggregative approach (Gough et al., 2012) to the literature listing empirical observations to make
70 empirical statements in order to establish the prevalence of psychosocial problems often considering the
71 psychosocial problems in one person separate from the other. A further systematic review is in progress that
72 collates problems associated with hearing loss experienced from the perspective of the PHL and CPs (Vas et al.,
73 2016). This study is using this data to generate domains relating to the everyday impact of hearing loss using
74 techniques from meta-ethnography and grounded theory.

75

76 In this paper we take the stance that hearing loss does not happen in isolation, nor does an individual's coping
77 happen in isolation. Both hearing loss and coping involve other people within the social and familial context of
78 hearing loss and communication (Bodenmann, 2005). A qualitative, ~~configurative~~ interpretivist approach could
79 enable insight into the lived experience of hearing loss and the relationship between the two people by
80 generating theories from the conceptual literature (Gough et al., 2012).

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82 Qualitative methodologies are being used more frequently in audiology (Knudsen et al., 2012), which has
83 allowed greater insight into the subjective experience of hearing loss as well as providing new insights into
84 adjustment to hearing loss (E.g. Ekberg et al., 2016; Heffernan et al., 2016). Interpretative review methods can
85 be used to combine qualitative interpretations to develop a reconceptualization of the current literature. Meta-

86 synthesis has been developed as a method for reviewing qualitative literature (Noblit & Hare, 1988). This
87 approach involves closely examining a series of qualitative studies and then determining how they are related
88 together by identifying themes across studies, allowing for a reconceptualization of the topic under investigation
89 (Doyle, 2003). Here, we use a meta-synthesis to allow greater insight into the lived experience of the
90 psychosocial effects of hearing loss in both PHL and their CPs, and importantly the interactions between the
91 two. To our knowledge, this is the first time an interpretivist meta-synthesis approach has been used in
92 audiology research, and as such, this paper highlights how this technique can be used to review existing
93 qualitative literature. The results of this meta-synthesis will be used to develop a framework that can be used to
94 investigate the similarities and differences in the lived experiences of PHL and their CPs.

95

96 The aims of the meta-synthesis were to (i) investigate the effects of the psychosocial implications of hearing
97 loss, and (ii) explore the coping strategies that people with hearing loss and their CP use. The research question
98 for this meta-synthesis was: what is the lived experience of the psychosocial implications of hearing loss for
99 people with hearing loss and their communication partners?

100

101 **Methods**

102 The meta-synthesis was conducted using the meta-ethnographic approach (Noblit & Hare, 1988). Three steps
103 were taken towards the analysis of the data. The first step is termed “reciprocal” and involves a search for
104 phrases, metaphors and themes, which occur repeatedly throughout the data. The second stage is termed
105 “refutational”, which involves consciously searching for phrases, metaphors and themes that do not correspond
106 with any emerging patterns. The third stage is called the “line of argument” and results in a statement that can
107 summarize and express the emerging patterns across the data from the studies included in the review. The line of
108 argument approach is a form of grounded theorizing that involves creating a picture of the whole topic under
109 investigation, in this case, the psychosocial experiences of the PHL and their CP. Whilst previous studies may
110 have investigated aspects of this, for example looking at only the experiences of the PHL or CP separately, the
111 line of argument approach attempts to draw together findings from all studies, including the studies only looking
112 at either the CP or PHL, together to form an overall impression of the phenomenon.

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114 Inclusion criteria for studies were (i) adults with hearing loss, CPs of PHL, or both the PHL and their CP, (ii)
115 exploration of the psychosocial issues surrounding hearing loss, and (iii) use of a qualitative methodology,

116 including mixed method studies if there was a distinct qualitative component from which data could be
117 extracted. Exclusion criteria were (i) childhood hearing loss (participants under the age of 18 at the time of the
118 study), and (ii) profound hearing loss.

119

120 For this meta-synthesis, we investigated studies that considered primarily mild-moderate hearing loss, according
121 to the British Society of Audiology. (2011). Qualitative studies often use purposive sampling, aiming to achieve
122 maximum variability in their sample. As such, it was possible that studies contained participants with severe or
123 profound hearing loss. Studies were included in this meta-synthesis if they specifically had a sample of
124 participants with mild-moderate hearing loss, but those that had a small proportion of participants with severe
125 hearing loss were not excluded. Studies with participants who had a profound hearing loss were excluded due to
126 the different experience and treatment people with profound hearing loss might use compared to those with
127 mild-moderate hearing loss.

128

129 As with systematic reviews, the quality of included studies in a meta-synthesis will affect the results (Salter et
130 al., 2008). Quality in qualitative studies differs to the rigid quality checklists in quantitative studies due to the
131 range of methodologies and epistemological stances used, and the researchers own underpinning beliefs about
132 the nature of knowledge. For example, in qualitative research knowledge can be acquired from the role of
133 language (symbolic interactionists), lived experience (phenomenology) and interpretation and meanings
134 (hermeneutics), however, due to the interpretivist stance of qualitative research, all knowledge is socially
135 constructed, and therefore, all methodologies and epistemological stances are equally valid (Walsh & Downe,
136 2006). Instead, quality appraisals are based on general criteria that can be applied to any methodology or study
137 (Salter et al., 2008). A grading system frequently used in meta-syntheses was used to assess the quality of
138 studies (Walsh & Downe, 2006; Downe et al., 2007), that incorporates scoring eight quality domains for each
139 paper: 1) scope and purpose, 2) design, 3) sampling strategy, 4) analysis, 5) interpretation, 6) reflexivity, 7)
140 ethical dimensions, 8) relevance and transferability. Details on how to score these domains are described in
141 Walsh & Downe (2006). The eight domains encapsulate four broad aspects of quality proposed by Lincoln &
142 Guba (1985) as alternatives for quantitatively-oriented criteria: 1) credibility (as an alternative to internal
143 validity), the degree to which research techniques and analysis are sound to ensure the believability of the
144 interpretation, 2) transferability (as an alternative to external validity), the degree to which the results of the
145 study can be generalized or transferred to other contexts or settings, 3) dependability (as an alternative to

146 reliability), the degree to which the research has the ability to account for the changing context within which
147 research occurs, and 4) confirmability (as an alternative to objectivity), the degree to which results of the study
148 can be confirmed or corroborated by others. Each paper is assumed at the outset to have a high rating and this
149 decreases based on the reviewers interpretation of flaws found in each of the 8 domains. The rating criteria
150 (Downe et al., 2007) are:

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152 A – No or few flaws: The study credibility, transferability, dependability, and confirmability is high

153 B – Some flaws, unlikely to affect the credibility, transferability, dependability, and/or confirmability of the
154 study

155 C – Some flaws, which may affect the credibility, transferability, dependability, and/or confirmability of the
156 study

157 D – Significant flaws, which are very likely to affect the credibility, transferability, dependability, and/or
158 confirmability of the study.

159 Only studies rated C or above were included in the meta-synthesis, in line with previous meta-syntheses (Walsh
160 & Devane, 2012). To ensure a consistent and coherent literature search, key concepts and terms were tabulated
161 prior to searches being undertaken (see Table 1).

162

163 *Table 1 here*

164

165 The literature search was initially conducted on 18th February 2016 and repeated on 28th October 2016. The
166 following databases were searched; ASSIA (All years), CINAHL (All years), Embase (1980 to 2016 Week 43),
167 PsychINFO (1806 to October Week 3 2016), PubMed (All years), Science Direct (All years) and Web of
168 Science (All years). The search returned eight hundred and ninety nine records (Figure 1), which were screened
169 by title and abstract for relevance. Forty four records were deemed relevant of which there were thirteen
170 duplications. The remaining 31 articles were examined in full. Nineteen articles were not relevant to the
171 research question, 12 articles were included in the meta-synthesis. Articles were chosen and examined by the
172 first author, (ABB) and confirmed and checked by (PL) to ensure relevance to the meta-synthesis,
173 appropriateness of the grading, and the validity of the interpretation of themes and concepts. It had been agreed
174 a priori that MAF would adjudicate any discrepancies that arose, however, this did not occur. -No further
175 methods to identify papers were conducted.

176

177 *Figure 1 here*

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179 Using the method described by (Noblit & Hare, 1988), each paper was read multiple times prior to themes,
180 concepts, metaphors and phrases being extracted (the data). Data were reciprocally grouped based on similarity
181 of meaning for theme, concept, metaphor or phrases. Following this data organisation, studies were re-read to
182 identify further overarching themes. Refutational data were examined and explored further in the description of
183 each theme. A line of argument synthesis was then constructed based upon how the themes relate to each other.

184

185 **Results**

186 Eight studies defined CPs as spouse, married or living together. One study defined CPs as family or romantic
187 partner; one study explored the experience of adult children as CPs, and two studies defined CPs as a person
188 chosen by the PHL, usually a spouse or partner but sometimes an adult child, friend or colleague. Three studies
189 recruited both PHL and CPs (Hallberg, 1999; Wallhagen, 2010; Kelly-Campbell & Plexico, 2012), five studies
190 recruited PHL only (Hetu et al., 1988; Hindhede, 2010; Linssen et al., 2013; Van de Horst & Hoogsteyns, 2014;
191 Heffernan et al., 2016), four studies recruited CPs only (Scarinci et al., 2008; Manchaiah et al., 2013; Preminger
192 et al., 2015). All 12 studies used semi structured interviews. Three studies used a grounded theory approach to
193 data analysis (Hallberg, 1999; Hallberg & Barrenas, 1993; Wallhagen, 2010), one study used narrative analysis
194 (Van de Horst & Hoogsteyns, 2014), the remaining eight studies used thematic analysis.

195

196 Four overarching themes affecting both the PHL and CPs were identified from the qualitative studies; (i) the
197 effect of hearing loss, (ii) the response to the hearing aid(s), (iii) stigma and identity (iv) coping strategies. A
198 table describing themes, sub-themes and which studies these were identified in is shown in Table 2. The
199 alphabetized Downe et al. (2007) quality rating of each study can also be found in Table 2.

200

201 *Table 2 here*

202

203 1) The effect of hearing loss

204 Whilst one paper discussed the positive effects of hearing loss, such as being able to ignore unpleasant sounds
205 (Heffernan et al., 2016), positive effects were minor compared to negative effects. The majority of studies
206 discussed only about the negative effects of hearing loss, and the emotional impact associated with this. Hearing
207 loss led to activity limitation and participation restriction in both the PHL and their CP (Hallberg & Barrenas,
208 1993; Scarinci et al., 2008; Van de Horst & Hoogsteyns, 2014; Heffernan et al., 2016). Communication
209 difficulties due to hearing loss had wide reaching consequences, affecting relationships with those closest to the
210 PHL, including the spouse and family members (Hetu et al., 1988; Hallberg & Barrenas, 1993; Scarinci et al.,
211 2008). PHLs described the effects of hearing loss as limitations (Heffernan et al., 2016), in that hearing loss
212 often excluded them from doing activities they wanted to do. PHLs would sacrifice social and leisure activities
213 that they felt they could no longer do, or felt that they no longer enjoyed (Scarinci et al., 2008; Heffernan et al.,
214 2016). Hearing loss affected almost all aspects of everyday life (Scarinci et al., 2008).

215

216 The effects of hearing loss were also experienced by the wider family group (Hallberg & Barrenas, 1993;
217 Hallberg, 1999; Scarinci et al., 2008; Heffernan et al., 2016), including reduced social interaction and negative
218 effects on mood due to the communication difficulties they face in attempting to communicate with the PHL
219 (Hetu et al., 1988; Hallberg, 1999; Hindhede, 2010; Wallhagen, 2010; Heffernan et al., 2016). CPs often felt
220 frustrated with the PHL (Hetu et al., 1988; Hallberg & Barrenas, 1993; Scarinci et al., 2008), feeling that this
221 negatively affected their relationship with the other person (Hallberg & Barrenas, 1993; Scarinci et al., 2008).
222 However, despite the negative effects of hearing loss, one study found that the effects of hearing loss could
223 make a relationship between the PHL and their CPs worse, if it was already poor, or a good relationship better
224 (Preminger et al., 2015), suggesting that the existing relationship between the two people might influence the
225 effects of hearing loss.

226

227 Upon initial recognition of the hearing loss, PHLs would often attempt to deny or cover up their hearing loss
228 (Hallberg & Barrenas, 1993; Hallberg, 1999; Scarinci et al., 2008; Hindhede, 2010; Kelly-Campbell & Plexico,
229 2012; Linssen et al., 2013). CPs often noticed the hearing loss before the PHL did, leading to embarrassment,
230 frustration and anger in the CP, and the CP often began to take steps to make the PHL aware of their hearing
231 loss, and to suggest seeking treatment (Manchaiah et al., 2013). In this way, the recognition of hearing loss
232 depended not only on the PHL but also their CP, who may influence the other person's awareness or acceptance
233 of the hearing loss. CPs often referred to the hearing loss as a "taboo subject" (Hindhede, 2010; Wallhagen,

234 2010), one which CPs were afraid to approach or offer support on due to the PHL's feelings, which then had a
235 negative effect on broader coping strategies and adjustment to hearing loss.

236

237 2) The response to the hearing aids

238 Hearing aids were not seen as a spontaneous adaptation to hearing loss. In one extreme case, a study of 61
239 people with hearing loss found that no participant had considered getting a hearing aid, possibly to minimize the
240 effects of hearing loss to preserve a positive self-image (Hetu et al., 1988). Hindhede (2010) found that
241 participants who were unwilling to accept their hearing loss at the hearing assessment, were less likely to engage
242 with hearing aids at follow-up, suggesting that participants might be better suited for hearing aids once they
243 have accepted and adjusted to the hearing loss. As CPs often recognize the hearing loss and suggest the PHL
244 seeks treatment, this may hinder later hearing aid use. PHLs may not yet have accepted the hearing loss
245 themselves, instead only acting according to the wishes of their CP.

246

247 Hearing aid users and their CPs described both positive and negative experiences of using hearing aids. A
248 number of positive effects were described, including increased hearing ability and communication with others
249 (Kelly-Campbell & Plexico, 2012), and increased perception by others that the PHL is invested in
250 communicating in the relationship (Van de Horst & Hoogsteys, 2014). Positive effects were often
251 outnumbered by negative experiences, including auditory fatigue (Hetu et al., 1988), discomfort, and
252 disappointment in the efficacy and use of hearing aids (Hindhede, 2010; Kelly-Campbell & Plexico, 2012;
253 Linssen et al., 2013). PHLs held an expectation that the hearing aid would restore hearing and felt disappointed
254 when this did not happen, often resulting in non-use (Linssen et al., 2013).

255

256 CPs also felt positive effects of hearing aid use including the benefit of being able to effectively communicate
257 with the PHL (Kelly-Campbell & Plexico, 2012; Preminger et al., 2015), and relief at the ease of
258 communication (Scarinci et al., 2008). CPs saw hearing aids as a way to prevent any negative effects of hearing
259 loss, associating non-use of hearing aids as an attempt by the PHL to avoid engaging with the CP. As a result,
260 CPs would encourage hearing aid use in the PHL, despite the PHL feeling disappointed in the efficacy of the
261 device. Over time, CPs acknowledged that the hearing aids were not as useful as they had hoped, questioning
262 the hearing aid's ability to assist the PHL (Scarinci et al., 2008; Manchaiah et al., 2013).

263

264 The relationship between the PHL and their CPs had an effect on hearing aid use. The introduction of a hearing
265 aid often resulted in a complex renegotiation of activities and responsibilities in both the PHL and their CP
266 (Hallberg, 1999; Van de Horst & Hoogsteyns, 2014; Heffernan et al., 2016), such as, differences of opinion on
267 the use of hearing aids in different situations (Van de Horst & Hoogsteyns, 2014). The use of hearing aids
268 affected both the PHL and their CPs, and the behavior and emotions of one person affected the other person.
269 CPs appeared to have an effect on hearing aid use. For some users, hearing aid use was perceived to be a social
270 obligation that they felt they had to perform due to the expectations of others, despite their own wishes
271 (Hindhede, 2010; Linssen et al., 2013; Van de Horst & Hoogsteyns, 2014). PHL felt that hearing aids did not
272 restore hearing to normal leading to non-use of the device. This in turn affected the CP in that they felt upset and
273 disappointed at the non-use. PHL spoke of how their CP had pushed them to go to the audiology appointment
274 and how they wore their hearing aids when with their CP to demonstrate that they were paying attention to
275 them. This often resulted in PHLs feeling they were irresponsible when not using them in situations where they
276 might be beneficial (Linssen et al., 2013), suggesting that CPs might be aiding in the adjustment process, despite
277 initial reluctance by the PHL. CPs may think that hearing aids restore hearing therefore encouraging use in the
278 PHL, resulting in feelings of frustration in the PHL as they used the device to keep the other person happy.
279 However, some PHLs felt they needed their hearing aids to stay engaged with people and may have been more
280 willing than others to use hearing aids (Wallhagen, 2010; Kelly-Campbell & Plexico, 2012), suggesting greater
281 acceptance and adjustment to hearing loss.

282

283 3) Stigma and identity

284 PHLs experienced stigma and felt that others viewed them differently as a result of their hearing loss or hearing
285 aid use (Hetu et al., 1988; Hallberg & Barrenas, 1993; Hallberg, 1999; Scarinci et al., 2008; Wallhagen, 2010;
286 Kelly-Campbell & Plexico, 2012; Heffernan et al., 2016). An inability to follow a conversation or to ask for
287 repetition in a group conversation often made PHLs feel uncomfortable and ridiculous (Hetu et al., 1988).
288 Hearing aid use did not solve feelings of stigma (Kelly-Campbell & Plexico, 2012). Instead PHLs felt that
289 hearing aids were associated with negative labels such as ageing (Wallhagen, 2010). Stigma also affected CPs.
290 Hearing loss and the use of hearing aids were seen as a marker of a stigmatised identity, old age, and in turn
291 they viewed the PHL in this way (Wallhagen, 2010; Kelly-Campbell & Plexico, 2012). The PHLs hearing loss
292 affected CPs view of the relationship, often making the CP feel the effects of stigma as well as the PHL.

293

294 The stigma, due to hearing loss and hearing aid use, experienced by both the PHL and their CP, affected
295 decisions during the adjustment process, such as whether to accept hearing loss or to seek a hearing aid
296 (Wallhagen, 2010). Social identity affected the response to the stigma attached to hearing loss and hearing aid
297 use in both the PHL and their CP. The behaviour of others could normalise the use of a hearing aid, by accepting
298 and encouraging use (Van de Horst & Hoogsteyns, 2014). Whereas a negative opinion of hearing aids by a CP
299 could act as a barrier to get hearing aids, especially if a spouse saw the hearing aids as a sign of ageing in their
300 partner (Wallhagen, 2010).

301

302 PHLs often experienced changes to their social identity and self-perception due to their hearing loss (Hetu et al.,
303 1988; Hallberg & Barrenas, 1993; Hallberg, 1999; Wallhagen, 2010; Kelly-Campbell & Plexico, 2012;
304 Preminger et al., 2015; Heffernan et al., 2016). PHLs would often deny hearing problems (Hallberg & Barrenas,
305 1993; Hallberg, 1999; Scarinci et al., 2008; Hindhede, 2010; Kelly-Campbell & Plexico, 2012; Linssen et al.,
306 2013) arguing a lack of need and willingness to use hearing aids (Linssen et al., 2013). The PHL may still have
307 been in the process of accepting their hearing loss as part of their identity and may not have been willing to
308 accept a marker of a changed identity, the hearing aid, until they had come to terms with this. Whilst denying
309 hearing loss, PHL may instead present a more positive self-image in an attempt to compartmentalise their
310 hearing loss due to fear of negative attributions from others (Heffernan et al., 2016). For example, PHL may
311 have pushed themselves in the work place, wishing not to be seen as incompetent (Hallberg, 1999). The
312 recognition of hearing loss as part of their identity can change over time, resulting in greater willingness to use
313 hearing aids (Hindhede, 2010). Accepting and adjusting to a self-image with hearing loss may lead to greater
314 success with aural rehabilitation (Hallberg, 1999).

315

316 Social identity was linked to the coping strategies developed in response to the effects of hearing loss. Hearing
317 loss often led to reduced communication in couples, having a negative effect on the relationship. CPs way of
318 coping was often linked to the idea of preserving the image of a normal couple to others (Hallberg & Barrenas,
319 1993; Hallberg, 1999). Some CPs were found to downplay the effect of hearing loss in line with the PHL to
320 preserve a social identity that they saw as valued, a normal couple. The view of hearing aids that a CP held
321 could affect the coping strategies used as a couple (Wallhagen, 2010). A negative view of hearing aids held by a
322 CP could subtly alter a person's decision to get a hearing aid, such as perceiving no support for using hearing
323 aids. Alternatively, a supportive CP could facilitate discussion to move forward and explore options with

324 regards to hearing loss (Wallhagen, 2010; Manchaiah et al., 2013), helping the PHL adjust to their hearing loss
325 and hearing aids.

326

327 4) Coping

328 A number of different coping strategies were employed by the PHL and their CP. Strategies for adapting to the
329 condition (engaged coping) involved accepting the condition and attempting to adjust to the situation (Hallberg
330 & Barrenas, 1993; Scarinci et al., 2008; Heffernan et al., 2016), a willingness to continue in activities regardless
331 of limitations (Scarinci et al., 2008; Wallhagen, 2010; Van de Horst & Hoogsteyns, 2014; Heffernan et al.,
332 2016), denying stigma attached to hearing loss (Wallhagen, 2010) and the use of effective communication
333 strategies (Hetu et al., 1988; Scarinci et al., 2008; Kelly-Campbell & Plexico, 2012; Manchaiah et al., 2013;
334 Preminger et al., 2015).

335

336 Examples of disengaged coping included withdrawal from social activities (Hallberg, 1999; Heffernan et al.,
337 2016), withdrawal within social situations (Heffernan et al., 2016), and blaming the lack of hearing on external
338 factors, such as a person mumbling (Hallberg, 1999; Hindhede, 2010; Wallhagen, 2010; Linssen et al., 2013),
339 and denying the hearing loss (Hallberg & Barrenas, 1993; Hallberg, 1999; Scarinci et al., 2008; Hindhede,
340 2010; Wallhagen, 2010; Kelly-Campbell & Plexico, 2012; Linssen et al., 2013). Denial of hearing loss often
341 resulted in frustration from CPs, if they were not also willing to downplay the effects of the hearing loss
342 (Hallberg & Barrenas, 1993). PHLs might use different types of coping, such as denying hearing loss, to protect
343 their self-image and social identity, to avoid being labelled as “deviant” (Hallberg & Barrenas, 1993; Hallberg,
344 1999). Similarly, coping strategies used by the CP were to protect the image of a “normal couple” (Hallberg &
345 Barrenas, 1993; Hallberg, 1999). Coping strategies used at any point might reflect the individual or the couples
346 ability to cope with and function at any point in time and may not reflect coping strategies used at all times
347 (Hallberg & Barrenas, 1993). It is possible that a disengaged coping strategy might reflect coping at a point in
348 time until the individual or couple incorporate more adaptive, engaged coping strategies.

349

350 Coping strategies used by the PHL or their CP were rarely examined alongside each other, however, the
351 importance of aligned coping strategies is stressed in the three studies that did (Hetu et al., 1988; Hallberg &
352 Barrenas, 1993; Kelly-Campbell & Plexico, 2012). Couples who worked together to adapt and adjust to the
353 stressors of the situation appeared to cope better, suggesting the influence of the psychosocial effects of hearing

354 loss depend on the interaction between the PHL and their CP and the aligned coping strategies they use.
355 However, CPs felt that they could only help once the PHL was willing to admit there was a problem (Hetu et
356 al., 1988; Scarinci et al., 2008), suggesting that the PHL needs to adjust to their hearing loss before the CP can
357 help, which might explain the frustration felt by CPs at the denial of hearing loss.

358

359 **Line of argument**

360 The line of argument attempts to pull together findings across the literature to provide a reconceptualization of
361 the literature by examining the combined effects of hearing loss, and coping strategies in response to this, in
362 both the PHL and CP.

363

364 Hearing loss can result in a number of psychosocial experiences for both the PHL and their CP. PHL may not
365 acknowledge or may choose to deny, their hearing loss, causing tension in the relationship as CPs notice and
366 actively encourage treatment. As time goes on and PHL began to see their identity as changed, they are more
367 likely to acknowledge their hearing loss and accept hearing aids as part of who they are. This change in
368 willingness to accept hearing aids alongside other factors, such as their CPs opinion of hearing aids, enables
369 people to accept their hearing loss by choosing to use hearing aids. The introduction of hearing aids results in a
370 complex renegotiation of activity restrictions and responsibilities, presenting its own challenges for the PHL and
371 their CPs. Both hearing loss and hearing aid use can result in stigma in both the PHL and their CPs. As a PHL's
372 identity changes in response to the hearing loss and hearing aid use, they may experience less stigmatisation as a
373 response to seeing hearing aids as a marker of their identity. In this way a person's identity influenced the
374 coping strategies used. Different coping strategies are used to cope with the effects of hearing loss by the PHL
375 and CP, including both engaged and disengaged coping strategies. Coping strategies may be more effective if
376 they are aligned across both the PHL and their CP. This may enable a couple to work together and adjust to
377 hearing loss and hearing aid use by normalising hearing loss and incorporating this into their sense of identity as
378 a couple. This then is more likely to increase hearing aid use and reduce the stigma associated with hearing
379 aids~~this~~.

380

381 **Discussion**

382 The aims of this meta-synthesis were to investigate the effects of the psychosocial implications of hearing loss
383 and to explore the coping strategies in response to this. By exploring the lived experience of hearing loss, and
384 the relationship between the two people, this review has provided insights into the effects of hearing loss.

385

386 The psychosocial effects of hearing loss substantially affect both PHL and CPs, in line with previous research
387 (Strawbridge et al., 2000; Kamil & Lin, 2015; Heffernan et al., 2016), and both PHL and CPs need to adjust to
388 the hearing loss. The line of argument from this meta-synthesis presents an interpretation and explanation of the
389 process of adjusting to hearing loss in both PHL and CPs. whilst previous research posits that both PHLs and
390 CPs have their own journey to adjustment to hearing loss (Manchaiah et al., 2011; Manchaiah et al., 2013), these
391 experiences appear to be linked.

392

393 ~~A previous review~~ Previous reviews (Kamil & Lin, 2015; Vas et al., 2016) have examined the effects of hearing
394 loss in communication partners, however the effects of hearing loss have been considered separately in the PHL
395 and CP. This review extends the literature by positing that hearing loss occurs within a wider social context,
396 affecting the relationship between the PHL and their CPs. The current review adds a reconceptualization of the
397 literature to suggest that perceptions of self, in both the PHL and CP, may influence the effect of hearing loss
398 and subsequent coping. A previous review highlighted that different coping strategies might be more detrimental
399 than others, for example, denial of a hearing loss can lead to relationship conflict with CPs (Kamil & Lin,
400 2015). The current meta-synthesis suggests that different coping strategies might be beneficial at different points
401 in time according to the adjustment to hearing loss. However, it is the combined effect of aligned coping
402 between the PHL and CP that can have positive effects for both people.

403

404 The qualitative literature appears to present a process of adjustment to hearing loss that might be associated with
405 readiness and acceptance to use hearing aids. This finding is consistent with research into readiness to accept
406 hearing aids using health psychology models such as the transtheoretical model of behavior change (Laplante-
407 Levesque et al., 2013; Ferguson et al., 2016a) and the health belief model (Saunders et al., 2016). ~~(Coulson et~~
408 ~~al., 2016), future studies should use the COM-B model to explore readiness to accept hearing~~ Support and
409 information from audiologists should be tailored to an individual's readiness to accept hearing aids to provide
410 patient centered care (Grenness et al., 2014). This has implications for how audiologists might structure the
411 counselling phase of their appointments (Ekberg et al., 2016). For example, motivational engagement tools (e.g.

412 Ida Institute, see Ferguson et al., 2016b)) may be used with both the PHL and their CP. Support and
413 information from audiologists and habilitation aids, such as C2Hear, and online multimedia information
414 (Ferguson et al., 2016c), could be offered to both the PHL and CPs, as these may facilitate the alignment of
415 coping strategies and increase communication about the effects of hearing loss. There are calls for a new
416 approach in using health psychology models in audiology (Coulson et al., 2016), future studies should use the
417 COM-B model to explore adjustment and readiness to accept hearing aids.

418

419 This meta-synthesis suggests that self-perceptions may be affected by hearing loss, a finding consistent with
420 previous literature (Hogan et al., 2013). However, the results of this meta-synthesis suggests that changes to
421 identity in response to hearing loss can affect uptake of hearing aids and the coping strategies a person might
422 use, which can ultimately affect the relationship between the PHL and CP. Further research should explore the
423 implications of social identity change due to hearing loss and the effect this might have on rehabilitation. Social
424 psychological theories, such as the Social Identity Model of Identity Change (Jetten & Panchana, 2012), can
425 help to explain adjustment to identity change. (Jetten & Panchana, 2012) Applying pre-existing theories from
426 the literature to explore the psychosocial experience of hearing loss could identify facilitators of identity change.
427 These facilitators could help reduce the negative psychosocial impact of identity change and increase the uptake
428 of hearing aids and engaged coping strategies. play a role in adjustment to hearing loss and readiness to accept
429 hearing aids, a finding that should be explored in future studies.

430

431 **Limitations**

432 This review and meta-synthesis has been limited by the paucity of (i) qualitative studies exploring the
433 psychosocial experiences involved in hearing loss, and (ii) studies exploring the psychosocial experiences in
434 both people and their reaction to this. Future studies should take both these points into account.

435

436 A limitation of the meta-synthesis approach is the use of primary and secondary data. Original, primary, data
437 (i.e. transcripts from focus groups or semi-structured interviews) were not used, as they were not available, thus
438 analysis of the secondary data only is used in this meta-synthesis.

439

440 This aim of this meta-synthesis was to provide a reconceptualization of a selected topic, the search terms used
441 were not intended to be systematic but developed to illicit the topic under investigation. The authors

442 acknowledge that this approach could introduce bias. A further limitation is that only peer reviewed articles
443 from the literature search were included, no further attempts to find literature were conducted.

444

445 Finally, the meta-synthesis is an interpretative method and each author brought their own experiences to the
446 analysis. ABB has a background in applied psychology, PL has a background in qualitative research design, and
447 MAF has a background in clinical audiology and hearing research.

448

449 **Conclusions and Implications**

450 This meta-synthesis suggests that hearing loss has an effect on both the PHL and their CPs. The relationship
451 between the two people, changes to identity, and the coping strategies they use may affect subsequent
452 adjustment to hearing loss.

453

454 To promote effective habilitation for hearing loss, support and information could be offered to both the PHL and
455 their CP to align coping strategies, and to increase motivation and support. There are two important findings of
456 this review. First, the PHL and CP subtly affect each other's response and adjustment to hearing loss, and
457 second, aligned coping strategies appear to result in positive effects for both the PHL and CP. Further
458 investigation should be undertaken to identify the subtle ways one partner can affect the other, to see if this
459 behaviour can be encouraged in one partner to increase the other partner's adjustment to hearing loss and use of
460 hearing aids. Strategies for increasing the alignment of coping strategies in both people could be identified and
461 developed for educational and motivational interventions for PHL and their CPs. A framework for qualitative
462 data analysis will be developed from the results of this review.

463

464

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