

Self-esteem and Satisfaction With Life of Deaf and Hard-of-Hearing People—A Resource-Oriented Approach to Identity Work

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In the context of the current identity discussions, the interrelations between acculturations, psychological resources, and self-esteem as well as the satisfaction with life of deaf and hard-of-hearing people ($N = 629$) were examined by means of a questionnaire-based survey. To check these interrelations, one-factor and two-factor analyses of variance were employed. The results show that bicultural, deaf, and hearing acculturation styles have the advantage over marginal acculturation, but the results for marginal acculturation need to be discussed in depth to ensure a comprehensive understanding of them. All in all, bicultural acculturation seems to be a secure option for psychosocial well-being. The availability of psychological resources (optimism, self-efficacy) seems to be of special importance for the quality of self-esteem and satisfaction with life. On the other hand, the power of these psychological resources is closely associated with good communicative conditions in the individual biographies of the participants in this study as well as with their education level. Going beyond a methodological discussion then, the mission for educators would seem to be one of making good communicative conditions available to each deaf or hard-of-hearing child and optimizing academic achievement so as to ensure a secure, comprehensive, and differentiated opening up of the world and psychological empowerment. In this way, a good foundation can be laid for developing quality of life.

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In the past few years, the aspect of people's subjective quality of life has moved more and more to the forefront of political and scientific deliberations on health care (cf. Glatzer, Below, & Stoffregen, 2004; Schumacher, Klaiberg, & Brähler 2003; Sirgy, 2001). This focus on the quality of life is significant for everyone, but it takes on a special significance for those who (have to) exist in society under more difficult conditions than others. Particularly in the case of deaf and hard-of-hearing people, therefore, this also raises the question of whether and in what way their desire for, and right to, an equal share in society can be realised and what conditions are necessary for doing so. This is especially relevant in that there may be consequences to be drawn here for working with deaf and hard-of-hearing children in order to lay a good foundation for developing quality of life as early as possible.

The basis for quality of life is made up of several components or dimensions, including a person's constitution, social relationships, and ability to cope with the demands of everyday life (Schumacher et al., 2003). General satisfaction with life and an individual's self-esteem experience are undoubtedly important indicators for a lifestyle that is conducive to health and, although not all-embracing, they still reveal two essential facets of the concept of "quality of life."

This article explores the question of how the current situation of the deaf and hard of hearing in Germany can be described from the viewpoint of self-esteem and satisfaction with life and what factors are necessary to realize these feelings. Self-esteem and

satisfaction with life are viewed here against the background of current identity theory discourse in the context of social and cultural affiliation patterns and the availability of psychological resources as these have emerged as crucial requirement variables for constructing identities under modern conditions. Important aspects of this article tie into an investigation by Maxwell-McCaw (2001), which goes into the significance of acculturation for psychosocial well-being. This article replicates the Maxwell-McCaw study in this aspect but expands the perspective to the availability of psychological resources, a factor that is also incorporated into the deliberations and analyses.

Identity in Change—From Identity Development to Identity Work

Our understanding of “identity” has changed considerably over the past few years. For decades, Erikson’s (1980) psychosocial theory, developed in the 1950s and reprinted several times since then, dominated the field. Best known is his understanding of psychosocial development as an integrated process encompassing the whole life cycle and proceeding through eight stages. Erikson was able to describe many of man’s important emotional and social needs, especially in the first five stages up to adolescence. But for all that, his theory has met with criticism over the last 20 years, stemming mainly from the fact that his theoretical framework, although seeing development as a life process, was in the end still determined by terms like consistency, continuity, stability, and reliability. Its horizons were established by a picture of a society that guaranteed each individual security and gave him or her a certain orientation, as well as—in his own words—keeping a niche available for each person, a niche that had been designed purely for him or her. Identity is consolidated in youth and remains a fixed constant for coping with the demands of later life.

Although Erikson’s theory has indeed provided great inspiration for the field of deaf and hard-of-hearing education (Schlesinger, 2000), current identity theory discourse (Baumeister, 1997; Giddens, 1990; Keupp et al., 1999) nevertheless makes it clear that the coordinates of classical identity discussion in the Erikson sense are no longer appropriate in the light of

the changes to society over the past decades (epitomized by buzzwords like globalization, individualization, pluralization, digitalization, value change, etc.). Life in the risk society (Beck, 1992) has been compressed to a generalization of the basic experiences of people in Western societies, experiences that are becoming increasingly fragmented and are also affected by a radical detraditionalizing of their ways of life, not to mention transferable identity patterns, normative coordinates, and the loss of concepts of life that were previously accepted without question (Keupp, 2002). Those involved feel as if they are actors on a social stage who have never received the complete script (Taylor, 1992).

The answer to these social changes as provided by identity theory has now become the “identity work” concept. This outlines the task of individuals in a world that has become confusing as one of finding an internal compass for themselves and their lives, then using this compass in a flexible manner: identity work means “linking work,” which now more than ever before requires people to put fragments of experience into a context that is meaningful for them. This constructive process is necessary and is an ongoing task for each individual in order to find out who he/she is and where he/she belongs—and it has to be done over an entire lifetime. Breivik (2005) clarifies this flexible, context-related shaping by the postmodernists of their own life projects:

Shifting frames of relevance, moving in and out of contexts, and the ability to employ different frames simultaneously all point toward a need for a new understanding of selves and identities, as shifting, flexible, and alert to the necessities of the situation. (p. 203)

In the meantime, we can also see this change of perspective quite clearly in identity research from a series of studies that deal with the issues of the socio-emotional development and the identities of deaf and hard-of-hearing people. A recent study by Breivik (2005) presents the life stories of 10 deaf and hard-of-hearing Norwegians with different biographical data (age at onset of deafness, type of school education, parents’ hearing status, etc.). It shows how each of these deaf or hard-of-hearing individuals deals with

their own specific experiences in a variety of contexts on an ongoing basis and is therefore always “tinkering” with his or her identity: “Deaf identities are thus marked by fluidity and becoming. As such, they are very much in the making” (p. 77). Sheridan (2000) also emphasizes the variety of identity constructions as opposed to just one “deaf identity”:

If ... we develop our identities through a lifelong process of interpreting our social and communicative experiences, and through creating meaning out of these experiences, then it is not possible for all of us to develop the same meanings or the same identities. (p. 35)

Leigh (1999) also emphasizes the element of process along with the constructive element of identity work in connection with the issues involved in the integration of deaf and hard-of-hearing people: “There is often a process of restructuring when new information about oneself emerges. Hence, our identity is very much influenced by the responses of others and molded by past and ongoing experience, a process that continues through the life span” (p. 237). In their recent study, Nikolarazi and Hadjikakou (2006) stress the interaction of external factors and intrapsychic components/characteristics in the identity work process: “..., the development of one’s identity is a socially constructed process, which emerges through present and past experiences and interactions between oneself and the surrounding social environment ...” (p. 477).

We can therefore see that this altered perception of identity as lifelong identity work has also made its way into the deaf education field. This view is supported by a series of developments that have appeared on the deaf and hard-of-hearing educational scene in recent years. There have been developments in the medical and technological fields (newborn hearing screening, far better hearing aids, cochlear implants) as well as in the educational sector (aural support options, bilingual education, integrative schooling) and in the linguistic and sociocultural sector (sign language research, recognition of sign languages in many countries, deaf culture). Precisely, because of the often quite controversial position they occupy in the debate on educating and bringing up deaf and hard-of-hearing children,

these developments have opened up a much wider spectrum of support and educational options. In doing so, they are in a way providing an answer to the processes of social change that is tailored specifically to the needs of the deaf and hard of hearing by providing the latter with different options of basically equivalent value to help them shape their identity work constructively (cf. Bat-Chava, 2000). When we consider the prerequisites that the deaf and hard of hearing need in order to successfully shape their identity work in the face of these social challenges, here again, as with coping research, it is external and internal factors that come to the fore.

Social Support/Acculturation

The *external dimension* of identity work primarily has to do with the social conditions that are necessary for an individual linking task to succeed. It is a question of people’s social relationships, in other words, of the possibility of finding oneself and evolving as an individual in association with other people. Above all, however, it is a question of being socially accepted in the systems of social relationships and the communities one moves in. The feeling of belonging to social communities is an important resource for one’s own life project (Sen, 2006). Social network research has in the meantime presented manifold findings on how social relationships that work very well can contribute to a health-promoting lifestyle (cf. Cohen, Underwood, & Gottlieb, 2000).

In the context of deafness, the significance of social support has been discussed, investigated, and corroborated in many respects. Hence, the considerable amount of documentation on the role of social support for the parents of deaf and hard-of-hearing children (cf. Hintermair, 2006; Meadow-Orlans & Steinberg, 1993; Zaidman-Zait, 2007).

The aspect of acculturation as a social and cultural backdrop has become particularly important for the area of identity development in deaf and hard-of-hearing children in past decades and has been discussed in many respects and empirically verified (Bat-Chava, 1994; Glickman, 1993; Johnson & Erting, 1989; Kannapell, 1989; Leigh, Marcus, Dobosh, & Allen, 1998; Maxwell-McCaw, 2001; Stinson & Kluwin,

1996). Glickman's model attracted a great deal of attention. His "Deaf Identity Development Scale" (DIDS) is centred around theories of psychosocial development, in general, and Marcia's (1980) concept of identity statuses in particular. The latter describes an internal development process in an individual that comprises four stages, starting with "identity foreclosure" and progressing via "identity diffusion" and "moratorium" to the status of "achieved identity." Glickman's DIDS comprises four similar subscales that assess four different forms of acculturation and/or identification and which, according to his theory, have an inner development logic (for deaf children with hearing parents): He sees hearing identification as the first phase, which is followed by a marginal identification phase and a further interim stage that he calls deaf identification, before the final and most desirable stage of bicultural identification is reached.

The development of the Deaf Acculturation Scale (DAS, Maxwell-McCaw, 2001) is a consistent enhancement of Glickman's (1993) theoretical standpoint and its empirical realization in that it links the strengths of his approach with ways of overcoming its weaknesses in content and method. Maxwell-McCaw expands the theoretical perspectives by criticizing the content of the Glickman model for evaluating identity patterns by, for example, regarding identification with both the hearing and the deaf world as problematic identity forms or, in any event, as "transitory stages." She sees it as completely possible, however, that some deaf and hard-of-hearing people can remain primarily hearing oriented or deaf oriented without suffering any damage to their psychosocial well-being. Maxwell-McCaw questions whether every development stage represents its own permanent identity type and whether it is also not possible for different cultural affiliations and identifications to exist side by side. This standpoint is also reflected in the content of this article: its line of reasoning, based on the arguments of resource theory, is that acculturation is important in that it provides the scope to enable social relationships, yet it is by no means a given that any one form of acculturation predominates. In fact, what is crucial here is whether an individual is able to experience for him or herself satisfying social relationships in the chosen or preferred acculturation context.

Maxwell-McCaw's (2001) wider theoretical perspective also has consequences for the methods of assessing acculturation that came about when she developed the DAS. She saw the need to develop a scale that took into account the aspects of psychological identification and behavioral participation in both the deaf and hearing cultures and that assessed both aspects separately, thus avoiding the problem of social desirability that the DIDS had revealed for bicultural acculturation in particular (Leigh et al., 1998).

Personal Resources

Individuals themselves also always have a decisive share in their development of self-esteem and satisfaction with life. The *inner dimension* of identity work means the actual synthesis work performed by the individual, which is an expression of how well that individual succeeds in linking multiple and often contradictory experiences. This is primarily about constructing and maintaining coherence and self-approval and about the feeling of authenticity and meaningfulness. This construction process requires multifaceted psychological resources. At this point, it would be going too far to describe in depth the significance of personal characteristics, abilities, and competencies for shaping one's own life (Schröder, 1997; Willutzki, 2000). In the past, psychology has developed a series of concepts that have proven to be of significance in this context; these include dispositional optimism (Scheier & Carver, 1987), hardiness (Kobasa, 1982), sense of coherence (Antonovsky, 1987), self-efficacy (Bandura, 1977), and locus of control (Lefcourt, 1976). Some of them display considerable overlap in content. What they all have in common is the aspect of the meaningfulness of one's own life and actions and, along with this, the feeling of certainty that one can influence and actively participate in shaping one's own future.

Personal resources take on a particularly important role in critical situations in people's lives, in other words, in those stages of life where it is necessary to redefine the meaning of life or even acquire one. Basically speaking, good personal resources increase a person's flexibility toward whatever challenges arise by enabling him or her to take the appropriate steps in

a particular situation and to consider certain concepts or to discover resource sources and activate them. Good personal resources help people to be flexible in dealing with challenges. Thereby, they are in more of a position to make an appropriate internal assessment of the challenging situation and, depending on the result of this assessment, take those steps that seem most suited to coping with stress factors as regards the situation and the person in question. There is a great deal of empirical evidence in coping research about the significance of personal resources for both coping behavior and a health-promoting lifestyle (cf. reviews by Hintermair, 2004, 2006; Höfer, 2000; Schröder, 1997; Zaidman-Zait, 2007). These are ascribed a more important role in the stress-coping process than the social resources discussed above (cf. Schröder; Willutzki, 2000).

Good personal resources do not, however, deal only with stress and burdens in critical life situations, they also basically provide—independent of existing stress factors—the possibility of actively and reflexively shaping one's own life according to one's own goals and ideas. This is why many studies show a close connection in people who hear well between a sense of coherence and mental health (Bengel, Strittmatter, & Willmann, 1999). A high sense of coherence obviously helps people to optimize their self-organisation processes and enables them to create areas of salutogenic experience and to mobilize resistance resources. Personal resources are thus to be seen and used comprehensively as personal "life skills."

Self-esteem and Satisfaction With Life

Satisfaction with life and an individual's self-esteem experience are considered to be the two essential indicators of quality of life and mental health in this study. Accordingly, a short review of available empirical studies in the field of deaf education is given below. This will focus mainly on the studies that deal specifically with the development of self-esteem in deaf and hard-of-hearing people. Bat-Chava (1993) carried out a meta-analysis of the studies done on this issue up to the beginning of the 1990s. Forty-two empirical studies on the level of self-esteem in deaf and hard-of-hearing people were reviewed. The essential insight gained

from analysing these studies was being able to show that it makes little sense to perform a simple comparison of the sense of self-esteem felt by deaf and hearing people. Many of the older studies in particular (which frequently document a low level of self-esteem in the deaf and hard of hearing) neglected to take account of the circumstances in which the deaf people grew up or of their present circumstances (not to mention omissions in the methodology). The studies that did take such variables into consideration all show different results. Twelve of the more recent studies examined the significance for self-esteem of various background variables like orientation to deafness and group identification in school and in the family. An analysis of the results showed that children of deaf parents have a higher level of self-esteem than children of hearing parents. The review also revealed that self-esteem was higher among those deaf people whose parents used sign language at home compared to those whose parents preferred an oral upbringing. The analysis of the significance of school and the method of communication used there revealed no significant results. Finally, five of the studies examined by Bat-Chava revealed a connection between group identification and self-esteem that indicated a positive correlation between these variables.

Desselle (1994) examined the importance of family communication patterns for the development of self-esteem in 53 deaf and hard-of-hearing children (degree of hearing loss > 70 dB) between 13 and 19 years of age who had hearing parents. The analysis revealed a positive connection between the form of communication used by the parents with their child and the level of the child's self-esteem. Children whose parents used spoken language, finger spelling, and sign language to communicate with them had higher self-esteem than children whose parents only used spoken language. The more skilled the parents were at sign language, the better the values for a child's self-esteem. There was also a positive connection between self-esteem and reading skills.

Van Gorp (2001) examined 66 deaf and hard-of-hearing children (degree of hearing loss > 70 dB) attending secondary schools in order to assess the influence that different educational options (special schooling, integrative schooling, cooperation models

in the sense of units) had on their self-concept. They checked the various forms of self-concept and found that deaf and hard-of-hearing children educated in integrative schools have academic advantages, whereas children who go to special schools have social advantages. Children attending integrated schools also had better self-perception as regards their reading skills than children in special schools. There was no difference between self-concept and the form of communication used by the children.

Crowe (2003) conducted a study on 200 deaf people between 18 and 49 years of age. She was unable to show any connection between age, sex, and self-esteem but discovered a highly significant connection between self-esteem and the parents' hearing status, their use of sign language, and their proficiency in it: deaf people with at least one deaf parent had a higher sense of self-esteem.

Overall, although they address different groups and settings of deaf and hard-of-hearing individuals and include different variables, these studies indicate that good communicative conditions in the early years and related experiences of acceptance are significant factors in the development of self-esteem.

Others have explicitly investigated the connection between acculturation and psychosocial development, which is of high importance in the context of this article. Weinberg and Sterrit (1986) operationalized deaf identity using a deficit model to conceptualize different identity types. Their Deaf Identity Scale was designed to discriminate between three identity types: able-bodied identity (or hearing identity), disabled identity (deaf identity), and dual identity (identification with both deaf and hearing peers). They found that the deaf and hard of hearing who are biculturally acculturated (dual identity) are more flexible socially and have more appropriate socioemotional behavior patterns than the deaf and hard of hearing who are deaf or hearing acculturated.

Bat-Chava (1994) also examined the relationship between group identity and self-esteem and found a significant connection between acculturation and self-esteem: The deaf and hard of hearing who identified strongly with other deaf and hard-of-hearing people had higher levels of self-esteem than the deaf and hard of hearing who preferred to identify with the hearing.

Maxwell-McCaw (2001) states in her review of this study that the reported correlation, in spite of its statistical significance ($r = .18, p \leq .05$), is rather low. In addition, she emphasizes that one cannot determine whether the differences between the two groups (those who identified strongly with the deaf versus those who did not) differ statistically from one another, only how each is related to a third variable, self-esteem. This is a striking argument in favor of her own study's comparison of groups by identity type, the same procedure as in this article.

Another study by Bat-Chava (2000) uses a cluster analysis to investigate the interrelation between different acculturations (deaf, hearing, bicultural, and negative) and self-esteem. First, there were significant connections between the kind of acculturation and variables like age, the onset of loss of hearing, and the perceived value of using a hearing aid. For instance, the older deaf and hard of hearing were more deaf acculturated than the biculturally acculturated, the hearing acculturated experienced loss of hearing later in life than the deaf acculturated, and the biculturally acculturated profited more from using a hearing aid than the deaf acculturated. There was no relation between acculturation and deafness in the family. Most important, however, acculturation and self-esteem were only marginally connected ($p \leq .07$), with slightly higher values for the deaf and biculturally acculturated over the hearing acculturated and those with negative identities. In her discussion of the results, Bat-Chava points out explicitly that identity should not be understood in a static sense, but rather as continuously developing and changing, and that the related changes in the deaf and hard-of-hearing "landscape" are sensitive ones for this process. On the one hand (as regards the situation in the United States), we have to allow for the changes brought about in the course of the Deaf President Now Movement as well as the changes in hearing care resulting from the availability of increasingly improved hearing technologies such as high-performance hearing aids and cochlear implants. These considerations and others are addressed explicitly in the hypotheses put forward by this article.

In her Austrian study, Häfele (2001) used a German version of Glickman's (1993) DIDS to investigate the

connection between identity and self-esteem in 100 deaf participants. When carrying out the survey, she took care to ensure that all the participants had the chance of receiving instructions in a methodically well-prepared sign language version along with the written version of the questionnaire. A path-analytical approach was used for the empirical verification of the connections between the different identity forms and self-esteem. This revealed that the scale for the marginals had a significantly negative association with self-esteem, whereas the scale for bicultural individuals had a significantly positive association. There was no significant connection between the other two acculturations and the scales for self-esteem, however. Furthermore, there were numerous indications of the influence of social circumstances on the development of the deaf participants' identity and self-esteem. Younger people therefore had less sense of belonging to the hearing world and were also less marginally acculturated. As regards the hearing situation, the profoundly deaf and the prelingually deaf felt that they belonged more in the deaf world. Similarly, deafness in the family as well as the use of sign language when communicating with the child and the age at which sign language is acquired were confirmed as being definitely connected with deaf and bicultural acculturation. The type of schooling is also significant for identity orientation: among other things, deaf acculturation is more pronounced in the deaf who have also attended a school for the deaf. As far as self-esteem is concerned, it is primarily the younger deaf and those with a higher level of education who have a higher level of it.

Maxwell-McCaw (2001) carried out an Internet-based survey and analysed data on 3070 deaf and hard-of-hearing people as regards the connection between acculturation (DAS), self-esteem, and general satisfaction with life. The findings reveal no significant differences between bicultural and deaf acculturation but a great many indeed between both these acculturation types and hearing and marginal acculturation with regard to self-esteem and satisfaction with life. Above all, there is a significant difference between marginal acculturation and all the other three acculturations, with the marginal group showing low levels for self-esteem and satisfaction with life. The hearing acculturated group also showed significant differences to

the other three acculturations, placing it in order of significance directly after the marginal group but before the bicultural and deaf groups. Deaf acculturated and bicultural individuals show the highest levels of self-esteem and satisfaction with life when compared to the other groups. Numerous meaningful connections between the sociodemographic variables and the respective affiliation are also evident, as was to be expected, and are also consistent with the findings of Häfele (2001).

To sum up the essential points made by these studies with regard to the relationships between acculturation, self-esteem and satisfaction with life, it would seem that bicultural and deaf acculturation have the advantage over hearing and marginal acculturation. However, the strength of these relationships also varies, thus making way for alternative hypotheses, as presented in this article.

Aim of the Study

This study pursues three aims.

As the first step, we test the significance of acculturation for self-esteem, satisfaction with life and overall well-being in analogy to the Maxwell-McCaw (2001) study, but with a somewhat different hypotheses and based on a resource perspective, as justified above. From this point of view, we agree that marginals will show significantly lower levels of self-esteem and satisfaction with life (and corresponding overall well-being) than all other acculturative groups. But we hypothesize that there is no difference between all the other three acculturation styles as far as self-esteem, satisfaction with life, and overall well-being are concerned. This part of the study is heavily oriented toward the Maxwell-McCaw study and provides data from a large German sample for comparison.

As a second step, we introduce personal resources in addition to acculturation styles and hypothesize that there is a highly significant difference between the group of deaf and hard-of-hearing people with high personal resources and the group with low personal resources relating to self-esteem, satisfaction with life, and overall well-being. We also suggest that personal resources may be more important than acculturation.

Finally, we examine the relationships between socio-demographic variables and acculturation style on the one hand and sociodemographic variables and personal resources on the other.

Method

Procedure

This article was conducted by way of an Internet-based survey in July 2005. Three of the most prominent Web pages for deaf and hard-of-hearing people in Germany were asked to put some information about the planned study on their Web page for a 4-week period, with a link to the survey Web site. This period was evidently long enough because at the end of those 4 weeks the survey Web site hardly received any more hits.

The questionnaire was activated and filled out by 859 deaf and hard-of-hearing people. Two hundred and thirty questionnaires had to be excluded from the analysis because too many questions remained unanswered, so that the measures for the most important variables (acculturation, personal resources, self-esteem, satisfaction with life) could not be computed. So, for 629 persons, we had complete answers pertaining to the main variables of the study (self-esteem, satisfaction with life, acculturation, personal resources). When it came to the demographic data, we tolerated some missed questions, but N was never less than 618 for purposes of comparison.

Although we did a linguistic check of the questionnaire with subsequent accommodations (and satisfactory Cronbach alphas in a small preliminary study), it was to be expected that, in a survey based on written information, there would be more deaf and hard-of-hearing people of a higher educational level participating. A comparison of the participants' educational status with that of the general German population (Statistisches Bundesamt [Federal Statistical Office Germany], 2004) did indeed yield highly significant differences ($\chi^2 = 160.1$; $df = 2$, $p \leq .000$). This means that in this sample we were dealing with a comparatively privileged group within the whole group of deaf and hard-of-hearing people. This conformed with a responder–nonresponder analysis we did for the group of persons who failed to fill in the questionnaire

completely (but we still had enough demographic data to compare). This group included more people who were not German nationals or had a lower educational level, whereas several of them had no idea of the degree of their hearing loss and tended to be older than the people who completed the entire questionnaire.

Participants

Table 1 shows the distribution of demographic variables. All information is taken from data based on the participants' knowledge and evaluations. The choice of data is closely related to the data from the Maxwell-McCaw study (2001).

As regards *general characteristics*, more women (60.4%) than men (39.0%) participated. The age of the participants ranged from 14 to 73 years ($M = 35.7$, $SD = 11.7$, median = 34). The mean age is exactly the same as in the Maxwell-McCaw (2001) study. Nearly all the participants (97.0%) were German speaking.

As regards the *hearing data* for the group, about 80% became deaf or hard of hearing within the first 3 years of life and 12% had a progressive hearing loss. The cause of deafness given by about two third of the participants was genetic or unknown, whereas one third had acquired it through illness. Three quarters of the participants had a hearing loss of 70 dB and more, whereas 56.4% of them had a profound hearing loss. This also correlates with the data in the Maxwell-McCaw study. Only 9.1% had a cochlear implant. This would seem to be related to the mean age of the group because the number of cochlear implants in young deaf and hard-of-hearing children in Germany is much higher than in this sample.

Looking at the data that are relevant for assessing the *communication situation* of the participants, we can see that 12.7% had deaf parents and 5.9% had hard-of-hearing parents (at least one). So there were more people with parents having a hearing loss in this group than was to be expected (Mitchell & Karchmer, 2004). In 39% of the participants' families, signing was used in some way (we do not know to what extent or how well), whereas in 61% of the families this was not the case or is not the case currently. If we examine the communication modalities presently favored and used by the participants, the figures are reversed: 34.5%

Table 1 Demographic information about the sample ($N = 629$)^a

Variables	<i>N</i>	%
General characteristics		
Gender		
Male	245	39.0
Female	380	60.4
Missing data	4	0.6
Age, years (median = 34.0, $M = 35.7$, $s = 11.7$)		
<20	34	5.5
to 30	214	34.6
to 40	174	28.2
to 50	112	18.1
to 60	67	10.8
>60	17	2.8
<20–35	331	52.6
36 to >60	287	45.6
Missing data	11	1.7
Citizenship		
German speaking	610	97.0
Other citizenship	11	1.7
Missing data	8	1.3
Hearing data		
Age of deafness		
Born deaf	345	54.8
Age 0–3	159	25.3
Age 4–10	60	9.5
Age 11–21	24	3.8
>21 years	34	5.4
Missing data	7	1.1
Progressive hearing loss		
No/unknown	553	87.9
Yes	76	12.1
Cause of deafness		
Genetic	127	20.2
Illness	235	37.4
Accident	19	3.0
Do not know	245	39.0
Missing data	3	0.5
Degree of hearing loss (dB)		
10–39	12	1.9
40–69	51	8.1
70–89	120	19.1
90–120	355	56.4
Do not know	85	13.5
Missing data	6	1.0
Cochlear implant		
No	572	90.9
Yes	57	9.1
Communication situation		
Parental hearing status		
Deaf parents (at least one)	80	12.7

Table 1 Continued

Variables	<i>N</i>	%
Hard of hearing parents (at least one)	37	5.9
Hearing parents	509	80.9
Missing data	3	0.5
Language used in the home		
Only spoken language	384	61.0
With signing	245	39.0
Current communication method		
Spoken German	217	34.5
Spoken and signed German	44	7.0
German sign language	170	27.0
Total communication	194	30.8
Fehlende Angaben	4	0.6
Any competence with signing		
Yes	497	79.0
No	130	20.7
Missing data	2	0.3
Age of learning signing (years)		
<3	104	16.5
4–10	182	28.9
11–21	132	21.0
>21	85	13.5
Missing data	4	0.6
Signing competence in the family		
Yes	225	35.8
No	398	63.3
Missing data	6	1.0
Signing competence of siblings		
Yes	125	19.9
No	504	80.1
Educational setting and status		
Educational setting in elementary school		
School for the Deaf	251	39.9
School for the hard of hearing	198	31.5
Mainstreaming	174	27.7
Missing data	6	1.0
Education setting after elementary school		
School for the Deaf	245	39.0
School for the hard of hearing	202	32.1
Mainstreaming	173	27.5
Missing data	9	1.4
Secondary school qualifications		
Not any	10	1.6
Hauptschule = 9 years of school	137	21.8
Realschule = 10 years of school	265	42.1
Gymnasium = 12–13 years of school	217	34.5
Educational status		
Not any (0)	72	11.4
Vocational educations	452	71.9
University degree	105	16.7

^aThe total N may be in some cases different from 629 because there are some missing data (minimum is $N = 618$).

prefer oral speech, whereas nearly 65% use signing in different forms (German sign language, sign supported German, total communication). Statistically, this is a highly significant turnaround ($\chi^2 = 171.7$; $df = 3$, $p \leq .000$). The data relating to the age when signing was learnt shows that only 16.5% did so during their first 3 years of life (in particular, it was the participants with deaf parents who were in this group). This is an unsurprising result for Germany, given its long oral tradition that continued into the 80s of the last century. But at the same time, taking into account the fact that three quarters of the participants had a severe or profound hearing loss, this is a critical finding.

The data relating to *educational setting and status* show that about 70% of the participants attended a school for the deaf or a school for the hard of hearing during elementary and high school education, whereas nearly 30% were integrated into the mainstream. In all, 76.6% of the people had at least a German *Realschule* education (10 years of schooling) and 34.5% of these had a *Gymnasium* education (12–13 years of schooling). This fact, together with the data that 16.5% have a university degree, supports the previous remark about this being a privileged sample within the whole group of deaf and hard-of-hearing people.

Instruments and Measures

We performed a linguistic check on all instruments used, asking two deaf adults and two teachers of the deaf with extensive experience in educating deaf children whether any of the items in the different scales needed to be adapted. This was done where necessary and included linguistic specifications or examples to make some statements more understandable. It was followed by a short preliminary study with deaf people ($N = 14$). The statistical results for all scales were satisfactory (all Cronbach's alphas were above .78).

Acculturation. Acculturation was measured by using the short version of the DAS (Maxwell-McCaw, 2001). This scale has 30 items: 15 items deal with deaf acculturation and the remaining 15 deal with hearing acculturation. Within each of these items, there are statements about cultural identification (“I feel that I am part of the deaf/hearing world”), cultural partici-

pation (“I enjoy socializing with deaf/hearing people”), cultural preferences (“I would prefer my friends to be deaf/hearing”), cultural knowledge (“I do know the names of famous deaf/hearing people”), and language competence (“How well do you sign using DGS (German Sign Language)?/How well do you speak German using your voice?”). Participants were asked for assessments of all items on a five-step scale. Each participant received a scale value for deaf acculturation (DAS-d) and for hearing acculturation (DAS-h). Statistical values: averaged minimum value for each scale: 1; averaged maximum value: 5; $M_{DAS-d} = 3.38$, $SD = 1.33$; Cronbach's alpha = .96; $M_{DAS-h} = 2.71$, $SD = .99$; Cronbach's alpha = .89.

Classification into one of the four acculturation styles was conducted by utilizing a median-split procedure using the mathematical median (in this case, it equalled a score of 3 on a Likert scale of 1–5). Those with scores above the median on the hearing acculturation subscale (DAS-h) and below the median on the deaf acculturation subscale (DAS-d) were classified as hearing acculturated. This means that people with this acculturation style highly identify with the beliefs and the values of the hearing world. Those with scores below the mean on both subscales were classified as marginals. This group therefore includes those people who neither clearly prefer a hearing nor a deaf way of life. Participants with scores above the mean on the DAS-d and below the mean on the DAS-h were classified as deaf acculturated and so show a clear identification with the beliefs and values of the deaf world. Finally, those with scores above the mean on both the DAS-d and DAS-h were classified as bicultural. The people of this group have an open mind both for a deaf and for a hearing way of life. Results indicated that 171 (27.2%) scored as hearing acculturated and 33 (5.2%) as Marginal, whereas 295 (46.9%) were deaf acculturated and 130 (20.7%) were bicultural. For purposes of comparison: in the Maxwell-McCaw study (2001), 7.8% were hearing acculturated, 0.9% marginally acculturated, 52.0% deaf acculturated, and 39.3% biculturally acculturated.

Personal resources. Two scales were used to assess personal resources. One of the two important features found in many meta-analyses is *self-control*. This

aspect was measured with the German version of the *Generalized Self-Efficacy Scale* (Schwarzer, 1994). The scale includes 10 items, which are designed to assess optimistic self-belief when coping with a variety of difficult demands in daily life (sample items: “I can always manage to solve difficult problems if I try hard enough”; “If someone opposes me, I can find the ways and means to get what I want”; “I can solve most problems if I invest the necessary effort”). It has been used in many studies with hundreds of thousands of participants. In contrast to the second scale used to assess personal resources, this one refers explicitly to personal agency, that is, the belief that one’s own actions are responsible for a successful outcome. Participants were asked for assessments of all items on a five-step scale. Statistical values: averaged minimum value: 1; averaged maximum value: 5; $M = 3.47$, $SD = .54$; Cronbach’s $\alpha = .86$.

To measure the second important feature, which focuses on the meaningfulness of one’s own life, part of a German version of Antonovsky’s *Sense of Coherence Scale* (SOC-HD, Schmidt-Rathjens et al., 1997) was chosen. A factor analysis of this scale using a large German sample resulted in a three-factor solution, with the strongest factor being “*Optimism*.” This subscale has six items that are applicable to the situation of deaf and hard-of-hearing people and was used in this study (sample items: “I am an optimist”; “My attitude towards life is very positive”; “I have positive feelings about my future”). Participants were asked for assessments of all items on a five-step scale. Statistical values: averaged minimum value: 1; averaged maximum value: 5; $M = 3.61$, $SD = .63$; Cronbach’s $\alpha = .81$.

For the subsequent analysis, the results of the Self-Efficacy Scale and the Optimism Scale were added up and averaged, and this new value was then taken as a global indicator for personal resources. Statistical values: averaged minimum value: 1; averaged maximum value: 5, $M = 3.54$, $SD = .52$; Cronbach’s $\alpha = .89$. Classification into the groups with high or low personal resources was again conducted by utilizing a median-split procedure using the mathematical median (as in the case of acculturation classification). Those with scores above the median on the global personal resource indicator scale were

classified as having “High Personal Resources.” Those with scores below the median were classified as having “Low Personal Resources.” Results indicated that, classified in this way, 535 (85.0%) of the participants were in the “high group,” whereas 94 (15.0%) were in the “low group.”

Psychosocial well-being. Two scales were also used to measure psychosocial well-being. The assessment of self-esteem was performed with the German version of the *Rosenberg Self-Esteem Scale* (Ferring & Fillip, 1996). This is a widely used 10-item scale that has been validated as being a good tool for assessing global personal self-esteem (sample items: “I feel that I’m a person of worth, at least on an equal plane with others”; “I am able to do things as well as most other people”; “On the whole, I am satisfied with myself”). Participants were asked for assessments of all items on a four-step scale. Statistical values: averaged minimum value: 1; averaged maximum value: 4; $M = 3.11$, $SD = .49$; Cronbach’s $\alpha = .82$.

To measure satisfaction with life, the German version of the *Satisfaction with Life Scale* (SWLS, Schumacher, 2004) was used. This five-item scale does not assess satisfaction with specific life domains but instead measures global satisfaction with life as a cognitive-judgmental process (sample items: “In most ways my life is close to my ideal”; “So far I have gotten the important things I want in life”; “If I could live my life over, I would change almost nothing”). Participants were asked for assessments of all items on a seven-step scale. Statistical values: averaged minimum value: 1; averaged maximum value: 7, $M = 4.60$, $SD = 1.31$; Cronbach’s $\alpha = .87$.

For the subsequent analysis, the results of the Rosenberg Self-Esteem Scale and the Satisfaction with Life Scale were analysed separately and then combined to find a global indicator of overall well-being. For this, the values were added up and averaged. Statistical values: averaged minimum value: 1; averaged maximum value: 5.5; $M = 3.86$, $SD = .80$; Cronbach’s $\alpha = .86$.

Sociodemographic characteristics. An additional questionnaire recorded various sociodemographic characteristics; it contains information about *general characteristics*

Table 2 Correlation matrix of variables (personal resources, acculturation, psychosocial well-being, $N = 629$)

	1	2	3	4	5	6	7	8
Satisfaction with life	—							
Self-esteem	.49***	—						
Overall well-being	.96***	.70***	—					
Optimism	.55***	.68***	.66***	—				
Self-efficacy	.38***	.46***	.45***	.60***	—			
Personal resources	.52***	.65***	.63***	.91***	.87***	—		
Deaf acculturation	.19***	.07	.18***	.16***	.26***	.23***	—	
Hearing acculturation	.11**	.25***	.16***	.14***	.06	.12**	-.64***	—

** $p \leq .01$. *** $p \leq .001$.

(sex, age), *hearing data* (degree of hearing loss, cause of deafness, cochlear implant), *communication situation* (parents' hearing status, communication modality past and present), and *educational setting and status* (cf. Table 1).

At the end of the survey, all participants had the chance to make a personal statement about their cultural affiliation. The responses to this were not analyzed systematically but used in some cases for additional clarification.

Statistical Analyses

To clarify the relationship of acculturation styles (DAS) and personal resources (self-efficacy/optimism) with self-esteem, satisfaction with life, and overall well-being, one-factor and two-factor analyses of variance (ANOVAs) were employed. To describe the relationship of sociodemographic variables with acculturation styles and personal resources, χ^2 comparisons were computed. All analyses were performed with SPSS version 14.0.

Results

Table 2 shows the correlations between personal resources, acculturation styles, and the assessments of psychosocial well-being.

Table 3 Acculturation and overall well-being

Acculturation	N	M	SD	Minimum	Maximum	Post hoc comparisons (Games–Howell)			
						Marginal	Hearing	Deaf	Bicultural
Marginal	33	3.03	0.83	1.30	4.85	—			
Hearing	171	3.83	0.87	1.65	5.50	*(.000)	—		
Deaf	295	3.87	0.73	1.40	5.30	*(.000)	ns	—	
Bicultural	130	4.08	0.73	1.30	5.40	*(.000)	*(.041)	*(.034)	—

Note. Homogeneity of variances: Levene's statistics: $F = 4.04$, $df_1 = 3$, $df_2 = 625$, $p \leq .007$. ANOVA: $F = 15.92$, $df_1 = 3$, $df_2 = 625$, $p \leq .000$. ns, not significant.

* denotes significant differences.

Nearly all correlations were statistically significant and showed relations between the variables as anticipated. There was a moderate but not too strong correlation between self-esteem and satisfaction with life ($r = .49$), so it was possible to assess different aspects of life quality. In the Maxwell-McCaw (2001) study, this coefficient was nearly the same ($r = .52$). It is interesting to note that there is a significant correlation between hearing acculturation and self-esteem ($r = .25$), but not between deaf acculturation and self-esteem ($r = .07$), whereas the other way round, there is a significant correlation between deaf acculturation and self-efficacy ($r = .26$). This is not the case, however, for the relation between hearing acculturation and self-efficacy ($r = .06$).

Tables 3, 4, and 5 and Figure 1 show the results of the one-factor ANOVAs, with acculturation as independent variable and, respectively, overall well-being, satisfaction with life, and self-esteem as dependent variables.

As anticipated, there was a large and statistically significant difference between the deaf and hard of hearing with marginal acculturation and those participants with a hearing, deaf, or bicultural acculturation in relation to all psychosocial outcome results (overall well-being, satisfaction with life, self-esteem). The

Table 4 Acculturation and satisfaction with life

Acculturation	<i>N</i>	<i>M</i>	SD	Minimum	Maximum	Post hoc comparisons (Tukey's HSD)			
						Marginal	Hearing	Deaf	Bicultural
Marginal	33	3.36	1.29	1.20	5.80	—	—	—	—
Hearing	171	4.49	1.38	1.00	7.00	*(.000)	—	—	—
Deaf	295	4.67	1.23	1.20	7.00	*(.000)	ns	—	—
Bicultural	130	4.89	1.20	1.00	7.00	*(.000)	*(.033)	ns	—

Note. Homogeneity of variances: Levene's statistics: $F = 2.10$, $df_1 = 3$, $df_2 = 625$, $p \leq .099$. ANOVA: $F = 13.47$, $df_1 = 3$, $df_2 = 625$, $p \leq .000$. ns, not significant; HSD, honestly significant difference.

* denotes significant differences.

hypothesis that no differences exist between the hearing, deaf, and bicultural acculturation as regards psychosocial outcomes remains unconfirmed. Looking at the variable overall well-being, bicultural acculturation has an advantage over both hearing and deaf acculturation. Considering self-esteem and satisfaction with life separately, we see that the group with deaf acculturation shows a satisfaction with life comparable with the biculturals but that hearing acculturated people are disadvantaged in this area compared to the biculturals (but not to the deaf acculturated). Looking at self-esteem, the findings are reversed: here the results for the group of hearing acculturated are comparable to the bicultural results, but the deaf acculturated are disadvantaged compared to the bicultural-oriented people.

Figure 2 shows a descriptive comparison of the data from this study with the Maxwell-McCaw (2001) data.

We see a higher overall well-being in the United States for all four acculturation styles that seems to depend in particular on a high satisfaction with life. Looking at self-esteem, we also see higher scores for the deaf and bicultural group but not for the hearing and marginal group.

As the next step, Tables 6, 7, and 8 and Figure 3 show the results of the two-factor ANOVAs, with

acculturation and personal resources as independent variables and, respectively, overall well-being, satisfaction with life, and self-esteem as dependent variables.

For all three dependent variables, the model with the two independent factors "acculturation style" and "personal resources" is of high statistical significance. As anticipated from the previous one-factor ANOVAs, the main effect (A) pertains to the meaning of acculturation for psychosocial well-being and takes the same direction, as shown above. All in all, the group of deaf and hard of hearing with marginal acculturation shows worse self-esteem, satisfaction with life, and overall well-being. The second main effect (B) seems to be more relevant than the first one (A): deaf and hard-of-hearing people with good personal resources have significantly higher self-esteem, satisfaction with life, and overall well-being. There is an additional interactive effect for the perception of self-esteem, but not for satisfaction with life: deaf and hard-of-hearing people with a hearing acculturation and high personal resources show an extra high score on the self-esteem scale. This result is not dependent on the degree of hearing loss of the participants ($F = 1.51$; $df = 4$, $p \leq .19$). For deaf and hard-of-hearing people with few personal resources, there is a tendency for deaf and bicultural acculturation to be

Table 5 Acculturation and self-esteem

Acculturation	<i>N</i>	<i>M</i>	SD	Minimum	Maximum	Post hoc comparisons (Games-Howell)			
						Marginal	Hearing	Deaf	Bicultural
Marginal	33	2.70	0.54	1.40	3.90	—	—	—	—
Hearing	171	3.17	0.53	1.50	4.00	*(.000)	—	—	—
Deaf	295	3.06	0.46	1.60	4.00	*(.004)	ns	—	—
Bicultural	130	3.26	0.43	2.30	4.00	*(.000)	ns	*(.000)	—

Note. Homogeneity of variances: Levene's statistics: $F = 3.09$, $df_1 = 3$, $df_2 = 625$, $p \leq .027$. ANOVA: $F = 14.01$, $df_1 = 3$, $df_2 = 625$, $p \leq .000$, not significant.

* denotes significant differences.

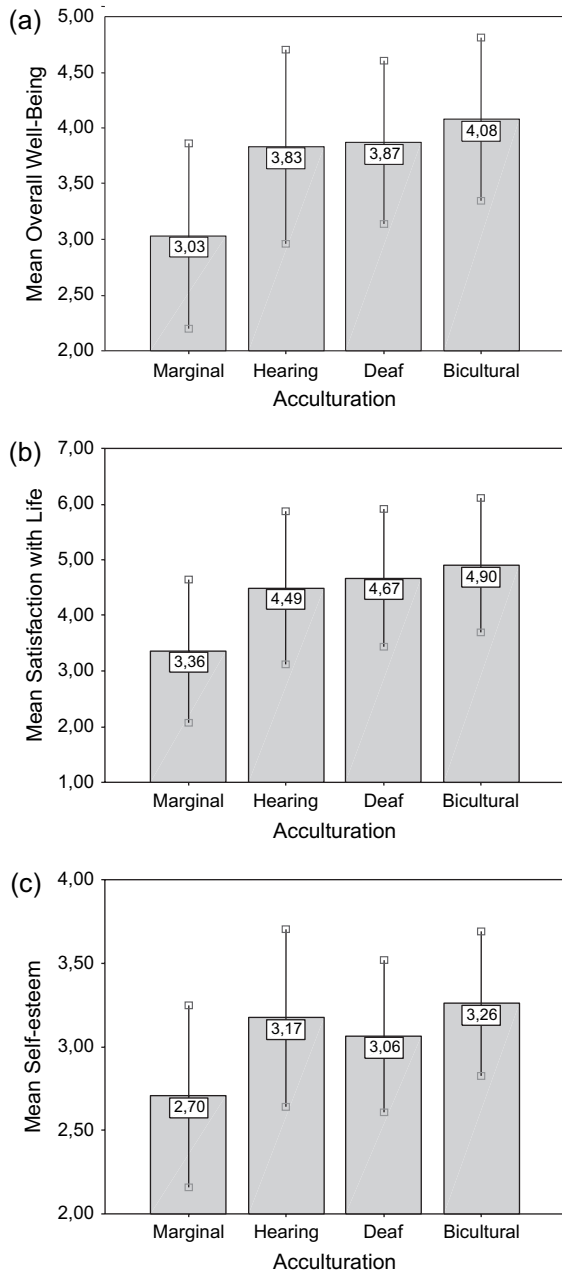


Figure 1 (a) Acculturation and overall well-being. (b) Acculturation and satisfaction with life. (c) Acculturation and self-esteem.

important for satisfaction with life (.058) and overall well-being (.050).

The final step involved examining the interrelationship of sociodemographic variables with acculturation styles and personal resources. Table 9 shows the results (χ^2) for *acculturation styles*. The most important results for each acculturation style are given be-

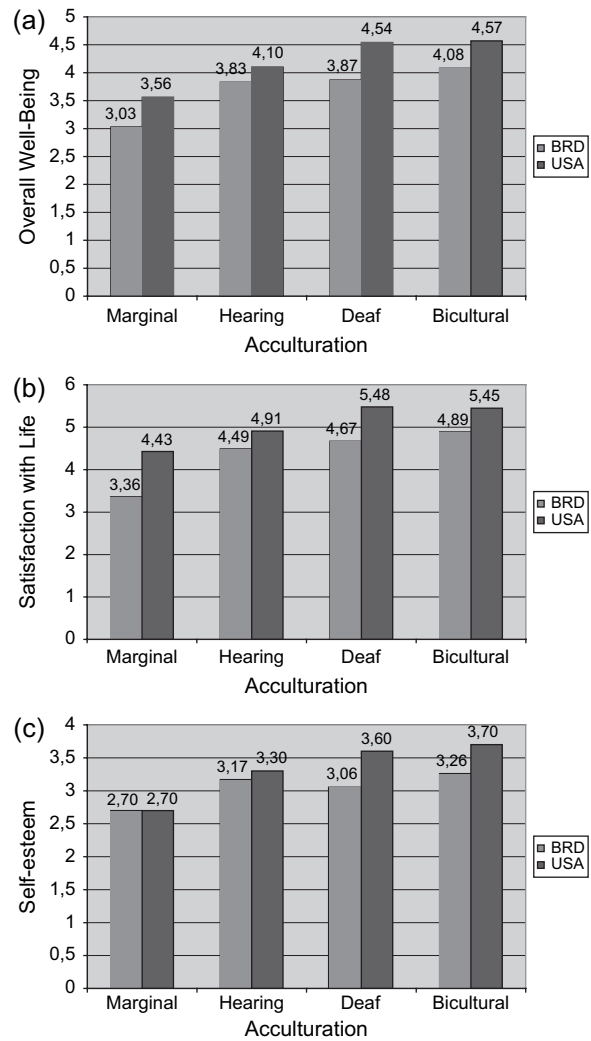


Figure 2 (a) Acculturation and overall well-being in Germany and the United States. (b) Acculturation and satisfaction with life in Germany and the United States. (c) Acculturation and self-esteem in Germany and the United States.

low. All are in accordance with what we know about growing up as a deaf or hard-of-hearing person from other studies.

Marginal Acculturation

Older people show a slight tendency to marginal acculturation. People who became deaf after the age of three as well as people with a progressive hearing loss and those who have no idea of their degree of hearing loss are more marginalized. People with hard of hearing parents are more marginalized than those with

Table 6 Acculturation, personal resources, and overall well-being

Acculturation (A)	Personal resources (B)	<i>N</i>	<i>M</i>	<i>SD</i>
Marginal	<i>M</i> = ≤3.0	17	2.60	0.68
	<i>M</i> = >3.0	16	3.50	0.73
Hearing	<i>M</i> = ≤3.0	37	2.80	0.63
	<i>M</i> = >3.0	134	4.12	0.70
Deaf	<i>M</i> = ≤3.0	33	3.10	0.62
	<i>M</i> = >3.0	262	4.00	0.68
Bicultural	<i>M</i> = ≤3.0	5	3.05	0.64
	<i>M</i> = >3.0	125	4.12	0.71
		<i>df</i>	<i>F</i>	<i>p</i>
Model ^a		7	34.56	.000
Acculturation (A)		3	4.60	.003
Personal resources (B)		1	92.41	.000
Interaction A × B		3	2.34	.072

^a*R*² = .28.

deaf or hearing parents. In many of the cases where signing in any form was or is used, there is less risk of marginal acculturation. Educational setting and status are also important. Anyone who went to a regular school is at considerably more risk of becoming marginalized than people who went to a school for the deaf. In the case of secondary school qualifications, which depend on the type of school and years of study, the rule of thumb is the higher the qualification, the less risk of marginal acculturation.

Table 7 Acculturation, personal resources, and satisfaction with life

Acculturation (A)	Personal resources (B)	<i>N</i>	<i>M</i>	<i>SD</i>
Marginal	<i>M</i> = ≤3.0	17	2.72	1.09
	<i>M</i> = >3.0	16	4.05	1.13
Hearing	<i>M</i> = ≤3.0	37	3.06	1.11
	<i>M</i> = >3.0	134	4.90	1.17
Deaf	<i>M</i> = ≤3.0	33	3.58	1.09
	<i>M</i> = >3.0	262	4.81	1.18
Bicultural	<i>M</i> = ≤3.0	5	3.40	1.28
	<i>M</i> = >3.0	125	4.95	1.17
		<i>df</i>	<i>F</i>	<i>p</i>
Model ^a		7	24.46	.000
Acculturation (A)		3	4.30	.005
Personal resources (B)		1	65.38	.000
Interaction A × B		3	1.30	.273

^a*R*² = .22.**Table 8** Acculturation, personal resources, and self-esteem

Acculturation (A)	Personal resources (B)	<i>N</i>	<i>M</i>	<i>SD</i>
Marginal	<i>M</i> = ≤3.0	17	2.48	0.52
	<i>M</i> = >3.0	16	2.94	0.47
Hearing	<i>M</i> = ≤3.0	37	2.53	0.39
	<i>M</i> = >3.0	134	3.35	0.41
Deaf	<i>M</i> = ≤3.0	33	2.62	0.41
	<i>M</i> = >3.0	262	3.12	0.43
Bicultural	<i>M</i> = ≤3.0	5	2.70	0.16
	<i>M</i> = >3.0	125	3.28	0.42
		<i>df</i>	<i>F</i>	<i>p</i>
Model ^a		7	31.35	.000
Acculturation (A)		3	2.91	.034
Personal resources (B)		1	77.91	.000
Interaction A × B		3	3.37	.018

^a*R*² = .26

Hearing Acculturation

Here too, older people show a slight tendency toward hearing acculturation. And again, those who became deaf after the age of three as well as anyone with a progressive hearing loss, a cochlear implant, or a lesser degree of hearing loss are more hearing acculturated. Hearing acculturation is also found more in people whose families do not use signing, where the actual preferred communication modality is the spoken language and no signing competencies are available. People who attended regular schools are also more hearing acculturated, whereas those with a high educational status and a university degree are to a large extent hearing acculturated.

Deaf Acculturation

People who became deaf before the age of three as well as those with a higher degree of hearing loss and anyone not using a cochlear implant are more deaf acculturated. The deaf and hard of hearing with deaf parents (but not with hard of hearing parents) live more in the deaf world. People from families (parents, siblings), where signing was used (early on) and where it is presently the preferred modality, also show clear deaf acculturation. Many of the deaf acculturated have attended a school for the deaf. People with a German *Realschule* education (10 years of schooling) and

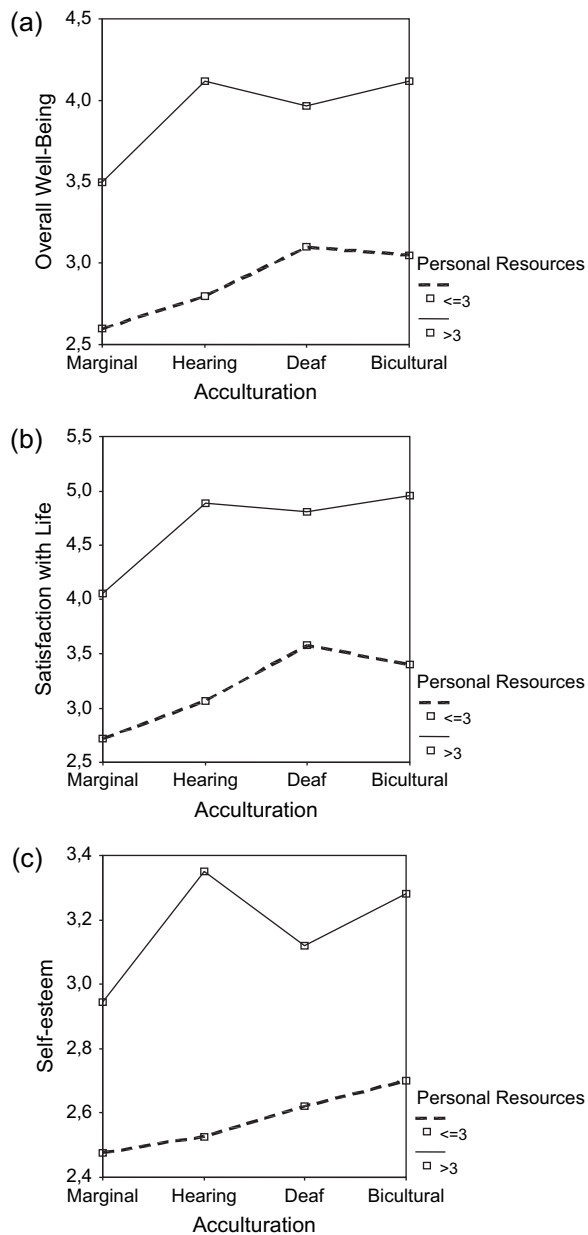


Figure 3 (a) Acculturation, personal resources and overall well-being. (b) Acculturation, personal resources and satisfaction with life. (c) Acculturation, personal resources, and self-esteem.

without a university degree show a clear tendency toward deaf acculturation.

Bicultural Acculturation

The younger participants in this study show a slight tendency to bicultural acculturation. People who were older than 10 at the onset of deafness are less bicultur-

ally acculturated. As regards the degree of hearing loss, significantly more people with a severe rather than a profound hearing loss choose a bicultural orientation. Bicultural acculturation is distributed evenly among users (20%) and nonusers of cochlear implants (20%). Participants who prefer bicultural living indicated that they used different communication means (spoken and signed German, total communication) more than the deaf or hearing acculturated, who prefer one language modality (sign language or spoken language). People who attended a school for the hard of hearing are more biculturally acculturated than people from a school for the deaf or a regular school. There are significantly more persons with a high educational level and a university degree in the bilingual group.

Table 10 shows the results (χ^2) for the interrelation between *sociodemographic characteristics* and *personal resources*.

Concerning the *general characteristics* of the sample, there is no relation between personal resources and the gender, age, or citizenship of the participants. Looking at the data for the participants' *hearing situation*, it suffices to state that people with severe or profound deafness have higher personal resources scores than people with a mild or moderate hearing loss. Nearly all the data on the *communication situation* show significant differences to the effect that people who have experienced a signing milieu in the past or are presently involved in one and who are also skilled at signing obtained higher personal resources scores than those without such experience or competencies. Looking at *educational setting and status*, we see that attending a school for the deaf or hard of hearing is associated with higher personal resources scores. People with a German *Realschule* education (10 years of schooling) and a *Gymnasium* education (12–13 years of schooling) have higher personal resources scores than people with a German *Hauptschule* education (9 years of schooling). This corresponds to the fact that persons with a university degree have better self-efficacy.

Discussion

The aim of this article was to assess—from an identity theory perspective—the development of the psychosocial well-being (self-esteem, satisfaction with life) of

Table 9 Sociodemographic characteristics and acculturation

Sociodemographic characteristics	Statistics (χ^2)
General characteristics	
Gender	$\chi^2 = 3.47$; $df = 3$, $p \leq .325^{ns}$
Age	$\chi^2 = 6.56$; $df = 3$, $p \leq .087^\dagger$
Citizenship	$\chi^2 = 2.06$; $df = 3$, $p \leq .561^{ns}$
Hearing data	
Age of deafness	$\chi^2 = 152.31$; $df = 12$, $p \leq .000^{***}$
Progressive hearing loss	$\chi^2 = 88.37$; $df = 3$, $p \leq .000^{***}$
Cause of deafness	$\chi^2 = 8.51$; $df = 9$, $p \leq .484^{ns}$
Degree of hearing loss	$\chi^2 = 77.61$; $df = 12$, $p \leq .000^{***}$
Cochlear implant	$\chi^2 = 37.29$; $df = 3$, $p \leq .000^{***}$
Communication situation	
Parental hearing status	$\chi^2 = 55.27$; $df = 6$, $p \leq .000^{***}$
Language used in the home	$\chi^2 = 129.07$; $df = 3$, $p \leq .000^{***}$
Current communication method	$\chi^2 = 355.69$; $df = 9$, $p \leq .000^{***}$
Competence with signing	$\chi^2 = 286.11$; $df = 3$, $p \leq .000^{***}$
Age of learning signing	$\chi^2 = 108.03$; $df = 9$, $p \leq .000^{***}$
Signing competence in the family	$\chi^2 = 92.16$; $df = 3$, $p \leq .000^{***}$
Signing competence of siblings	$\chi^2 = 52.84$; $df = 3$, $p \leq .000^{***}$
Educational setting and status	
Education setting in elementary school	$\chi^2 = 259.16$; $df = 6$, $p \leq .000^{***}$
Education setting after elementary school	$\chi^2 = 259.66$; $df = 6$, $p \leq .000^{***}$
Secondary school qualifications	$\chi^2 = 67.16$; $df = 6$, $p \leq .000^{***}$
Educational status	$\chi^2 = 40.81$; $df = 6$, $p \leq .000^{***}$

*** $p \leq .001$. $^\dagger p \leq .10$. ns, not significant.

adult deaf and hard-of-hearing persons in the context of the cultural, social, and personal resources available to them.

With reference to the significance of acculturation, this study shows that deaf and hard-of-hearing persons with marginal acculturation collectively have less self-esteem and show less satisfaction with life than deaf and hard-of-hearing persons with one of the other acculturations. This result tallies with the findings from other studies (cf. Bat-Chava, 2000; Maxwell-McCaw, 2001) and heightens the significance for one's psychosocial well-being of having a cultural anchor. However, bearing in mind the standard deviations in the results distribution, an analysis of the data of all 33 marginally acculturated participants shows that, in individual cases/instances, even people who are only marginally acculturated are certainly able to acquire high self-esteem and feel satisfaction with life. Two aspects would seem to be important here: first of all, in these particular cases, it appears that the psychological dimension is of great importance: without

exception, all the marginally acculturated participants who were extremely satisfied with life and had high self-esteem obtained very high scores in the area of personal resources. Consequently, marginalization need not necessarily be associated with limited psychosocial well-being but can also be deliberately (and self-confidently) chosen, shaped, and actively lived. Seen from the perspective of its basic conception, the theoretical understanding of identity as working on one's identity enables subjectively satisfying identity patterns to be established even under marginal conditions. Mental strength is necessary in order to take up these positionings and also to stand by them. Culture, for all its significance, no longer seems to be the only factor that determines our lives and identities. The second important aspect here emerged as a result of written feedback from some of the participants. This clearly indicates that acculturation scales as a tool are neither comprehensive nor differentiated enough to shed light on the aspect of social integration and networks. We have received comments to the effect

Table 10 Sociodemographic characteristics and personal resources

Sociodemographic characteristics	Statistics (χ^2)
General characteristics	
Gender	$\chi^2 = 1.21$; $df = 1$, $p \leq .271^{ns}$
Age	$\chi^2 = .01$; $df = 1$, $p \leq .939^{ns}$
Citizenship	$\chi^2 = .12$; $df = 1$, $p \leq .726^{ns}$
Hearing data	
Age of deafness	$\chi^2 = 8.83$; $df = 4$, $p \leq .06^\dagger$
Progressive hearing loss	$\chi^2 = 4.15$; $df = 1$, $p \leq .047^*$
Cause of deafness	$\chi^2 = 5.79$; $df = 3$, $p \leq .122^{ns}$
Degree of hearing loss	$\chi^2 = 10.30$; $df = 4$, $p \leq .036^*$
Cochlear implant	$\chi^2 = .07$; $df = 1$, $p \leq .794^{ns}$
Communication situation	
Parental hearing status	$\chi^2 = 4.89$; $df = 2$, $p \leq .087^\dagger$
Language used in the home	$\chi^2 = 10.25$; $df = 1$, $p \leq .001^{***}$
Current communication method	$\chi^2 = 17.50$; $df = 3$, $p \leq .001^{***}$
Competence with signing	$\chi^2 = 25.72$; $df = 1$, $p \leq .000^{***}$
Age of learning signing	$\chi^2 = 0.63$; $df = 3$, $p \leq .889^{ns}$
Signing competence in the family	$\chi^2 = 7.45$; $df = 1$, $p \leq .006^{**}$
Signing competence of siblings	$\chi^2 = 4.37$; $df = 1$, $p \leq .042^*$
Educational setting and status	
Education setting in elementary school	$\chi^2 = 3.45$; $df = 2$, $p \leq .178^{ns}$
Education setting after elementary school	$\chi^2 = 6.37$; $df = 2$, $p \leq .041^*$
Secondary school qualifications	$\chi^2 = 9.71$; $df = 2$, $p \leq .008^{**}$
Educational status	$\chi^2 = 4.03$; $df = 2$, $p \leq .133^{ns}$

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$. $^\dagger p \leq .10$. ns, not significant.

that various participants quite consciously refuse to be part of either the deaf or the hearing world (and thus become marginals), preferring instead to take a clear “hard-of-hearing position” (and in this respect perhaps maintain supportive social relationships).

Nevertheless, reviewing the above, we should note that the data in this study indicate that the status of cultural diffusion (or marginalization) is on the whole more of a disadvantage for social well-being. This is confirmation of the importance of cultural ties and the accompanying positive experiences with regard to other people and their values, attitudes, and habits. Social relationships and social skills within the acculturation groups can thus be effective in constructing identity.

Of the other three acculturations, bicultural acculturation seems by and large to be a safe option for the quality of overall psychosocial well-being. Anyone who can identify with the values and goals of both the deaf and the hearing world and can apply and actively live each of them from day to day benefits from this by

increasing their sense of self-esteem and general satisfaction with life. The deaf and hard of hearing, who are able (or enabled) to move in both worlds and have the best of both worlds by adapting to the situation and to their needs, have on average the best prerequisites for achieving psychosocial well-being. This accords with the results of other studies (Bat-Chava, 2000; Häfele, 2001; Maxwell McCaw, 2001; Weinberg & Sterrit, 1986).

However, the results contradict the hypothesis put forward in this study that no significant differences exist between the three acculturations. If we interpret this result from a social network perspective, it would appear that bicultural acculturation is an option that obviously offers more scope overall for shaping and maintaining social relationships than is possible in exclusively hearing or deaf acculturations and that this wider option has a positive effect overall.

We need to differentiate, however, between the aspects of self-esteem and satisfaction with life when we look at what each of these mean. As regards the

latter, this article produced one result that seems to correspond with the findings in the Maxwell-McCaw (2001) study: the deaf acculturated experience a similar satisfaction with life as the biculturally acculturated, yet the latter differ from the hearing acculturated considerably in this respect. With self-esteem, on the other hand, the similarities are to be seen between the biculturally acculturated and the hearing acculturated, whereas the differences are found between the deaf and the biculturally acculturated. This is in sharp contrast to the Maxwell-McCaw findings, where the data on the deaf and hearing acculturated indicate exactly the opposite. At this point, it might perhaps be both helpful and insightful to cite the comments made by a woman after reading the results of this article when they were posted informally on a deaf and hard-of-hearing Internet portal prior to publication. The gist of her remarks was as follows: when you orient yourself to the hearing world, you naturally compare yourself with people who hear well and so you then tend to notice some failings more, or see them more clearly, which can have a negative impact on your general satisfaction with life. On the other hand, the woman also added that every day she feels proud of fending for herself in the hearing world, and this boosts her self-esteem.

This may well indicate a difference between people in Germany and the United States in their dealings with minorities and a more pronounced tolerance in the United States toward coexisting with linguistic minorities. An unbiased comparison of the German study data with the data in the similar American study by Maxwell-McCaw (2001) reveals a higher level of satisfaction with life for the American deaf and hard of hearing throughout all of four acculturation groups. This could well be seen as an indication that the actual living conditions for the deaf and hard of hearing in the United States are far more positive when it comes to social participation and acceptance. For self-esteem, this was confirmed most impressively in the case of the deaf and bicultural acculturations and is no doubt also an expression of a greater willingness to accept differences in the United States. However, even the results for self-esteem in the hearing acculturated were somewhat higher than in Germany. And when the number of deaf and hard of hearing is distributed over the four acculturation groups, there are clear indications of the

cultural differences between Germany and the United States—in the Maxwell-McCaw study, at least. This has a far larger number of biculturally acculturated than this article, in which considerably more marginals and hearing acculturated took part.

The significance of the psychological resources available for people's own identity work and, consequently, also for the development of self-esteem and satisfaction with life is impressive confirmation of the hypothesis that people who have a healthy dose of optimism for life and have experienced a high degree of self-efficacy are extremely well suited to developing a robust sense of self-esteem and leading a satisfying life. In this respect, the differences between the group of deaf and hard of hearing with high psychological resources on the one hand and the group with low resources on the other are striking. Indeed, collectively, they outweigh the various acculturations in significance. People who have powerful psychological resources are obviously in a very good position to give meaning to their lives and thus shape them in a positive way—even under difficult conditions. One of Breivik's (2005) case studies describes a deaf woman whose stories reveal the significance of personal psychological power for coping with the problems of life:

One of the keys to understanding why Klara, against the grain, has managed life pretty well, as she herself puts it, is her thorough attempt to turn things into elements of an intrinsic good story and to search for goodness when nothing of that kind is in sight. She is also eager to focus on the edifying aspects in life. Respect is among these, which implies, for instance, an obligation to focus on the positive gifts of life. She does this by emphasizing experiences and people that symbolize authenticity, deep connection, and communication. (p. 96)

What has Klara done?

I found space for my philosophical thoughts, and to read a lot I have learned to appreciate Nature—and the small things in life: to walk on the beach, feeling the seaweed under my feet ... My advice to the sad ones is to look to nature. Concentrate on something, a stone for instance! Make a wish—small things. (p. 96)

Life sense—and, consequently, self-esteem and satisfaction, too—can obviously be tapped from very many different sources. What is important is to take a resource-oriented stance and uncover these personal strengths, interests, needs, and wishes, then deliberately let them develop.

The analysis of the group comparison produced an interesting result for the level of self-esteem which points to an interactive effect, namely: within the group of people with high personal resources, it is the hearing acculturated who have a particularly high sense of self-esteem. There was no proof that this is connected to the degree of hearing loss of the participants. Whether these people have particularly good cognitive abilities, and to what extent, remains to be verified (which could not be done in this article because of its questionnaire basis).

Checking the possible connections between acculturation and sociodemographic characteristics produced the expected results throughout, in addition to confirming that the scales used to assess acculturation deliver results that are both valid and reliable. Despite differences in methodology, the pertinent international studies available are in full agreement as to which social and communicative circumstances promote what type of acculturation. This is of particular importance with regard to the marginally acculturated group as the differences between it and the other three groups are highly significant in respect of satisfaction with life and sense of self-esteem. In particular, this underscores the importance during the socialization process of communicative prerequisites that actually succeed in guarding against marginalization. Each of the other three acculturation groups also clearly shows typical “social development patterns.” By and large, they reveal connections that match the results of other studies almost perfectly (cf. findings by Bat-Chava, 2000; Häfele, 2001; Maxwell-McCaw, 2001, which show similar results).

The connections between the degree of personal resources and the sociodemographic variables appear to be particularly relevant in view of the special significance of psychological powers for the development of self-esteem and satisfaction with life. General characteristics such as age, sex, or nationality as well as anything to do with an individual’s hearing situation

(cause of deafness, degree of hearing loss, cochlear implant) have comparatively little or nothing to do with the degree of personal resources available. In contrast, characteristics that impinge on the communicative situation of the individuals themselves are of vital importance. This means that the participants to whom both sign (language) and speech have become important in the socialization process have higher mental resources on average. To sum up, although we have only data from a cross-sectional study here, this strong connection between good communication prerequisites and the level of personal resources may be a clear hint, worthwhile to be validated in following longitudinal studies with deaf and hard-of-hearing children, that sure communication conditions immunize people against mental problems and to a great extent ensure satisfactory overall psychosocial development. To avoid becoming involved yet again in a “speech versus signing” discussion here, it is important to emphasize from a methodology viewpoint that the average age of the 629 people surveyed was $M = 35.7$ years. This, in turn, means that a quite considerable part of the sample enjoyed early support and school education at a time when conditions were quite different from today in every respect. From a current standpoint, it is therefore no wonder that, in these times of a more or less country-wide systematic structuring of language, deaf and hard-of-hearing children and adolescents who have discovered the gateway to sign (language) have been able to develop better mentally. Applied to the present situation, the findings in this article represent a powerful challenge to deaf education, in that it should offer every single deaf and hard-of-hearing child the best possible communication prerequisites in order to contribute to the development and consolidation of children’s psychological resources by safeguarding communicative relationships. Such resources are, in turn, an essential prerequisite for developing a good sense of self-esteem and a satisfying lifestyle.

As already mentioned, even if data from a cross-sectional study fails to establish any cause and effect connections, any findings that show that people of a better educational level have higher personal resources are well worth thinking over. It is quite possible that creating good educational opportunities for deaf

and hard-of-hearing children may give us the additional potential to lay the groundwork for healthy mental development in the middle and long term, thus setting the stage for achieving quality of life. Our knowledge of the cognitive development of hard-of-hearing children and their idiosyncrasies needs to be broadened extensively in terms of a difference perspective rather than a deficit perspective, then put into practice with the help of educational and psychological teaching methods (Marschark, Convertino, & LaRock, 2006).

What remains to be considered for further studies in the present results? An analysis of the sociodemographic characteristics of the sample presented here has shown that, educationally speaking, the 629 people who took part in the study make up what for Germany is a highly privileged group within the deaf and hard-of-hearing population. This is in no small part due to the fact that conducting the survey via the Internet certainly required a considerable degree of competence in the written language, even though the language of the questionnaire had been adapted in a pilot study and the quality confirmed by statistical analyses. The scope of the questionnaire certainly also helped to screen the sample. Information as to how representative this sample actually was cannot be given, however, because the survey was done on the Internet. If a sample is able to adequately reflect actual educational backgrounds, then the extent to which the connections established in this study can be confirmed remains to be verified in an appropriate manner. For this, it would be important to translate the questionnaire into German sign language and/or also into sign-supported speech so as to reduce communication barriers. It would also make sense when drawing the sample to make sure that the population is more precisely defined than is possible in an Internet survey.

A serious problem with cross-sectional studies like this one is their inability to identify the development and course of self-discovery and cultural affiliation processes. The results of this study are in fact snapshots and can certainly be regarded as problematic in terms of the approach to identity as being identity work. But the point is that the concept of identity work is based on the premise that, due to the changes in society of the past few decades, everyone now has to

cope with a process that, although anchored in society, is very much self-directed. It involves collecting, sorting, and continually reassessing experiences, then using this information to make changes to one's own options in life and one's assessment of them. For the results of this article, this means that certain acculturations depict the deaf or hard-of-hearing person's standpoint at the time of the survey, yet it cannot be assumed that this acculturation was the same some years previously nor that it will be the same in a few years' time. The method of choice for pinpointing these potential developments and changes is the longitudinal study. Although it would indeed be both challenging and important to conduct these longitudinal surveys with the arsenal of methods used in this study, qualitative studies would undoubtedly allow us to go into more detail and depth here. Some qualitative findings are available (but also with cross-sectional data only) that corroborate both the highly complex diversification of identity-structuring processes and their developmental character (cf. Bain, Scott, & Steinberg, 2004; Breivik, 2005; Gutjahr, 2005; Voit, 1999).

As a last need for the future to note, investigations that throw more light on the specific situation of the hard of hearing from an empirical point of view are necessary. The comments written by some participants give us reason to suspect that the methodology of the DIDS and the DAS is insufficient and unsatisfactory when it comes to describing and detailing the social networks of the hard of hearing and their significance for psychosocial development. Here, in particular, qualitative approaches would be appropriate, such as those offered by the Social Network Card (Straus, 2002; Wellman, 1993; Wellman & Berkowitz, 1988). This tool can be used in the field or for research work to chart the supportive and nonsupportive people in an individual's social environment as well as showing through dialogue what such individuals actually give in the way of support or exactly how potentially nonsupportive they are.

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