

Supplementary material

Table S1. Examples of statements edited by the researchers

Category	Statement example	Result
Irrelevant	<p>“I have to accept the reality”</p> <p>“I used to fight with my co-workers a lot because they thought I couldn’t understand what they were saying, which made me feel stupid”</p>	Removed
Duplicate	<p>“I can keep up with the conversation now - this is surprising to her”</p> <p>“She is surprised with my abilities now, exciting for me as well”</p>	<p>Combined to:</p> <p>“The partner is surprised with the cochlear implant recipient's abilities in that they can now keep up with a conversation”</p>
Non-specific	“A lot has changed”	Removed
Multiple statements	“Communication has improved, but there are still some misunderstandings and difficulties”	<p>Separated into individual statements:</p> <p>“Since cochlear implantation, there are still some misunderstandings and difficulties during communication” AND</p> <p>“Communication has improved since cochlear implantation”</p>
Not pertaining to focus	“We can have a conversation as a family now which is very nice”	Removed

Figure S2:

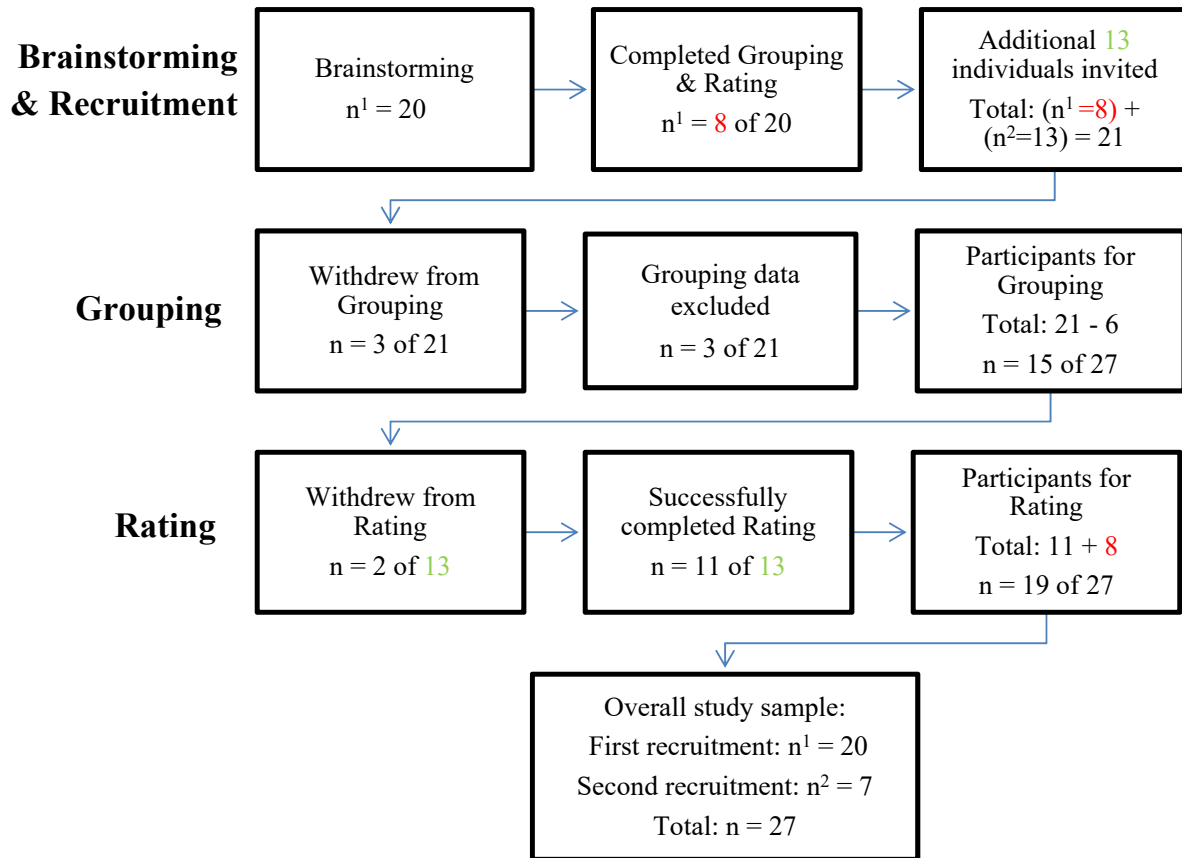


Figure S2. Flow chart describing first (n¹) and second (n²) participant recruitment phases during the brainstorming, grouping and rating tasks. The superscript numbers represent the first and second phases of recruitment.

Table S3. Five concepts describing the impact of adult cochlear implantation on the partner relationship.

Cluster (bridging average)		Description	Statements (bridging scores)
Social Interactions (0.8)		Aspects relating to social activities, the listening environment and practical changes made by the couple.	<p>1. The partner of the cochlear implant recipient had to learn to be more social again after cochlear implantation (0.65)</p> <p>6. Finances and the way couples do their taxes have changed following cochlear implantation since the partner with a cochlear implant is now seen as a person with a disability (0.86)</p> <p>10. Following cochlear implantation, partners of cochlear implant recipients have to be mindful of the listening environment in terms of where they are and how many people there are (0.73)</p> <p>12. Since cochlear implantation, it is much better to go to the movies together as a couple (0.95)</p> <p>14. As a couple, we can now go out with friends together (0.99)</p> <p>15. As a couple, we don't have to be cognisant of where we go or where we sit anymore (0.92)</p> <p>62. Partners of cochlear implant recipients need to adjust and accept that their lifestyle will change after cochlear implantation (0.70)</p> <p>63. Since cochlear implantation, we can't listen to music in the same way as we did before (0.88)</p> <p>71. The cochlear implant recipient realised how dependent they are on their partner since cochlear implantation (0.70)</p> <p>102. Following cochlear implantation, cochlear implant recipients need to learn to be more social again (0.64)</p>

<p>Partner Involvement (0.68)</p>		<p>Aspects relating to assistance provided to the CI recipient, accommodations made by the partner and how the couple functions in their environment.</p>	<p>5. Since cochlear implantation, the partner has high expectations of the cochlear implant recipient and expects them to be "hearing-able" (0.64)</p> <p>7. In terms of logistical aspects, partners have to adjust after cochlear implantation, like positioning themselves on the side where the cochlear implant recipient can hear better (0.74)</p> <p>8. There are practical things that would still be very difficult for the cochlear implant recipient to do alone where they need their partner's help, for example, having a conversation with an unfamiliar person over the phone (0.80)</p> <p>9. Following cochlear implantation, partners have to remember that the cochlear implant recipient can't hear or communicate without their cochlear implant(s) (0.69)</p> <p>11. Following cochlear implantation, partners of cochlear implant recipients have to be attentive and mindful of things like seating arrangements in restaurants and in the car (0.65)</p> <p>16. The partner of the cochlear implant recipient has to make sure that they, as a couple, are prepared in terms of extra batteries when they leave the house together (0.55)</p> <p>21. Since cochlear implantation, the partner helps the cochlear implant recipient more with communicating with others (0.70)</p> <p>24. The partner no longer has to act as the "middle-man" or interpreter between the cochlear implant recipient and others (0.70)</p> <p>28. The partner is now more considerate in making sure the cochlear implant recipient can hear and follow others well (0.62)</p> <p>29. The partner will often advocate for the cochlear implant recipient in difficult situations on their behalf, even after cochlear implantation (0.65)</p>
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			<p>30. Following cochlear implantation, the cochlear implant recipient has indicated to the partner that they have to be their helper (0.68)</p> <p>58. The partner has to take the responsibility of indicating the direction of where sounds come from to the cochlear implant recipient, even after cochlear implantation (0.55)</p> <p>60. The partner used to intervene on the cochlear implant recipient's behalf when they could see that the cochlear implant recipient could not understand; now they accept that the cochlear implant recipient can speak for themselves (0.69)</p> <p>61. The cochlear implant recipient still asks their partner to help them in difficult listening situations or if they don't have their cochlear implant(s) on (0.74)</p> <p>69. After cochlear implantation, the partner had to find a church where the cochlear implant recipient can be comfortable and have a better experience of the service (0.72)</p> <p>86. When the battery of the cochlear implant device(s) is flat, the conversation stops, and partners have to go home because the cochlear implant recipient can't participate in the conversation anymore (0.78)</p> <p>88. Partners have to accept that the way they communicate with the cochlear implant recipient is different than communicating with someone with normal hearing (0.68)</p> <p>94. Following cochlear implantation, there are practical or environmental situations where the partner still "has to be the cochlear implant recipient's ears", like when everyone is wearing masks (0.69)</p> <p>101. As a couple, we now have to be mindful of the seating arrangement when we are in a group or going to a restaurant (0.69)</p>
Communication (0.52)		Aspects relating to communication	3. Since cochlear implantation, the partner gets frustrated when having to repeat what was said

		<p>between the couple and between the CI recipient and those around them.</p>	<p>because they know that the cochlear implant recipient can hear better now (0.48)</p> <p>25. The partner does not have to speak on the cochlear implant recipient's behalf anymore after cochlear implantation (0.75)</p> <p>31. We can now look back and joke about how we as a couple had to communicate in the past (0.40)</p> <p>32. There are a lot less misunderstandings between us after cochlear implantation (0.49)</p> <p>33. At home, the children now include the cochlear implant recipient in conversations; it's no longer only between them and the hearing partner (0.51)</p> <p>34. If we have a problem now, we can talk about it and deal with it (0.29)</p> <p>35. We can now talk to each other in the car",0.52</p> <p>36. "We can now communicate with each other in the dark (0.50)</p> <p>37. As a couple, we now have more frequent conversations and thus share more with each other (0.41)</p> <p>40. The cochlear implant makes communication between partners easier (0.43)</p> <p>41. The cochlear implant recipient can now participate more in conversations (0.52)</p> <p>42. The partner is surprised with the cochlear implant recipient's abilities in that they can now keep up with a conversation (0.53)</p> <p>43. We can now chat effortlessly and without stress (0.53)</p> <p>44. Since cochlear implantation, the partner is not sure how to communicate with the cochlear implant recipient (0.56)</p> <p>45. We can chat more frequently since cochlear implantation (0.42)</p> <p>46. Communication has improved since cochlear implantation (0.46)</p>
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		<p>47. Since cochlear implantation, we as a couple can communicate without looking at each other or being in the same room (0.55)</p> <p>56. Since cochlear implantation, there are still some misunderstandings and difficulties during communication (0.72)</p> <p>68. During conflict, the cochlear implant recipient can now 'back their partner up' and take on a much more supportive role (0.30)</p> <p>70. The cochlear implant helps the partner as well because it enables the cochlear implant recipient to hear much better (0.52)</p> <p>72. The cochlear implant recipient can now understand what their partner is saying during a miscommunication and, as a couple, don't just have to "leave it" (0.59)</p> <p>73. The partner continues to speak slowly and loudly to the cochlear implant recipient even after cochlear implantation, despite the cochlear implant recipient asking them to speak normally (0.66)</p> <p>81. We get frustrated with each other because we can't communicate well, even after cochlear implantation (0.65)</p> <p>82. Since the couple can now communicate, their partner can come to the cochlear implant recipient when they are upset instead of going to their friends (0.43)</p> <p>83. The partner is relieved that after cochlear implantation, the cochlear implant recipient can hear them and understand what they are saying (0.63)</p> <p>87. The partner now puts in more effort to include the cochlear implant recipient in a conversation (0.62)</p> <p>89. The partner has to use gestures during communication when the cochlear implant recipient is not wearing their cochlear implant devices (0.68)</p>
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			<p>90. Instead of showing their partner that they love them, the cochlear implant recipient can now just tell them that they do (0.31)</p> <p>93. The cochlear implant recipient is much more interactive and talkative in conversations since cochlear implantation (0.62)</p> <p>97. Since cochlear implantation, the cochlear implant recipient can now participate in and step-up to conflict (0.51)</p> <p>100. We can engage in activities together as a couple because we can communicate now (0.47)</p>
Emotional Adjustment (0.54)		Positive and negative emotions experienced by both partners after cochlear implantation.	<p>2. Emotionally, the partner has become more sensitive to the cochlear implant recipient's needs after cochlear implantation (0.39)</p> <p>4. The partner gets angry when the cochlear implant recipient takes their cochlear implant device(s) off during an argument (0.36)</p> <p>13. The partner now has to accept that the cochlear implant recipient does not want to do all the things that they want to do due to how difficult communication still is for them (0.54)</p> <p>17. Following cochlear implantation, the cochlear implant recipient can take their stand in the house again and don't have to rely so much on their partner (0.60)</p> <p>18. The partner is not as concerned about the cochlear implant recipient anymore because they have become more capable on their own after cochlear implantation (1.00)</p> <p>19. Since cochlear implantation, the partner is not worried about the cochlear implant recipient going somewhere on their own anymore (0.48)</p> <p>20. It is a relief that certain roles and responsibilities can now be shared (0.33)</p> <p>23. The partner is very accommodating and helped the cochlear implant recipient a lot to adjust after implantation (0.48)</p>

			<p>26. Since cochlear implantation, the partner does not tell others that the cochlear implant recipient has a hearing loss anymore (0.59)</p> <p>27. Prior to cochlear implantation, the partner's role in helping the cochlear implant recipient was dominant, but now the partner feels the cochlear implant recipient doesn't need them as much anymore (0.67)</p> <p>48. As a couple, we still have challenges and get impatient with each other (0.35)</p> <p>51. As a couple, we can now listen to sounds together and appreciate the beautiful things in life (0.58)</p> <p>59. It was difficult for the partner to adjust to the fact that the cochlear implant recipient does not depend on them as much anymore following cochlear implantation (0.47)</p> <p>85. Since cochlear implantation, the cochlear implant recipient has an internal struggle with determining the balance between being independent and where they need their partner's help (0.71)</p> <p>98. The partner wants the cochlear implant recipient to make an effort to improve their listening skills, which puts pressure on the relationship (0.54)</p> <p>99. As a couple, we had to adjust to the fact that the partner with the cochlear implant is now seen by others as a person with a disability (0.93)</p> <p>104. The partner of the cochlear implant recipient has been very supportive after implantation (0.26)</p>
Relationship Intimacy (0.1)		How cochlear implantation impacted the couples' relationships with each other.	<p>22. There is a partnership between the couple in order for the cochlear implant recipient to hear well (0.18)</p> <p>38. Because communication is easier, couples are less frustrated with each other (0.17)</p> <p>39. Our relationship as a couple improved because it is easier to communicate (0.13)</p>

		<p>49. After the first switch-on, the partner was very empathetic and supportive towards the cochlear implant recipient (0.18)</p> <p>50. Cochlear implantation has done wonders for us as a couple (0.00)</p> <p>52. We can now connect on a spiritual level and have deeper shared spiritual experiences (0.09)</p> <p>53. Our relationship has deepened after cochlear implantation (0.02)</p> <p>54. There is less stress on our relationship after cochlear implantation (0.00)</p> <p>55. Following cochlear implantation, we share more emotions with each other (0.04)</p> <p>57. Not much has changed in our relationship with each other as a couple (0.02)</p> <p>64. The cochlear implant recipient's mood has changed a lot for the better following cochlear implantation (0.12)</p> <p>65. The entire relationship has changed since cochlear implantation because the cochlear implant recipient can attend to so much more emotions now (0.01)</p> <p>66. Cochlear implantation has solved a lot of problems and has taken away a lot of frustration for us (0.25)</p> <p>67. The cochlear implant recipient does not become angry any more because they can now hear what was said the first time (0.22)</p> <p>74. The fact that the cochlear implant recipient can hear better has a positive effect on the couples' lifestyle and relationship (0.18)</p> <p>75. We are more intimate and spend more time together after cochlear implantation (0.02)</p> <p>76. We work together as a team now (0.05)</p> <p>77. The bond between couples and families is stronger after cochlear implantation (0.07)</p> <p>78. Our relationship has improved following implantation (0.02)</p>
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			<p>79. We now have a better understanding of each other (0.12)</p> <p>80. We are not drifting apart anymore because having a conversation is much less effort (0.19)</p> <p>84. Our relationship is much stronger now because we have fewer communication problems (0.11)</p> <p>91. The fact that the cochlear implant recipient is more confident now has had a very positive impact on our relationship (0.09)</p> <p>92. The cochlear implant recipient is more appreciative of and grateful for their partner (0.13)</p> <p>95. Since cochlear implantation, the partner doesn't get angry anymore if the cochlear implant recipient can't hear; they rather laugh about it now (0.20)</p> <p>96. Since cochlear implantation, it is nice for the partner to see that the cochlear implant recipient has a drive to achieve more and prove that they can be better despite their hearing-related challenges (0.23)</p> <p>103. We have a stronger bond because of better communication between us (0.15)</p> <p>105. Our personal relationship became stronger after cochlear implantation (0.02)</p> <p>106. We are more sensitive to each other's needs following cochlear implantation (0.04)</p> <p>107. The improvement in a couple's relationship makes cochlear implantation worthwhile (0.02)</p> <p>108. We are closer to each other because we don't "sweat the small things" anymore (0.08)</p> <p>109. We are closer to each other because we can talk about the deeper things (0.15)</p> <p>110. Cochlear implantation brought us closer together (0.02)</p>
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TABLE S4. Welch's *t* test used to determine the average positive/ negative effect and importance rating scores between cohorts for each cluster

Cluster (number of statements)	CI recipient average rating score a)Effect b)Importance	Partner average rating score a)Effect b)Importance	Cohort differences		
			<i>t</i> -value	Degrees of freedom	p-value
Social Interactions (10)	3.55	3.55	0.0486	18	p= 0.8611
	3.60	3.61	0.0732		p=0.9425
Partner Involvement (19)	3.50	3.25	1.5936	36	p=0.1198
	3.53	3.54	0.0711		p=0.9437
Communication (31)	3.84	3.75	0.5846	60	p=0.5610
	3.71	3.74	0.2347		p=0.8153
Emotional Adjustment (17)	3.39	3.45	0.2788	32	p=0.7822
	3.43	3.51	0.4429		p=0.6608
Relationship Intimacy (33)	4.05	4.00	0.8184	64	p=0.4162
	3.78	3.88	1.3491		p=0.1821