The significance of deaf identity for psychological well-being

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Abstract

Research has paid attention to how deaf identity affects life outcomes such as psychological well-being. However, studies are often carried out with small samples and without including other variables. This study examined how different forms of identity – deaf, hearing, bicultural (deaf and hearing), and marginal (neither deaf nor hearing) – were associated with levels of psychological well-being, including a number of other variables. The sample was 742 adults with hearing loss in Denmark. The study found that identifying as deaf, hearing, and bicultural was associated with better psychological well-being compared to those with a marginal identity. Further, it found that additional disability, educational level, and feeling discriminated against because of hearing loss significantly explained the degree of psychological well-being. Results are discussed here with respect to social identity theory and current deaf identity themes.

Keywords: Deaf identity, Hearing loss, Psychological well-being, Social identity theory

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Introduction

The identities of individuals with hearing loss

The relevance of and academic interest in issues of identity among deaf individuals can be linked to the rise of the Deaf cultural minority movement in the 1970s (Leigh, 2009). Deaf people protested against a disability view of deafness as an impairment that should be cured, and argued for Deaf culture as a unique culture and for sign languages as unique languages (Ladd, 2003). A central theme in the cultural minority movement has been protest against discrimination and marginalization by hearing majority societies (Ladd, 2003; Glickman, 1996). Parallel to theories of racial identity development following recognition and experience of oppression, Glickman (1996) developed a theory of deaf identities which has been widely investigated by a number of studies within different disciplines (Cornell & Lyness, 2004). Glickman posited the development of four culturally deaf identities: (1) Hearing identity or culturally hearing, which means that the individual identifies with the hearing culture only (and perceives deafness as a disability). (2) Marginal identity or culturally marginal, which means that the individual identifies with neither the hearing culture nor the Deaf culture. (3) Deaf identity or immersion, which means that the person identifies with Deaf culture and has a negative view of the hearing culture (and perceives deafness as a culture). (4) Bicultural identity, which means that the individual identifies with both the hearing and Deaf cultures.

Theorization of social identity, a key concept in social psychology, has also informed approaches to deaf identity. Tajfel (1978, p.63) defined social identity as *"that part of an individual's self-concept which derives from his/her knowledge of his/her membership in a social*

group or groups together with the value and emotional significance attached to that membership". The development and impact of social identity within minority groups has been widely studied and one group of interest has been Deaf cultural minority groups.

Guided by Tajfel's theorization of social identity, Bat-Chava (2000) investigated and identified four categories of identity similar to those developed by Glickman (1996). As the present study explores, a social identity approach helps illuminate the comparability of the Deaf cultural minority movement with other social movements, such as the black civil rights movement, that have been rooted in a sense of threatened minority status and the elaboration of a positive cultural identity in response (see Bat-Chava, 2000; Tajfel & Turner, 1979; Reynolds & Turner, 2001; Leigh, 2009).

Identity and its impact on life outcome

Questionnaire-based studies have investigated how each of the defined four deaf identities are associated with self-esteem, life satisfaction and other factors indicative of life outcome. The overall finding is that those with a deaf or bicultural identity outperform the other groups. Bat-Chava (1993, 1994, 2000) found that those with a stronger deaf identity had higher levels of self-esteem. For example, Bat-Chava (2000) studied the association between the four identity groups and self-esteem by use of questionnaires among 267 deaf adults and interviews among 56 participants. The study found that those claiming an immersion (deaf) or bicultural identity had higher levels of self-esteem compared with those claiming a hearing or marginal identity.

Weinberg and Sterritt (1986) investigated if identity among deaf adolescents was associated with measures of social relations, self-evaluation, academic achievement, and perceived family acceptance of their disability. The data indicated that a hearing identity was consistently associated

with poorer outcomes compared to a bicultural identity. Those with a deaf identity demonstrated an outcome at a level between those with a hearing and bicultural identity. Hintermair (2008) completed a study among 629 individuals aged 14-73 with hearing loss to investigate associations between identity and levels of self-esteem and life satisfaction. The study found that those with a marginal identity had lower levels of self-esteem and life satisfaction compared to the three other identity groups. Of the four groups, the bicultural group had the highest score on self-esteem and life satisfaction.

Maxwell-McCaw (2001) carried out an Internet-based survey among 3070 individuals with hearing loss and analyzed the associations between identity and self-esteem and general life satisfaction. Overall the marginal group differed significantly from the three other groups by showing low levels of self-esteem and satisfaction with life. The deaf and bicultural groups showed the highest levels of self-esteem and satisfaction with life. Finally, Cornell and Lynass (2005) interviewed 46 deaf university students and found similarly that, among the four identity groups, those with a bicultural identity had the most positive self-concept and those with a marginal identity had the least positive.

Factors affecting identity and life outcome

Further to the above, deaf identity research has explored the factors explaining why people with hearing loss end up with different identities; and, in turn, which factors are associated with different life-outcome factors such as self-esteem and life satisfaction. Nikolaraizi and Hadjikakou (2006) investigated how educational experiences affected the development of hearing, deaf, or bicultural identity by interviewing 25 individuals in Greece. The study found that the deaf person's identity was associated with the type of school attended. Specifically, it found that deaf schools were experienced as Deaf-cultural institutions where deaf children and adolescents developed a

strong deaf identity. It also found that deaf individuals who attended mainstream hearing schools were more likely to have a hearing or bicultural identity. Häfele (1993) found that degree of hearing loss (profound and pre-lingual deafness), deafness in the family, age of sign language acquisition, and attendance at a school for the deaf were associated with deaf or bicultural identity and positive self-esteem. There were similar findings in the Maxwell-McCaw (2001) study.

It can be surmised from these studies that a number of factors besides identity influence (either independently or as mediated by identity) levels of self-esteem, life satisfaction and other measures of life outcome. Such factors are often not controlled for in studies investigating how deaf identity is associated with life outcomes. One exception is Hintermair (2008), who found that positive levels of self-esteem and life satisfaction were associated with good communicative conditions during childhood and adolescence as well as with educational level. Hintermair (2008) found no association with regard to gender or age. Further, studies among deaf children have reported that the presence of an additional disability, such as motor impairment or vision impairment, is negatively related to psychological well-being (Bøttcher & Dammeyer, 2013; Dammeyer, 2010). Other variables that have been discussed in the literature are: gender (some studies have shown that boys experience more difficulties than girls); age (adolescents have been found to experience more difficulties than those of a younger age); special versus mainstream school (mainstream schools have been found to be associated with better life outcomes); parents' hearing status (having parents with hearing loss who use sign language has been found to be associated with better life-outcomes for their children); sign language ability (having better sign language skills has been found to be associated with better life-outcomes); and educational level. For further discussion of these factors, see Theunissen et al. (2013), Stevenson, Kreppner, Pimperton, Worsfold and Kennedy (2015), Dammeyer (2010) and Hintermair (2008).

A Danish bilingual/bicultural approach

In Scandinavia, a bicultural/bilingual approach in deaf education was celebrated from the early 1980s until the mid 2000s when cochlear implantation and oral education began to take over and bicultural/bilingual education programs decreased to a minimum in many places (Swanwick, Dammeyer, Hendar, Kristoffersen, & Salter, 2014). In the bicultural/bilingual approach, children as well as their parents learnt sign language and were introduced to Deaf culture in early life through national programs. Sign language was given the status of a language and a bilingual curriculum was introduced in deaf schools (Swanwick et al., 2014). The change to a bilingual approach to education in Scandinavia was made because of the discouraging results from educating deaf pupils primarily by training of spoken language skills (Svartholm, 2010) as well as increasing recognition of the Deaf community as a linguistic-cultural minority (Bagga-Gupta, 2004). This bilingual/bicultural focus might be thought to have influenced how people with deafness perceive their identity and to have implications for their quality of life. The impact of this Scandinavian bicultural/bilingual approach on the identity and life outcomes of deaf individuals has to our knowledge not been evaluated.

Measures of deaf identity

Research of deaf identity has mainly been carried out by use of psychometric validated multi-item questionnaires. The Deaf Identity Development Scale (DIDS) (Glickman, 1996; Glickman & Carey, 1993) was developed to measure Glickman's four identity categories. The scale consists of items such as "I only socialize with hearing people" and "I enjoy both hearing and Deaf cultures". With a stronger focus on behavioral characteristics, as Leigh (2009) explains, Maxwell-McCaw (2001) developed the Deaf Acculturation Scale (DAS) consisting of five subscales (Cultural identification, Cultural involvement, Cultural preference, Language competence and Cultural

knowledge) which can be further categorized into the four identity groups. The DAS consists of items such as "How well do you know favorite jokes from Deaf culture?" and "How much do you enjoy attending deaf event/parties/gatherings?". Even through the DIDS and DAS have been proven to be valid and reliable, and are frequently used, a second and accepted research tradition exists in psychology studies (see Postmes, Haslam & Jans, 2013). This tradition uses single item questions of identity as a straightforward way of capturing a person's self-perceived identity and one that holds a high face validity. See the Method section below for an account of the single item measure used in this study.

Aims

As discussed above, associations between deaf identity and life-outcome variables, such as self-esteem and life satisfaction, have been reported. However, only few of the quantitative studies published were conducted with large samples. Further, only a few of them included factors such as sign language abilities, educational level, and additional disability. Taking a social identity perspective on deaf identity, this study aims to investigate possible associations between identity and well-being in a large national sample of deaf adults from a Danish context where a bilingual/bicultural approach has been celebrated for the last 3-4 decades.

Method

Participants and data generation

Data were derived from a nationwide Danish cohort comprising 839 deaf people aged 16 to 64 years of age. Data were collected in 2014 by The Danish National Centre for Social Research (Larsen, Sommer, & Bengtsson, 2014). An online survey was created. The selection and wording of items were designed carefully for resonance with the deaf population. Participants were recruited

through links posted on social media (for example, Facebook) and email lists through hard of

hearing and deaf associations, general and health service centers for people with hearing loss and

sign language interpreter services. Participants who had difficulties filling out the questionnaire

were able to ask for support from staff at the deaf and patient organizations who could translate the

items into sign-language, read aloud the items, or provide a paper version. The sample of 839

participants was estimated to comprise about 25% of the entire population of adults with moderate

to severe hearing loss in Denmark (Larsen et al., 2014).

Measures: identity

A single-item question was used to measure self-perceived identity. Of the 839 individuals,

742 responded to the question "Do you feel you have most in common with deaf or hearing

people?" The response categories were: "Deaf people"; "Hearing people"; "Both deaf and hearing

people"; "Neither deaf nor hearing people". This item was used to construct four deaf identity

groups (deaf identity, hearing identity, bicultural identity, and marginal identity) reflecting research

on the Deaf cultural minority movement and the work of Glickman (1996), Bat-Chava (2000) and

others in the field of deaf identity.

The use of a single item question to capture deaf identity is apposite for this study. This study

is informed by the well-established tradition of social identity theory and research, which

emphasizes subjective processes of identification reflecting feelings of belonging within a social

group (see Tajfel, 1978; Turner, 1999; Hopkins & Reicher, 2011). While single items sometimes

are criticized, researchers have provided evidence of the validity and reliability of single item

measures of social identity. For example, Postmes, Haslam and Jans (2013) established validity and

reliability through three studies of a single item measure of social identification and a meta-analysis

of 16 widely used single item measures. Specifically, for example, they argued for convergent

validity from an analysis of the correlation between single items and their multiple-item equivalents. They concluded that a single item measure of social identification "*can be recommended as a substitute for longer measures of identification – particularly for studies designed to tap into the self-investment component of identification*" (p. 17).

Drawing on theorization of social identity and the conceptual work of Leach et al. (2008), Postmes et al. (2013) recommend a single item measure of identity that embodies 'self-investment' in identity – that is, a measure that reflects Tajfel's emphasis on identification as a relationship between self and in-group. The question on deaf identity in this study asks about feelings of commonality with deaf or hearing people and is therefore, we argue, well-designed to capture the self-investment component of identification as well as the inter-group relational aspects of identification.

To clarify, the capturing of social identity using a single item measure seeks to both reflect constructions of group identities that have become recognizable in particular socio-cultural milieus (such as deaf identity in Deaf communities) and to capture individuals' self-identifications with those group identities on the basis of feelings of belonging and commonality (Postmes et al., 2013). The single item measure of deaf social identity used in this study combines these elements and is informed by a range of studies elucidating contemporary Deaf cultural identity and the historical context of deaf identity in Denmark.

Measures: psychological well-being

The outcome variable for this study was the 5-item World Health Organization Well-Being Index (WHO-5) (Topp, Østergaard, Søndergaard, & Bech, 2015). The WHO-5 Well-Being Index covers five positively worded items rated on a 6-point Likert scale from not present (0) to constantly present (5). The five items are: "During the last two weeks, I have felt cheerful and in

good spirits"; "During the last two weeks, I have felt calm and relaxed"; "During the last two weeks, I have felt active and vigorous"; "During the last two weeks, I woke up feeling fresh and rested"; "During the last two weeks, my daily life has been filled with things that interest me." A sum score (range 0-25) is calculated and translated to a 0-100 scale by multiplying by 4. Higher scores mean better well-being. The WHO-5 is one of the most widely used short questionnaires assessing subjective psychological well-being and its reliability and validity have been carefully evaluated among adult populations and shown to be good (Topp et al., 2015 Bonsignore, Barkow, Jessen, & Heun, 2001; Ellervik, Kvetny, Christensen, Vestergaard, & Bech, 2014). A score of <50 is interpreted as indicative of low well-being, while <28 is interpreted as indicative of depression and warranting further assessment (Topp et al., 2015). A score of 50 is an often-used cut-off in research. This outcome variable is referred to henceforth as psychological well-being.

Other variables

Based on the literature, a number of other variables were included. These were: gender; age; additional disabilities (yes = 1, no = 2); sign language level (5-point Likert scale, from 1 = very good to 5 = very bad); parents' hearing loss (one or both = 1, none = 2); type of school attendance (5-point ordinal scale, 1 = deaf school, 2 = center school/hearing impaired unit placed at a mainstream school, 3 = deaf school/center school/hearing impaired units for periods of time, 4 = mainly mainstream, 5 = mainstream only); feeling discriminated against because of hearing loss (3-point Likert scale, from 1 = always to 3 = never); degree of hearing loss (4-point ordinal scale, 1 = profound > 90 dB, 2 = severe 70-90 dB, 3 = moderate-severe 55-69 dB, 4 = moderate 40-54 dB); educational level (8-point ordinal scale, from 1 = primary school completed to 8 = Masters degree or higher completed); and cochlear implant (yes =1, no = 2).

Analysis

The first level of analysis was a descriptive analysis comparing the four identity groups with respect to the selected variables and the outcome variable (psychological well-being). ANOVA statistics and Bronferroni post hoc testing was used to evaluate the significance of group differences for continuous variables. The Kolmogorov-Smirnov test was used for ordinal variables, and chi square tests were used for binary variables.

The second level of analysis comprised a logistic regression model, which was built with a dichotomized psychological well-being score (1-49, 50-100) as the dependent variable. A linear regression could not be used in this study because the conditions for a linear regression (linearity and normal distribution) were not fulfilled. As noted above, a well-being score of 50 is an often-used cut-off in research and was used here to construct the dependent variable. In this study, the average scores for the identity groups were not clustered around 50, which facilitated interpretation of the regression results. The other variables were included as independent variables. The identity group was also included as an independent variable and treated as categorical.

The regression model was checked for multicollinearity – that is, a check to establish the extent to which independent variables are related to each other, with implications for assessing the predictive power of individual variables..

SPSS version 22 was used for all analysis. The significance level was 0.05.

Results

Comparing the four identity groups (see Table 1), it turned out that those with a marginal identity scored significantly lower with respect to psychological well-being than the three other groups. There were no significant differences between the other three groups. According to the recommended cut-off of 50 for the WHO-5 well-being scale (Topp et al., 2015) those with a

marginal identity scored on average below cut-off ($M = 46.9$), indicating low psychological well-being. The three other groups scored above cut-off (65.5 for deaf identity, 66.0 for hearing identity, and 66.9 for bicultural identity, respectively).

With regard to type of school attended, those claiming deaf identity were significantly more likely to have attended deaf education than the other three groups. Those with a bicultural identity were significantly more likely than those with a hearing and marginal identity to have attended deaf education. Finally, those with a marginal identity were significantly more likely to have attended deaf education than those with a hearing identity.

Similar differences were found with regard to self-reported sign language abilities and hearing loss. Those with a deaf identity reported significantly better sign language abilities and greater hearing loss than the three other groups. Those with a bicultural identity reported significantly better sign language abilities and greater hearing loss than those with a marginal and hearing identity. The same pattern of differences was almost found with regard to having a cochlear implant. Those with a deaf identity were significantly less likely to have a cochlear implant compared to all other three groups. Those with a bicultural identity were significantly less likely to have a cochlear implant compared to the hearing identity group.

A significant difference between the four groups was also found with regard to additional disabilities. Those with a marginal identity were significantly more likely to have an additional disability than those with a hearing identity.

The educational level of those with a deaf and bicultural identity was significantly lower than those with a hearing identity.

Finally, significant differences between the groups were found with regard to feeling discriminated against because of hearing loss. Those with a marginal and deaf identity reported

significantly higher levels of feeling discriminated against compared to both those with a hearing and bicultural identity. Further, those with a bicultural identity reported significantly higher levels of feeling discriminated against than those with a hearing identity.

Table 1 about here

The regression model (see Table 2) revealed that identity contributed significantly to explaining the variance of psychological well-being. The same was true for the variables additional disability, educational level, and feeling discriminated against because of hearing loss. The check for multicollinearity suggested that these variables contributed independently and significantly to explaining psychological well-being. All Variance Inflation Factors were lower than 1.5, which is low and acceptable (O'Brien, 2007).

Gender, age, type of school attended, sign language abilities, parents' hearing loss, degree hearing loss, cochlear implant were not found to be significant in explaining psychological well-being and were thus excluded from the model.

Table 2 about here

Discussion

Associations between identity group and psychological well-being

The aim of this study was to explore the association between deaf identity and psychological well-being in a national Danish context where a bilingual/bicultural approach has been celebrated for the last three decades. The findings here are in accordance with existing studies showing that those with a marginal identity are more likely to report low psychological well-being (Hintermair, 2008). Contrary to some existing studies, this study found no significant differences between those

with a deaf, bicultural and hearing identity (Bat-Chava, 2000; Maxwell-McCaw, 2001). Due to the strong bilingual/bicultural approach in Denmark over the last decades, one might have expected a better outcome for those with a deaf or bicultural identity compared with those with a hearing identity.

The importance of identity, additional disability and feeling discriminated against

With regard to the other variables included, additional disability was found to significantly explain the psychological well-being score. To our knowledge, this has not previously been reported in studies on adult deaf identity. In studies on deaf children's psychological well-being, the presence of additional disabilities is often reported to be of significance, and therefore the finding in this study is not surprising. For a review, see Bøttcher and Dammeyer (2013). The present study underlines the importance of including additional disabilities in studies on deaf adults' psychological well-being.

As reported above, the check for multicollinearity indicated that the explanatory variables contributed independently to explaining psychological well-being. This is a key finding. Since those with marginal identity were more likely to have an additional disability compared to the three other identity groups, it might have been thought that additional disability would explain the low average score for well-being among those with marginal identity. However, the analysis indicates that this was not the case but rather that marginal identity was predictive of low psychological well-being, whether or not additional disability was present. By the same token, having a deaf, hearing or bicultural identity was predictive of positive psychological well-being, whether or not additional disability was present.

The variable "feeling discriminated against" was also found to be significant in terms of explaining the psychological well-being score. Again, to our knowledge, this has not previously

been reported in studies on adult deaf identity. This finding resonates with theory and research in the field of social identity on the links between social group status and self-esteem (Tajfel & Turner, 1979; Tajfel & Turner, 1986). Specifically, social identity theory holds that a positive sense of self is related to the relative status and evaluation of the social groups to which an individual belongs. Of key interest here is that both the deaf and marginal identity groups reported high levels of feeling discriminated against (significantly higher than the other two groups) yet deaf identity was associated with positive levels of well-being overall, while marginal identity was associated with negative levels of well-being. Applying social identity theory, these findings suggest that social identity mediates the effects of minority group status.

Taken together, the findings of this study suggest that social identity processes may be central to understanding psychological well-being among deaf adults. The following section discusses how social identity theory's account of identity and in particular of threatened identity could help elucidate complex associations between different deaf identities and well-being. Specifically, it draws on a social identity account of how threatened identities strive to achieve positive social identity in the face of threat and engage different strategies to this end (Tajfel & Turner, 1979).

Processes of social identification

One of the strategies that social identity theory posits for threatened or minority identities is social mobility, involving dissociation from a threatened social group and identification with a higher-status or majority group (Tajfel & Turner, 1979). This may be possible for some, but not all, individuals with hearing loss. For example, identification as hearing (and dissociation from deaf identity) is possible for some individuals treated with new hearing aid technologies, in particular cochlear implants, which afford opportunities for deaf children as well as adults to hear and develop speech. This study found that those with a hearing identity were significantly more likely to have a

cochlear implant than those identifying as deaf and bicultural. Some studies have researched how identity might be affected by cochlear implantation. For example, Mance and Edwards (2012) reported links between the positive psychological well-being of adolescents with cochlear implants and identification with hearing peers. This is in line with this study's finding that those with hearing identity have positive scores of psychological well-being. What this study adds to the picture is that this group reported the lowest levels of feeling discriminated against (significantly lower than the other groups). These findings are consistent with a social identity account of well-being that is tied to group status and achieved for some through dissociation from a threatened (discriminated against) identity and passing to a higher-status group. This could help explain why, despite a strong bilingual/bicultural approach in Denmark, those with hearing identity had a similar outcome to those with a deaf or bicultural identity.

The significance of social identity also helps explain this study's finding that having a cochlear implant or not was not significant in explaining variance of psychological well-being. Existing research on the impact of cochlear implantation on psychological well-being is not uniform. Where some studies report no identity problems and generally high psychological well-being among children with cochlear implants (Spencer, Tomblin, & Gantz, 2012), other studies report that children with cochlear implants in adolescence might experience more identity problems (Rich, Levinger, Werner, & Adelman, 2013). On the one hand, they have better opportunities to hear and use oral language (and to identify as hearing); on the other hand, they struggle to negotiate identity between a hearing world and a deaf world. This may result in feelings of "double identity" (Rich et al., 2013; Spencer et al., 2012). These studies draw attention to processes of social identification and how these are central in the understanding of deaf individuals' psychological well-being, regardless of degree of hearing loss and type of hearing aid technology used.

Another strategy within the social identity model of threatened identity is that of social creativity. This involves the cultivation of an enhanced or strengthened sense of social identification, encompassing processes of positively representing that identity in order to achieve "positive distinctiveness" (Tajfel & Turner, 1979). To illustrate, the construction of a resilient cultural identity as deaf might be comparable to the "Black is beautiful" movement whereby positive group identity was realized through "redefining the comparative situation" (Reynolds & Turner, 2001, p. 166). The construction of positive distinctiveness can be recognized in deaf movements emphasizing the positive uniqueness of Deaf culture and sign languages (Ladd, 2003; Leigh, 2009). This study found that those with deaf identity reported reasonably high levels of feeling discriminated against (as did those with marginal identity) but scored positively overall on psychological well-being. Applying the social identity framework, it might be suggested that positive distinctiveness as deaf is attained though construction of a cultural minority identity that both responds to and mitigates the adverse impact of discrimination. This construction would be expected from the heritage of a strong deaf movement and bilingual/bicultural educational approach in Scandinavia. As this study suggests, factors that are likely to be important for the development of a positive social identity as deaf are attendance at deaf schools and sign language ability.

Identifying as bicultural, which this study found was associated with positive well-being and lower levels of feeling discriminated against, may have elements of both the strategies described. It may be surmised that it helps achieve positive distinctiveness through the development of a distinct fluid cross-cultural identity. This in turn may be linked to the ability to negotiate social contexts flexibly and secure protection from threat on the basis of a singular identification. Leigh (2009) discusses theories of deaf identity development and considers how deaf people find their way and construct their identity in different contexts as they move between groups of deaf and hearing people. While members of a minority group, deaf individuals are not solely in a Deaf cultural

context but move between mixed hearing cultures and Deaf cultures (Foster & Kinuthia, 2003).

Deaf identity might therefore be best explored as fluid and dynamic, and influenced by a variety of

factors including individual characteristics, situational context, and societal structures. McIlroy and

Storbeck (2011) suggest a "dialogical model" of deaf identity to underline the diversity of

experience and the fact that many deaf individuals move between hearing and Deaf communities.

Kunnen (2014) showed by use of interviews how deaf adolescents at an early age are more aware of

their identity compared to hearing peers and more mindful of the importance of "identity work".

Finally, Hindhede (2012) studied similar processes of identity work among adults with acquired

hearing loss and showed how they went through a process of negotiating their identity with regard

to being deaf/hearing or with/without disability. Further research on the significance and content of

bicultural identity would benefit from the insights of other studies into the situated performativity of

social identities (for example, Hopkins & Greenwood, 2013). It would also benefit from theoretical

development of the social identity framework to encompass ideas of intersectionality and address

the combined effects of different social identifications and contextual factors (see Greenwood,

2012).

Finally, this study's findings for marginal identity also support an account of the significance

of positive social identity for psychological well-being. The study found that those with a marginal

identity reported the highest levels of feeling discriminated against and the lowest levels of

psychological well-being. It may be conjectured that those with a marginal identity experience the

ascription of a negative social identity as deaf but do not have a strategy to achieve positive identity

and resist this threat to their self-concept. Further research on the factors contributing to a marginal

identity and affecting well-being – including additional disabilities, as mentioned above – is

important.

Limitations and perspectives

To summarize, this study's findings – particularly the new finding that the variable feeling discriminated against was significant in terms of explaining the psychological well-being score – are explicable through theorization of the centrality of positive social identity for psychological well-being.

The use of a single item question about deaf identity rather than a standardized questionnaire might be seen as a limitation of this study. However, as we explain above in Method, we argue from social identity theory and psychology research for the efficacy of a single item measure of social identity and its usefulness for future studies of deaf identity. Further, the strengths of this study lie in having a relatively large sample size and inclusion of a number of other variables.

Further and qualitative research is needed to examine the processes and meaningful content of identity work among the Deaf community, attending in particular to the experience of discrimination and marginalization. Of specific interest would be qualitative research exploring the interpersonal negotiation of identity, particularly for those identifying as bicultural, and the substance of positive cultural representations among those identifying as deaf.

With a changing population of people with severe to profound hearing loss due to new hearing aid technologies, in particular cochlear implants, and an increased focus in many countries on strategies of inclusion or mainstreaming, continued attention to deaf identity and how it affects life outcomes is important. Some studies argue for a more flexible and dynamic understanding of deaf identity. The ability to construct a resilient positive identity or negotiate one's identity might be helpful, for example in resisting the experience of feeling discriminated against, which, as this study draws attention to, plays a significant role in deaf people's lives. Future research with a special focus on cochlear implant use should look at how deaf people experience and negotiate their identity in context.

The importance of attending to processes of social identification might be of importance not only for people with hearing loss but also for many other disability groups – including deaf individuals with additional disabilities. This study raises a call for further research on how people with disabilities manage threatened social identity. Social identity studies might usefully contribute to a better understanding of the psychological mechanisms affecting people with disabilities – together with social and biological factors (Bøttcher & Dammeyer, 2012). As this study suggests, life outcomes are not explained solely by the degree of biological impairment (that is, the degree of hearing loss) but by other factors, including social psychological processes of identification.

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Table 1

Descriptive analysis of the psychological well-being score and the other variables for each of the identity groups

	Identity group			
	Deaf	Hearing	Bicultural	Marginal
	($n = 246$)	($n = 189$)	($n = 256$)	($n = 51$)
Psychological well-being (range 0-100, 0 = low) *M(SD)*	65.5(18.4)	66.0(18.1)	66.9(18.6)	46.9(16.9)*
Gender (male) *n(%)*	120(48.8)	94(49.7)	122(47.7)	17(33.3)
Age (years) *M(SD)*	38.9(13.8)^	47.0(14.4)	45.1(13.4)	40.2(13.7)†
Type of school attended (range 1-5, 1 = Deaf school) *M(SD)*	1.5(1.0)*	4.4(1.2)	2.4(1.7)^	3.1(1.7)†
Additional disability (yes) *n(%)*	67(27.2)	69(36.5)	87(34.0)	27(52.9)†
Sign language (range 1-5, 1 = very good) *M(SD)*	1.4(.6)*	2.4(.8)	1.8(.7)^	2.1(.7)
Hearing loss (range 1-4, 1 = profound) *M(SD)*	1.5(.7)*	2.0(.8)	1.8(.8)^	1.8(.8)
Education level (range 1-8, 1 = lowest) *M(SD)*	4.6(2.1)†	5.2(2.2)	4.4(2.2)†	4.8(2.1)
Parents' hearing loss (yes) *n(%)*	48(19.5)	47(24.9)	40(15.7)	9(17.6)
Feel discriminated (range 1-4, 1 = always) *M(SD)*	2.3(.8)^	2.8(.9)	2.6(.9)†	2.0(.7)^
Cochlear implant (yes) *n(%)*	41(16.7)*	99(52.4)	81(31.6)†	20(39.2)

*Significant lower/different than all other three groups, by t-test, Kolmogorov-Smirnov, or χ^2
^Significant lower/different than two other groups, by t-test, Kolmogorov-Smirnov, or χ^2
†Significant lower/different than one other group, by t-test, Kolmogorov-Smirnov, or χ^2

Table 2

Summary of logistic regression model of variables explaining psychological well-being score (1-50 = 1, 50-100 = 2) in the population of deaf adults

Variable	Psychological well-being					
	B	*SE*	Wald	*df*	*P*	Exp*(B)*
Identity (deaf/hearing/bicultural = 1, marginal = 2)	-1,387	0.408	11.557	1	0.001	0.250
Feel discriminated because of hearing loss (1-4, always = 1)	0.500	0.152	10.759	1	0.001	1.648
Additional disability (yes = 1)	0.528	0.248	4.553	1	0.033	1.696
Education level (range 1-8, lowest 0 1)	0.121	0.056	4.574	1	0.032	1.128
Constant	0.291	0.750	0.151	1	0.698	1.338

Note: Model chi square = 39.66; *df* = 4; *P* < 0.0001

Variables excluded from the model: Gender, age, type of school attended, sign language abilities, parents' hearing loss, degree hearing loss, cochlear implant