

# Attachment and Individuation of Deaf/Hard-of-Hearing and Hearing Young Adults

Amatzia Weisel

Ahiya Kamara

School of Education, Tel Aviv University

This study examined differences between deaf/hard-of-hearing (D/HH) and hearing persons with regard to two interrelated and continuous developmental processes: attachment (Bowlby, 1969) and individuation (Mahler, 1963). The study also examined intergroup differences in two personal variables assumed to be influenced by these processes: self-esteem and well-being. Participants comprised 38 D/HH and 42 hearing persons aged 18 to 35 years from middle and upper-middle socioeconomic classes. All the D/HH participants had graduated from mainstreamed educational programs. Findings showed that D/HH participants expressed more fear of attachment and more fear of individuation than did hearing participants. D/HH participants also revealed a lower self-esteem and lower level of well-being compared to hearing participants. Higher fear of attachment correlated with lower levels of self-esteem and well-being. Results supported the theorized relationships between attachment and individuation processes and between these two processes and personality characteristics such as self-esteem and well-being.

Attachment and individuation comprise two developmental processes that originate in early childhood and affect behavior throughout life. Attachment focuses on the emotional bonding between the infant and caretaker, mainly the mother (Bowlby, 1969). Babies' innate repertoire of behaviors such as smiling and the grasping reflex help them bond with their mothers. During mother-child interactions, the infant internalizes the mother's responsiveness and behaviors as

internal working models that serve later in the establishment of new relationships (Bowlby, 1988). Thus, at older ages and into adulthood, attachment relationships reflect the attachment style of the developing young child (Hazan & Shaver, 1994). "Attachment style characterizes individuals from the crib to the grave" (Bowlby, 1979, p. 129). Secure attachment has demonstrated associations with better ability to explore the environment during early childhood; more satisfying relationships with friends and particularly with spouses (Blatt & Blass, 1990); better vocational and professional adjustment (Bartholomew & Horowitz, 1991); better ability to cope with stressful situations and negative affects (Mikulincer, Florian, & Hirschberger, 2003; Mikulincer, Shaver, & Pereg, 2003; Pereg & Mikulincer, 2004); better self-image (Mikulincer, 1995); and a stronger sense of well-being (Diehl, Elnick, Bourbeau, & Labouvie-Veif, 1998; Grotevant & Cooper, 1998; Hazan & Shaver, 1990).

The separation-individuation (SI) process begins in early childhood, when a young child becomes aware of his or her differentiated identity and the fact that he or she is separate from the mother (Mahler, 1963). The SI process is central to the formation of an independent identity (Sabatelli & Mazor, 1985). As a lifelong process, SI takes on different forms in various developmental stages (Josselson, 1980). Blos (1967) saw adolescence as a period of "second individuation," when the process is especially intensive and dominant. As SI proceeds during this period, the adolescent

Correspondence should be sent to Amatzia Weisel, School of Education, Tel Aviv University, Ramat Aviv 69978 Israel (e-mail: weisel@post.tau.ac.il).

learns to manage more independently from the parents and to maintain a certain distance from them, both practically and emotionally (Josselson, 1980; Shulman & Seiffge-Krenke, 1997). Supportive and encouraging parents can foster a successful SI process that includes gradual transfer of responsibilities from the parents to the adolescent and the establishment of more mature relationships between them (Steinberg, 1981). Parents positively influence the SI process by serving as appropriate models for interpersonal relationships, by offering a secure atmosphere that encourages expression of the adolescent's individuality (Parke et al., 1989), and by providing a "safe basis" or "stable anchor" for the adolescent during this period (Rice, Cole, & Lapsley, 1990).

Attachment and SI comprise related and complementary developmental processes that are necessary for the development of an independent and separate identity and for the establishment of satisfying interpersonal relationships (Blatt & Blass, 1990). Secure attachment in early childhood enables differentiation and individuation. Successful individuation is necessary for adult attachment and, specifically, for intimate relations with someone outside the family—a spouse.

The presence of a child with a disabling condition, such as a deaf/hard-of-hearing (D/HH) child, may alter the family climate and its interpersonal relationships, especially when the parents are hearing, thus affecting the attachment and SI processes as well (Leatherman-Sommers, 2000; Marshak, Seligman, & Prezan, 1999; Shulman & Rubinroth, 1987). Lederberg and Prezbindowski (2000) and Meadow-Orlans (1997) listed several reasons why D/HH children are assumed to be at risk for developing an insecure attachment: Hearing mothers of D/HH children reveal stress and depression when the child's deafness is diagnosed and might neglect the needs of their young children; mothers fail to adjust their communication to the hearing deficit of the child and continue to comfort the child by voice; and mothers tend to control interactions with their D/HH child and tend to be insensitive to the child's needs, intentions, or wishes. Sinkkonen (1994) added several other reasons: A deaf child may be unaware of the importance of his or her own voice in communication and therefore may fail to influence others' behavior or receive their attention and care;

moreover, the child cannot hear the mother when she is not visible and therefore does not have the continued assurance about her presence or the comfort that the mother's voice can provide, which in hearing children can reduce separation anxiety.

Despite the aforementioned reasons for expecting the development of insecure attachment by D/HH young children, research studies have not consistently confirmed such differences between D/HH and hearing children (see reviews in Lederberg, 1993; Lederberg & Prezbindowski, 2000; Marschark, 1993). For example, Meadow, Greenberg, and Erting (1983) found that the attachment style and independence from parents among deaf preschool children of deaf parents resembled those of same-age hearing children. This finding suggested that deafness *per se* does not necessarily lead to insecure attachment. Similarly, Koester and MacTurk's study (1991, cited in Lederberg & Prezbindowski, 2000) did not find significant differences between percentages of deaf and of hearing toddlers with secure attachment.

Lederberg and Mobley (1990) also compared the attachment style and interactions of 41 dyads of hearing-impaired toddlers, aged 18 to 22 months, and their hearing mothers with a same-age group of hearing dyads. The two groups of toddlers were found to differ in their communicative competence. However, no differences emerged between the two groups of toddlers in their attachment to the mother or in the characteristics of their interactions (e.g., initiative, compliance, attention span, creativity). Although the mothers of deaf toddlers experienced more stress and were more pessimistic about the future of their children, no significant intergroup differences arose on mothers' affect, sensitivity, dominance, or teaching behavior during interactions with their children (Lederberg, 1993). The researchers concluded that attachment style is not determined by level of communication, language development, or maternal stress. They suggested that mother-child interaction during the first year or two depends more on the mother's ability to meet the child's needs than on the child's characteristics (i.e., the deafness). These conclusions are in line with Koester, Papousek, and Smith-Gray's (2000) notion of intuitive parenting. Koester et al. argued that mothers intuitively tend to

modify and adjust their behaviors to their deaf child's cues, and by so doing, they facilitate communication and better meet the child's needs. This notion of intuitive parenting supports Sinkkonen's (1994) argument that the timing of diagnosis for many D/HH children (only at age 1 year or later) allows for the early symbiotic mother-child relationship to proceed uninterrupted. Nevertheless, it is not fully clear what in the mothers' behaviors distinguishes securely attached D/HH toddlers from insecurely attached ones. Lederberg and Mobley (1990) reported more maternal reinforcement of the deaf toddler among securely attached than among insecurely attached children, although no differences emerged for maternal sensitivity or affect (Lederberg & Prezbindowski, 2000).

Several studies compared the interactions of D/HH children and their hearing mothers with the interactions of hearing children and their mothers. When such comparisons included preschool children the differences that were found between the two groups (D/HH children and hearing mothers vs. hearing children and hearing mothers) were more pronounced than when the interactions of younger children (i.e., toddlers) with their mothers were compared (Lederberg, Willis, & Frankel, 1991; Schlesinger & Meadow, 1972). The research on preschool deaf children and their mothers showed that more positive, efficient mother-child interactions that promoted secure attachment were those that (a) used total communication, in contrast to oral communication (Greenberg & Marvin, 1979; Meadow, Greenberg, Erting, & Carmichael, 1981); (b) included D/HH children with relatively better communication competence (either in oral communication or total communication); and (c) included relatively more educated mothers (Lederberg & Prezbindowski, 2000).

In sum, available research indicates that hearing impairment per se is not necessarily associated with toddlers' insecure attachment and that communication competence, mothers' higher education level, and greater use of total communication characterize better mother-child interactions at the preschool period. It is not clear yet in what ways specific behaviors or characteristics of the interactions of mothers and of toddlers or preschoolers are related to attachment style

and how the attachment style of deaf children is related to future social competence and adjustment (Marschark, 1993).

In line with the assumption that early childhood attachment corresponds with later SI and adult attachment, the present study compared hearing-impaired adults and hearing adults in their attachment and SI. Furthermore, the study examined the relationships between these two developmental processes and the adults' adjustment as reflected by their self-esteem and subjective well-being.

The very few studies available on attachment among D/HH adults seemed to differ from Lederberg and Mobley's (1990) conclusion that secure, early attachment does not necessarily require normal language development and communication in early childhood. Greenslade's (2001) study of 87 married deaf male adults revealed that men whose fathers had communicated with them in sign language reported (retrospectively) a more secure past attachment style, a more secure present attachment style, and more satisfying marital life than did those who used spoken language. A strong association emerged between past (retrospective) and present attachment. Crown (1995) found a lower level of attachment among deaf college students who were born to hearing parents, especially those who used speech in their early communication, compared with hearing students. Chovaz McKinnon, Moran, and Pederson (2004) did not find significant differences in the attachment style of 50 deaf adults who had mostly attended residential schools and of a similar group of hearing adults. When the results of these three studies are considered together it seems that the presence of sign language in early communication resulted in relatively more secure attachment style. In light of these results, Lederberg and Mobley's (1990) conclusion seems to be valid with regard to very early years only (age 1 or 2 years). The characteristics of the communication process become more important in preschool and school years.

A careful review of the literature failed to uncover studies directly investigating the SI process among hearing impaired (HI) individuals. Indirectly, SI can be inferred from frequent descriptions of deaf persons as dependent and immature (e.g., Greenberg & Kusche, 1987; Marschark, 1993; Sinkkonen, 1994), implying the

lack of a successful SI process that would lead to independence and autonomy. Such personality traits as dependency may result from deafness, its associated communication difficulties (especially when only spoken language is the mode of communication), and/or parents' overprotectiveness of the deaf child (Marschark, 1993; Schlesinger & Meadow, 1972; Sinkkonen, 1994).

The present study offered two new directions of research. First, the dual study of both attachment and individuation enabled an examination of the links between these two processes in adulthood, as well as the associations between them and measures of emotional adjustment. Second, the participants included D/HH as well as hearing young adults, which allowed for assessment of the effect of degree of hearing loss, beyond comparisons between the group of HI and hearing participants. The assessment of the effect of degree of hearing loss followed the conclusion of several researchers (e.g., Marschark, 1993; Weisel, 1998) that stated that HI individuals with mild hearing deficits, who can often conceal their disability, have been considered to be at special risk because of the difficulty to develop a stable and clear identity. Since the majority of the D/HH participants in the present study were HH individuals the examination of the effect of hearing ability on attachment seemed necessary.

## Method

### Participants

Participants included 38 D/HH (64% females) and 42 hearing (H) individuals (55% females), ranging in age from 18 to 35 years. Thirty D/HH participants were recruited from a pool of 31 members attending a social event of the Bekol volunteer organization for D/HH individuals in Israel (one individual did not complete the questionnaires and was excluded from the study). The other 8 D/HH participants were contacted through friends and acquaintances. Participants were assured of confidentiality and completed the set of questionnaires (taking about 25 min to complete) either during the social event or at home.

All the D/HH participants graduated from general education high schools. Sixteen D/HH participants

defined themselves as deaf, 12 others reported significant difficulty hearing, 6 reported minor difficulty, and 3 reported hearing well (perhaps because they assumed that the question pertained to hearing with an hearing aid). It should be noted that no objective measure of degree of hearing was used. According to the participants' reports their hearing ability ranged from deafness to mild hearing losses and therefore we referred to members of this group as D/HH participants. Out of the 38 D/HH participants, 34 had age at onset before age 3, and 34 had two hearing parents. Nine D/HH participants reported that their present main mode of communication was sign language. The other 29 used spoken language (Hebrew).

After collecting the questionnaires from all the D/HH participants and ascertaining the group's demographic characteristics, we attempted to recruit a group of H participants similar to the group of D/HH participants with regard to sex, age, education, socioeconomic status, and marital status. Forty-five hearing persons were approached and 42 of them returned completed questionnaires. The background characteristics of the two groups appear in Table 1. The two groups did not differ on any of the variables listed in the table.

The range of years of education was 12 to 20 for the D/HH group and 12 to 19 for the H group. Twenty-six D/HH participants (68.42%) and 30 hearing participants (71.43%) studied beyond the high school level. No report on difficulties in reading and understanding the questionnaires were made.

### Instruments

Background information was gathered via a questionnaire containing 13 questions about such demographic variables as sex, age, marital status, education, parents' education, and socioeconomic status. D/HH participants answered 8 additional questions concerning their degree of hearing loss, age at onset, parents' hearing status, use of hearing aids, preferred mode of communication, and previous contact with D/HH peers.

A modified version of the *Gallaudet Hearing Scale* (GHS; Schein, 1969; Schein & Delk, 1974; Sela & Weisel, 1992) was completed by the D/HH participants. Participants answered either yes or no to each of

**Table 1** Background characteristics of the two research groups

	D/HH ( <i>n</i> = 38)		H ( <i>n</i> = 42)		Total ( <i>N</i> = 80)		$\chi^2$
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	
Sex							
Male	17	44.74	15	35.71	32	40.00	0.68
Female	21	55.26	27	64.29	48	60.00	
Marital status							
Single	20	52.63	17	40.48	37	46.25	1.24
Couple	8	21.05	12	28.57	20	25.00	
Married	10	26.31	13	30.95	23	28.75	
Socioeconomic status							
Low	4	10.52	4	9.52	8	10.00	3.33
Medium	13	34.21	17	40.47	30	37.50	
High	21	55.26	21	50.00	42	52.50	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Age	28.03	3.66	26.98	4.50	27.48	4.13	1.15
Education (years)	15.16	2.33	14.29	2.09	14.70	2.24	1.77
Father's education	13.79	2.68	13.76	3.29	13.77	3.01	0.45
Mother's education	14.03	2.34	14.15	3.69	14.10	3.11	−0.17

seven items depicting a range of hearing abilities (e.g., “I can hear and understand soft speech,” representing good hearing, or “I can hear loud noise,” representing very poor hearing. Scores comprised the number of “yes” responses, ranging from 0 to 7, with higher scores indicating better hearing.

The *Individuation–Attachment Questionnaire* (IAQ), developed by Kaplan (1988), included 44 items, 11 items in each of four factors: needs attachment, fears attachment, needs individuation, and fears individuation. Participants rated each item on a Likert scale ranging from “strongly agree” (5) to “strongly disagree” (1). Attachment, according to Kaplan (1988), “is the capacity to connect or bond affectionately to another person (and) to remove interpersonal walls” (p. 221). Fear of attachment reflects the difficulties in taking down the walls. “Individuation is defined as the capacity to differentiate one’s self from another, i.e., to have healthy self–other boundaries” (p. 221). Fear of individuation reflects the difficulties in forming these boundaries.

Kaplan (1988, 1990) recommended classifying individuals, for clinical purposes, into eight categories based on each individual’s combination of scores on the four factors. Although Kaplan suggested that the classification is effective in therapeutic context, the clas-

sification lacks sufficient empirical validation. Therefore, in the present study we used only two of the IAQ scales: fear of attachment (FA) and fear of individuation (FI). These two scales capture the essence of the two processes: fear versus confidence in removing walls and reaching intimacy and in forming boundaries and reaching autonomy. The FA scale included 11 items such as “If I open myself to others I’ll get hurt” and “The price of a close relationship is that it keeps you from truly being yourself.” The FI scale included 11 items such as “I try to avoid being on my own” and “Paying attention to your own feelings is typically destructive for a relationship.” The content of 1 item of the FI scale read, “When I speak in public I tend to speak with soft voice.” Since this item could be problematic for D/HH participants, all the statistical analyses were conducted once with and once without this item. Since the results of these two procedures were very similar and since this item had positive correlations with all the remaining 10 items of the scale it was decided to leave the item and to keep the original version. The items of the two scales and the results of *t*-test analyses for each item are presented in the appendix.

The IAQ questionnaire was translated into Hebrew by Avnon (1997) who reported alpha coefficients of

**Table 2** Means, standard deviations, and ANOVA results for fear attachment (FA), fear individuation (FI), self-esteem (SE), and well-being (WB) by group membership (hearing impaired and hearing participants) and by sex

		Hearing impaired			Hearing			Group		Sex		Group X sex
		Male <i>n</i> = 17	Female <i>n</i> = 21	Total <i>n</i> = 38	Male <i>n</i> = 15	Female <i>n</i> = 27	Total <i>n</i> = 42	<i>F</i>	Partial $\eta^2$	<i>F</i>	Partial $\eta^2$	
FA	<i>M</i>	19.23	16.43	17.68	14.67	11.89	12.88	14.49***	.160	5.45*	.067	.00
	<i>SD</i>	5.73	5.13	5.52	4.61	5.26	5.16					
FI	<i>M</i>	21.94	20.24	21.00	16.27	17.33	16.95	10.71**	.124	.06		1.12
	<i>SD</i>	4.59	7.45	6.31	4.65	5.32	5.06					
SE	<i>M</i>	62.31	64.00	63.25	67.93	73.03	71.21	5.99*	.075	1.29		.325
	<i>SD</i>	16.41	13.68	14.75	11.09	10.68	10.98					
WB	<i>M</i>	6.31	7.65	7.06	7.04	8.00	7.79	3.85*	.049	7.00**	.086	1.01
	<i>SD</i>	2.18	1.46	1.91	1.55	1.21	1.35					

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

internal consistency of .75 and .84 for the FA and FI respectively. The coefficients of internal consistency for the D/HH participants of the present study were .62 and .72 for the FA and the FI respectively. The score for each scale was the sum of the responses of each participant to the scale's items where higher score indicated more FA or FI.

The *Index of Self-Esteem* (ISE) was developed by Hudson (1982). This unifactorial 25-item questionnaire measures how individuals feel about themselves and about their relationships with others. For example, "I think that I make a good impression on other people" and "I feel that other people have more fun than I do." There were five possible responses for each item. Scores ranged from 25 to 125, with higher scores indicating better SE. Wender-Schwartz (2000) translated the ISE into Hebrew and reported an alpha of .91.

The *Self-Anchoring Striving Scale* (SASS), developed by Kilpatrick and Cantril (1960), includes one question that measures the overall subjective evaluation of one's well-being (WB). Participants rated their level of well-being on a scale of 1 to 10, with higher scores indicating better well-being. The SASS is a widely used, reliable, valid, and especially economical measure (McIntosh, 2001).

## Results

Means and standard deviations for each of the main research variables are presented in Table 2. A

multivariate analysis of variance (MANOVA) with group (D/HH vs. H) and sex as the independent factors and FA and FI as the dependent variables revealed a significant effect of group [Hotelling = .238,  $F(2,75) = 8.92$ ,  $p = .000$ ,  $\eta^2 = .192$ ]. The effect of sex almost reached an acceptable level of significance [Hotelling = .079,  $F(2,75) = 2.98$ ,  $p = .057$ ,  $\eta^2 = .074$ ]. No significant interaction emerged for the effect of group by sex. Table 2 presents the results of subsequent ANOVAs, which reveal that H participants showed lower FA and FI than did D/HH participants and that females showed lower FA than did males.

A MANOVA with group (D/HH vs. H) and sex as the independent variables and self-esteem and well-being as the dependent variables revealed significant effects of group [Hotelling = .092,  $F(2,73) = 3.35$ ,  $p = .041$ ,  $\eta^2 = .084$ ] and of sex [Hotelling = .095,  $F(2,73) = 3.46$ ,  $p = .037$ ,  $\eta^2 = .087$ ]. No significant interaction emerged for the effect of group by sex. Subsequent ANOVAs (see lower part of Table 2) reveal that H participants showed higher self-esteem and well-being than did D/HH participants, and that females showed higher well-being than did males.

For each of the two research groups (D/HH and H), we calculated Pearson correlation coefficients between background variables and the four main variables of the study (FA, FI, SE, well-being) and intercorrelations among the four variables themselves. Most of the background variables measured in the present study (e.g., for the D/HH group, hearing ability, age at onset, consistent use of hearing aids) did

not correlate significantly with the four main variables of the study. FI correlated with age ( $r = -.33, p < .05$ ) and with years of education ( $r = -.38, p < .05$ ) in the D/HH group. Relatively older and more educated D/HH participants tended to have lower FI levels. No such relationships emerged among the H participants. ANOVAs with marital status (single/married or living with a partner) and group (D/HH vs. H) as the independent variables and FA, FI, SE, and WB as the dependent variables yielded neither significant effects of marital status nor interaction effects of marital status by group membership.

Nine D/HH participants reported that their main mode of communication was sign language. These 9 participants did not differ from the other D/HH participants on any of the main (dependent) variables of the study.

The correlation coefficients among the four main variables of the study are presented in Table 3. The results showed that H participants with lower FA had higher self-esteem ( $r = -.34$ ) and better well-being ( $r = -.32$ ). It is interesting to note that FI did not significantly correlate with either self-esteem or well-being among the H participants. In the D/HH group, those with lower FA reported better well-being ( $r = -.38$ ) and those with lower FI had better self-esteem ( $r = -.36$ ). Self-esteem and well-being correlated positively in both the D/HH ( $r = .47$ ) and the H ( $r = .50$ ) groups.

## Discussion

The present study compared D/HH and H young adults in terms of their fear of attachment, fear of individuation, self-esteem, and well-being and also examined the relationships within and between these variables.

### D/HH Participants Revealed Higher Fears of Attachment and of Individuation

One of the main findings of the present study comprised D/HH participants' higher fear of attachment and of individuation compared with the D/HH participants. It should be emphasized that the present study addressed adults' attachment and individuation, not childhood attachment. Bowlby (1979) viewed

**Table 3** Correlation coefficients among the research variables for the hearing impaired group ( $N = 39$ ) and for the hearing group ( $N = 42$ )

Hearing	FA	FI	SE	WB
Hearing impaired				
FA		.18	-.34*	-.32*
FI	.58***		-.02	.07
SE	-.20	-.36*		.50***
WB	-.38*	-.09	.47**	

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Note. Fear Attachment = FA, Fear Individuation = FI, Self-Esteem = SE, and Well-Being = WB.

early childhood and adult attachment as closely associated; however, the measurement of this association is often problematic because of the time gap between the age when childhood attachment is usually measured (before age 2) and adulthood. Even if childhood and adult attachment are interrelated, this does not rule out the possibility that adult attachment is influenced by various factors during the developmental process.

One such factor may be the hearing deficit. The present results showed that, in adulthood, D/HH individuals had relatively higher fears of both attachment and individuation. These fears arose more intensely in the D/HH participants despite the fact that they were involved to the same extent in relationships (marriages, couples living together, or singles) as the H participants. Although the D/HH participants have seemingly attached, intimate relations and even marriages, they subjectively perceive them differently. Nevertheless, when evaluating the effect of hearing impairment on early attachment, some researchers did not find differences between young D/HH and H children (e.g., Meadow, Greenberg & Erting, 1983; Lederberg & Mobley, 1990; Lederberg & Prezbindowski, 2000). The incongruence between these two sets of findings suggests that, unsurprisingly, developmental processes beyond the very early years rendered a significant effect on adults' attachment style. In other words, adult attachment cannot be explained by early childhood attachment alone. This conclusion supports the aforementioned notion that differences between D/HH and H children become more pronounced as the children grow older. It can be further speculated that intuitive parenting (Koester

et al., 2000; Sinkkonen, 1994)—that is, the ability to adjust parenting behaviors to children's needs, especially by mothers—is perhaps a valid concept only with regard to the very early years of life. It should be noted, however, that differences between early attachment and adult attachment might be due also to the different measurement procedures that were used in the research. Early attachment was often measured by the “strange situation” and adult attachment by written questionnaires. Longitudinal studies are necessary in order to come to a firmer conclusion about the relationship between early and late attachment. Unfortunately, these kinds of studies are very difficult to conduct.

The current study's major outcome, demonstrating relatively more difficulties in establishing intimacy and autonomy among D/HH individuals than among their H peers, suggests a link with D/HH persons' experiences of loneliness, social rejection, and general low social status (Charlson, Strong, & Gold, 1992; Marschark, 1993). Like in other individuals with special needs, D/HH adults may encounter social isolation that hinders the process of individuation typifying the adolescent years and that fosters the tendency to continue dependence on parents and other adults (e.g., teachers).

#### Degree of Hearing Loss Did Not Correlate with Fears of Attachment and of Individuation

The D/HH participants' fears of attachment and individuation were not linked with their degree of hearing ability. In other words, D/HH adults across the board, regardless of the severity of their hearing loss, showed greater fear of removing walls and reaching intimacy as well as more fear of forming boundaries and reaching autonomy, in comparison to their H counterparts. These findings correspond with previous research that showed that once a child was labeled or perceived as a hearing-impaired child, the specific characteristics of the child's condition (i.e., his/her degree of hearing loss) did not affect others' (children's as well as adults') attitudes toward and evaluations of that child (Most, Weisel, & Lev-Matezky, 1997; Most, Weisel, & Tur-Kaspa, 1999). In other words, once the child was perceived as

“different,” the social interactions other people had with him/her were altered and affected the developmental process. It seems, then, that factors other than the severity of the hearing difficulty per se influenced these individuals' attachment and individuation processes. Our conclusions with regard to degree of hearing loss should be considered with caution since no objective measure of hearing ability was used in the present study. This might raise questions about the reliability of the data and about subjective versus objective measuring in the present study, although the reliability of the GHS was demonstrated in previous studies (Schein, 1969; Schein & Delk, 1974; Sela & Weisel, 1992). Because with regard to degree of hearing ability there could be a process of subjective evaluation at play here, this issue should be considered in future research.

#### D/HH Participants Showed Lower Self-Esteem and Well-Being Than Did H Participants

In line with previous research (e.g., Madden & Slavin, 1983; Montanini-Manfredi, 1993) the present study revealed that D/HH individuals reported lower self-esteem and a lower sense of well-being than did their H counterparts. The present study's results showed that despite the D/HH participants' successful integration into general education, and despite their similar level of education to the matched group of H participants, the D/HH group revealed the effect of their hearing difficulties in terms of lower self-esteem and well-being. It should be noted, however, that the more educated D/HH adults exhibited a lower fear of forming boundaries with their parents and of reaching autonomy (FI). No such relationship emerged for the H participants. Education, therefore, seemed to enhance the individuation process of D/HH individuals but did not affect their fear of intimate relations and attachment or their self-esteem or well-being. It is not clear how the interpretation of these results should be made with caution because most of the current D/HH participants were, as adults, members of a social organization for D/HH adults. Perhaps a different picture would emerge for D/HH adults who are fully integrated into a hearing social environment. This group deserves the attention of future research.

Several aspects might affect self-esteem and well-being, such as vocational dissatisfaction, frustration in attempts at communication, and social rejection. One possible explanation for the relatively low levels of self-esteem and well-being found in the present study concerns the social status of D/HH individuals during childhood, adolescence, and early adulthood. Recall that the D/HH participants in the present study were graduates of mainstreamed educational programs. Previous research (e.g., Madden & Slavin, 1983; Montanini-Manfredi, 1993) has established that mainstreamed students with special needs, including students with hearing difficulties, report lower self-esteem than do students in special programs, suggesting the impact of social interactions and comparisons with the hearing population of peers and staff. Mainstreamed D/HH students expressed more awareness of the limitations imposed on them by their disability, more anxiety about their future, and more concern about their social isolation, than did D/HH students in special programs with D/HH student peers (Montanini-Manfredi, 1993).

### Intercorrelations

When considering the intercorrelations among the four main variables of the study, some interesting findings emerged, though sometimes difficult to interpret. First, the significant, moderately high positive correlation ( $r = .58$ ) between the fear of attachment and the fear of individuation in the D/HH group supports theoretical and empirical claims that feelings of security in interpersonal relationships are linked with successful development during the SI process (Hazan & Shaver, 1990) and that adult attachment depends on the ability to establish individual boundaries (Kaplan, 1990; Shulman & Rubinroit, 1987). The fear of individuation also correlated with self-esteem in the D/HH group, such that better self-esteem was linked with less fear of establishing boundaries and separating from the family of origin. In contrast, fears of attachment and of individuation were not significantly intercorrelated in the H group. Furthermore, the fear of individuation was not associated with self-esteem in the H group, nor with well-being in either group of participants. These findings raise some doubt about

the significance of individuation, as measured here by the FI scale, in the developmental process, especially regarding the hearing participants. Its significance was evident to some extent in the D/HH group only. These results cannot simply be explained by the difference in the variance of FI between the two research groups, because the standard deviations of FI did not differ significantly (6.31 and 5.06 for the D/HH and the H groups, respectively). Inasmuch as these results clearly differ from the well-established importance of individuation in the developmental process, they need to be further studied in future research.

### Summary

In sum, fear of attachment as well as self-esteem emerged as good predictors of well-being for both D/HH and H participants. Moreover, this study uncovered a discrepancy between previous research, which concluded that young D/HH children do not differ from their H peers in childhood attachment, and the current outcomes, which revealed clear intergroup differences in adult attachment. This discrepancy suggests that development during later childhood and adolescence negatively influences the establishment of secure adult attachments, despite involvement of some participants in marital or committed relationships.

One central factor in this developmental process comprises the social and educational context of the D/HH participants. The D/HH participants of the present study were graduates of mainstreaming educational programs. It seems that the D/HH participants competed well with hearing young adults with regard to academic achievements (e.g., years of education) but mainstreaming did not ensure a similar level of development in the social domain. However, in order to better evaluate the effect of educational placement on social adjustment, comparisons with other groups of D/HH young adults, such as graduates of special programs, are necessary.

### Acknowledgment

The authors would like to thank Dee B. Ankonina for her editorial comments.

**Appendix Items of the Individuation-Attachment Questionnaire (IAQ)**

Item	D/HH		Hearing		T
	Mean	SD	Mean	SD	
I try to avoid being on my own	3.00	1.09	2.83	1.21	.64
Taking responsibility is a too heavy burden	2.74	1.35	1.88	1.02	3.22**
It is important for me to fulfill others' expectations	3.10	.98	3.00	.88	.51
To be with close friends means that you don't need space for yourself	2.00	1.18	1.64	.79	1.60
Paying attention to your own feelings is usually destructive for a relationship	2.16	1.22	1.62	.70	2.46*
It makes more sense to adjust yourself than to be an exceptional	3.08	1.07	2.64	1.14	1.75#
When people criticize me I feel inferior	2.95	1.14	2.33	1.12	2.43*
When I speak in public I tend to speak with soft voice	2.42	1.13	1.88	1.13	2.13*
It is important for me to be nice to everyone	3.89	.95	3.45	1.17	1.84#
I allow people I respect to influence my decisions	3.37	.94	3.68	.96	−1.47
I feel very secure when I have a friend who is stronger than I am and I can rely on him	3.38	1.30	3.07	1.16	1.11

\*p < .05, \*\*p < .01, #p < .10.

**Appendix (Continued)**

Item	D/HH		Hearing		T
	Mean	SD	Mean	SD	
One should not be influenced by the needs of others	3.62	1.11	2.90	1.18	2.76**
Close relationships with somebody interfere with what a person wants to do	2.47	1.03	2.19	.81	1.34
Love is often associated with more troubles than it worth	2.59	1.46	1.88	.90	2.63**
If I open myself to others I'll get hurt	2.39	1.05	2.19	.77	0.99
A person does not need to be involved with other people in order to feel satisfied	2.89	1.11	2.86	1.24	0.14
I believe that people become less interesting when they form a family	1.79	.84	1.55	1.02	1.15
I believe that people usually try to control others	2.68	.99	2.57	1.06	0.49
The best way to cope with obligations to other people is to avoid situations that create these obligations	2.71	.98	2.07	1.09	2.74**
I prefer not to become too close to other people	2.47	1.08	2.00	.83	2.21*
In our culture there is too much emphasis on relationships with others	3.08	1.28	2.21	1.02	3.35***
The price of a close relationship is that it keeps you from truly being yourself	2.19	.91	1.55	.63	3.68***

\*p < .05, \*\*p < .01, \*\*\*p < .001.

**References**

- Avnon, Y. (1997). *Level of differentiation, expectations and quality of the relationships of couples before their marriage*. Unpublished master's thesis, Bar Ilan University, Ramat Gan, Israel.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality & Social Psychology*, 61(2), 226–244.
- Blatt, S. J., & Blass, R. B. (1990). Attachment and separateness: A dialectic model of the products and processes of development throughout the life cycle. *The Psychoanalytic Study of the Child*, 45, 107–127.
- Blos, P. (1967). The second individuation process of adolescence. *The Psychoanalytic Study of the Child*, 22, 162–186.
- Bowlby, J. (1969). *Attachment and loss*. (Vol. 1) New York: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.

- Charlson, E., Strong, M., & Gold, R. (1992). How successful deaf teenagers experience and cope with isolation. *American Annals of the Deaf*, 137, 261–270.
- Chovaz McKinnon, C., Moran, G., & Pederson, D. (2004). Attachment representations of deaf adults. *Journal of Deaf Studies and Deaf Education*, 9, 366–386.
- Crown, N. J. (1995). The impact of profound, prelingual deafness and aspects of early communication experience on deaf adults' symbolic functioning. (Doctoral dissertation, Adelphi University). *Dissertation Abstracts International*, 56(5-B), 2859.
- Diehl, M., Elnick, A. B., Bourbeau, L. S., & Labouvie-Veif, G. (1998). Adult attachment styles: Their relations to family context and personality. *Journal of Personality & Social Psychology*, 74(6), 1656–1669.
- Greenberg, M. T., & Kusche, C. A. (1987). Cognitive, personal, and social development of deaf children and adolescents. In M. C. Wang, M. C. Reynolds, & H. J. Walberg (Eds.), *Handbook of special education: Research and practice: Vol.3 Low incidence conditions* (pp. 95–129). New York: Pergamon Press.
- Greenberg, M. T., & Marvin, R. (1979). Attachment patterns in profoundly deaf preschool children. *Merrill-Palmer Quarterly*, 25(4), 265–279.
- Greenslade, C. L. (2001). The influence of parental communication modalities on deaf men's attachment styles and marital satisfaction. (Doctoral dissertation, Biola University). *Dissertation Abstracts International*, 62(3-B), 1576.
- Grotevant, H. D., & Cooper, C. R. (1998). Individuality and connectedness in adolescent development. In E. Skoe, & A. von der Lippe (Eds.), *Personality development in adolescence* (pp. 3–37). London: Routledge.
- Hazan, C., & Shaver, P. (1990). Love and work: An attachment theoretical perspective. *Journal of Personality & Social Psychology*, 59(2), 270–280.
- Hazan, C., & Shaver, P. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5, 1–22.
- Hudson, W. W. (1982). *The clinical measurement package: A field manual*. Homewood, IL: Dorsey Press.
- Josselson, R. (1980). Ego development in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 188–210). New York: John Wiley.
- Kaplan, K. J. (1988). Teaching individuals to live together. *Transactional Analysis Journal*, 18, 220–230.
- Kaplan, K. J. (1990). TILT for couples: Helping couples grow together. *Transactional Analysis Journal*, 20, 229–244.
- Kilpatrick, F. P., & Cantril, H. (1960). Self-anchoring scaling: A measure of individuals' unique reality worlds. *Journal of Individual Psychology*, 16, 158–173.
- Koester, L. S., Papousek, H., & Smith-Gray, S. (2000). Intuitive parenting, communication, and interaction with deaf infants. In P. E. Spencer, C. J. Erting, & M. Marschark (Eds.), *The deaf child in the family and at school* (pp. 55–71). Mahwah, NJ: Lawrence Erlbaum.
- Leatherman-Sommers, S. (2000). Attachment and adjustment to college among students with physical disabilities. (Doctoral dissertation, University of South Carolina). *Dissertation Abstracts International*, 60(7-B), 3750.
- Lederberg, A. R. (1993). The impact of deafness on mother-child and peer relationships. In M. Marschark & M. D. Clark (Eds.), *Psychological perspectives on deafness* (pp. 93–119). Hillsdale, NJ: Lawrence Erlbaum.
- Lederberg, A. R., & Mobley, C. E. (1990). The effect of hearing impairment on the quality of attachment and mother-toddler interaction. *Child Development*, 61, 1596–1604.
- Lederberg, A. R., & Prezbindowski, A. K. (2000). Impact of child deafness on mother-toddler interaction: Strengths and weaknesses. In P. E. Spencer, C. J. Erting, & M. Marschark (Eds.), *The deaf child in the family and at school* (pp. 73–92). Mahwah, NJ: Lawrence Erlbaum.
- Lederberg, A. R., Willis, M. G., & Frankel, K. H. (1991). A longitudinal study of the effects of deafness on the early mother-child relationships. Poster displayed at the biennial meeting of the Society for Research in Child Development. Seattle, WA.
- Madden, N. A., & Slavin, R. E. (1983). Mainstreaming students with mild handicaps: Academic and social outcomes. *Review of Educational Research*, 53(4), 519–569.
- Mahler, M. S. (1963). Thoughts about development and individuation. *The Psychoanalytic Study of the Child*, 18, 307–324.
- Marschark, M. (1993). *Psychological development of deaf children*. New York: Oxford University Press.
- Marshak, L. E., Seligman, M., & Prezan, E. F. (1999). *Disability and the family life cycle*. New York: Basic Books.
- McIntosh, C. N. (2001). Report on the construct validity of the temporal satisfaction with life scale. *Social Indicators Research*, 54, 37–56.
- Meadow, K. P., Greenberg, M. T., & Erting, C. (1983). Attachment behavior of deaf children with deaf parents. *Journal of the American Academy of Child Psychiatry*, 22, 23–28.
- Meadow, K. P., Greenberg, M. T., Erting, C., & Carmichael, H. (1981). Interactions of deaf mothers and deaf preschool children: Comparison with three other groups of deaf and hearing dyads. *American Annals of the Deaf*, 126, 454–468.
- Meadow-Orlans, K. P. (1997). Effects of mother and infant hearing status on interactions at twelve and eighteen months. *Journal of Deaf Studies and Deaf Education*, 2, 27–36.
- Mikulincer, M. (1995). Attachment style and the mental representation of the self. *Journal of Personality & Social Psychology*, 69(6), 1203–1215.
- Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review*, 7(1), 20–40.
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, 27(2), 77–102.
- Montanini-Manfredi, M. (1993). Emotional development of deaf children. In M. Marschark, & D. M. Clark (Eds.), *Psychological perspectives on deafness* (pp. 7–26). Hillsdale, NJ: Lawrence Erlbaum.

- Most, T., Weisel, A., & Lev-Matezky, A. (1997). Speech intelligibility and the evaluation of personal qualities by naive and experienced listeners. *The Volta Review*, 98(4), 181–190.
- Most, T., Weisel, A., & Tur-Kaspa, H. (1999). Contact, speech intelligibility and the evaluation of personal qualities. *The Journal of Special Education*, 33(2), 103–111.
- Parke, R. D., McDonald, K. P., Burks, V. M., Carson, J., Bharnagri, N., & Barth, J. M., et al. (1989). Family and peer systems: In search of linkages. In K. Kreppner, & R. M. Lerner (Eds.), *Family system and life span development* (pp. 65–92). Hillsdale, NJ: Lawrence Erlbaum.
- Pereg, D., & Mikulincer, M. (2004). Attachment style and the regulation of negative affect: Exploring individual differences in mood congruency effects on memory and judgment. *Personality and Social Psychology Bulletin*, 30(1), 67–80.
- Rice, K. G., Cole, D. A., & Lapsley, D. K. (1990). Separation-individuation, family cohesion, and adjustment to college: Measurement validation and test of the theoretical model. *Journal of Counseling Psychology*, 37, 195–202.
- Sabatelli, R. M., & Mazor, A. (1985). Differentiation, individuation, and identity formation: The integration of family system and individual developmental perspectives. *Adolescence*, 20, 619–633.
- Schein, J. D. (1969). *The deaf community: Studies in the social psychology of deafness*. Washington DC: Gallaudet College Press.
- Schein, J. D., & Delk, M. T. (1974). *The deaf population of the United States*. Silver Spring, MD: National Association of the Deaf.
- Schlesinger, H. S., & Meadow, K. P. (1972). *Sound and sign: Childhood deafness and mental health*. Berkeley: University of California Press.
- Sela, I., & Weisel, A. (1992). *The deaf community in Israel*. Tel Aviv: Association of the Deaf in Israel, National Insurance Institute, JDC Israel, Ministry of Labour and Welfare.
- Shulman, S., & Rubinroit, C. I. (1987). The second individuation process in handicapped adolescents. *Journal of Adolescence*, 10, 373–384.
- Shulman, S., & Seiffge-Krenke, I. (1997). *Fathers and adolescents*. London: Routledge.
- Sinkkonen, J. (1994). Hearing-impairment, communication and personality development. Unpublished doctoral dissertation. University of Helsinki, Helsinki, Finland.
- Steinberg, L. D. (1981). Transformations in family relations at puberty. *Developmental Psychology*, 17(6), 833–840.
- Weisel, A. (1998). Identity development and deaf education. In A. Weisel (Ed.), *Insights into deaf education: Current theory and practice* (pp. 11–25). Tel Aviv: Academic Press of the School of Education, Tel Aviv University.
- Wender-Schwartz, M. (2000). An examination of the success of on-line group counseling. Unpublished master's thesis, Haifa University, Haifa, Israel.

Received June 8, 2004; revisions received July 26, 2004; accepted July 30, 2004.