

# Parental Satisfaction, Service Quality and Outcomes<sup>1</sup>

*Alys Young, Maria Gascon-Ramos, Malcolm Campbell  
and John Bamford*

## Introduction

It is well recognized that early identification of hearing loss through universal newborn hearing screening is not enough to ensure enhanced developmental outcomes for deaf and hard of hearing children. It is early identification in consort with quality early intervention that together release the potential for optimal outcomes for deaf and hard of hearing children and their families (Yoshinaga-Itano 2003) – hence the EHDI movement (early hearing detection *and* intervention). One without the other is not enough. Furthermore, ‘intervention’ is not just confined to audiological and linguistic concerns. At its best it encompasses the psychological well-being of parents and families, is responsive to the social contexts in which children are raised and is sensitive to cultural diversity and individual preference (Young 2010; Young et al. 2006).

This breadth and complexity of early intervention can raise difficult questions about quality and outcomes. While at a population level one might be confident that hearing screening is meeting its quality markers for early detection and the start of intervention (e.g., JCIH 2007), why is it that some children and families are getting on better than others? To suggest that every child and every family is ‘different’ is not really a good enough answer. The more pertinent context level question – what works for which families in which circumstances? – is the one that practitioners and interventionists contend with on a daily basis. It is also one that increasingly interests researchers in their quest to define what counts as quality in quality early intervention.

Part of that interest in a more context-driven understanding of quality and outcome arises from an understanding that objective markers of an EHDI program’s quality, such as those set by standards of delivery, do not adequately measure quality. Subjective features of appraisal are also vital. The extent to which and the reasons why one family might value, regard as relevant, identify as important and positively respond to an intervention practice will not be the same as those of another family. Parental and family values, beliefs, culture, expectations and previous life experiences, as well as current features of social ecology, will also influence what is determined as effective in intervention and valued in relationships with service providers (Aytch, Cryer, Bailey and Selz 1999; King, Rosenbaum and King 1996). As King and colleagues (1996) remark: “Parental perspectives mediate between provision of care and the outcomes of that care” (p.758).

This point is important because in any intervention it is not just the input that is important but the uptake. For example, a well-delivered explanation of how to encourage routines of eye contact with an infant is of little use unless it leads to confident play between parent and in-

---

<sup>1</sup> Much of the content of this chapter first appeared in Young, A.M., Gascon-Ramos, M., Campbell, M. Bamford, J. 2009. The design and validation of a parent-report questionnaire for assessing the characteristics and quality of early intervention over time. *The Journal of Deaf Studies and Deaf Education* 14: 422-435; and Gascon-Ramos, M., Campbell, M., Bamford, J., Young, A.M. 2010. Influences on parental evaluation of the content of early intervention following early identification of deafness: A study about parents’ preferences and satisfaction. *Child: Care, Health and Development* 36 (6): 868-877. We are grateful to the journals concerned for permission to reproduce it. This work was supported by a grant from the UK Big Lottery Fund.

---

**Address correspondence to:** Alys Young, Ph.D., Professor, School of Nursing, Midwifery and Social Work, University of Manchester, Jean McFarlane Building, Oxford Rd., Manchester, M13 9PL., UK, Email: alys.young@manchester.ac.uk.

fant. Understanding and responding to those mediating factors in parental appraisals of and engagement with intervention is a significant part of the art, rather than the science, of effective intervention for optimal outcomes. It is also particularly difficult to measure in such a way as to enable its valid consideration in research that seeks to evaluate the process and outcomes of EHDI programs (Young, Gascon-Ramos, Campbell and Bamford 2009).

One of the difficulties of attempting to incorporate subjective elements of appraisal within measurements of quality concerns the inherent unreliability of personal judgments of satisfaction. Asking anyone if they are satisfied about any topic will elicit answers that are constrained by an individual's level of knowledge, personal experience and general disposition. If we have little knowledge of a topic, we have no yardstick by which to form relative judgments; if we have little experience we have no context for how big our expectations should be; if we are by nature an optimistic person we may be disposed to be unrealistically positive about something another might reasonably regard as poor.

As part of a prospective longitudinal study of outcomes for early-identified deaf and hard of hearing children and their families in the UK (Bamford et al. 2009) we set out to design a parent-report measure of the quality of early intervention that would not just incorporate but exploit some of the problems of subjective approaches to defining quality. We hoped that it would facilitate a detailed understanding of influences on parental uptake of various elements of intervention as a key component in explaining child outcomes. We also wanted to deliver it in such a way as to ensure that issues of personal disposition were taken into consideration in interpreting the results. In what follows we describe the design and psychometric properties of the questionnaire and present some results relevant to satisfaction with intervention. For fuller descriptions of design and reporting of results see Young et al. (2009) and Gascon-Ramos, Campbell, Bamford and Young (2010).

## **Questionnaire Design and Underpinning Rationale**

The questionnaire was designed to be completed by parents from their perspective and used as a repeat measure (every six months) so that comparisons could be made as parental knowledge and experience increased and different aspects of a child's developmental strengths and needs became apparent. It is termed the MVOS (My Views On Services) and consists of four sec-

tions: (1) a description of the structure of professional services evaluated according to timeliness and availability; (2) the content of intervention evaluated according to quantity, importance and satisfaction; (3) the process of the intervention evaluated according to the extent of professionals' performance and importance; (4) the overall impact of the intervention. All elements of the questionnaire including its visual design and ease of use were piloted by means of a focus group (nine hearing parent participants) and through five individual interviews with deaf parents of deaf and hard of hearing children.

### **Section 1: A Description of the Structure of Services Evaluated according to Timeliness and Availability**

In Section 1, parents are asked to confirm which professionals have been involved with them in the past six months from a list of 17 possible individuals and the average contact hours per month. They are also able to add other professionals to the list. Additionally parents are asked to indicate, via tick boxes, whether particular services were offered to them, if they refused them, if they wanted contact with them at the present time and the extent to which any given service was difficult to access. This latter category was added following the pilot phase as parents were of the view that timeliness and availability were to some extent mediated by effort required on families' part to obtain some kinds of provision.

The combination in Section 1 of actual description with evaluations of *timeliness and availability* were designed to ensure that parents' self-perceived needs and preferences can be judged alongside basic information about the quantity and extent of service provision. It also enables, through repeat measures, the capturing of changing (or stable) descriptions of actual service provision alongside changing (or stable) attitudes to the appropriateness of those elements of professional involvement as children develop and family experience changes.

### **Section 2: The Content of Intervention Evaluated according to Quantity, Importance and Satisfaction**

Section 2 consists of 22 items relating to the *content* of the actual intervention, where content items refer to the delivery of all elements of intervention as a whole, rather than to what individual professionals might do. Content items were generated from a comprehensive review of relevant literature concerning professional intervention

---

with deaf and hard of hearing children and their families as well as early intervention more broadly with families with disabled children. From this review, 177 statements were generated. As our aim was both to develop a brief questionnaire and not to investigate particular methodological approaches to intervention with deaf and hard of hearing children, statements that were too specific (e.g., information about sign language; information about cochlear implants) were dropped from the pool. A remaining 121 relevant items were carried forward. These were then grouped independently by two members of the research team and the groupings were compared. Both research team members were, in addition to their academic credentials, also qualified practitioners who had worked with families with deaf and hard of hearing children. From the final groupings of similar category items, a statement was generated that could stand for each relevant category of intervention content, for example, “knowledge about how to play with and enjoy my deaf child”; “comprehensive assessments, e.g., language, development, hearing.” These item statements were then further reviewed by members of the wider research team and the parents who participated in the pilot for comments on clarity of expression and salience.

In terms of the scale for this part of the questionnaire, parents are invited to rate each content of intervention item according three dimensions: importance, quantity and satisfaction. These dimensions were chosen in order to capture subtle distinctions parents might make, which would be important to track over time. For example, although a parent might report a large amount of a particular element of intervention, it may not be regarded as important, although that judgment may change as the child develops and new parent needs become apparent. Similarly, degree of satisfaction may have nothing to do with quantity of delivery, or for some parents it might. Not all elements of an intervention might be regarded as being of equal importance; however, parents may record high satisfaction regardless. Over time and with greater knowledge, some parents might become more discerning about their satisfaction ratings. Capturing such distinctions in an accessible way is an important step toward a more differentiated understanding of quality effects from parents’ perspective that could be linked to their child and family circumstances and ultimately to data on their child’s outcomes.

Therefore, for each content of intervention statement, participants rate: the importance that each specific content had for them on a 4-point scale; whether the amount provided had been adequate on a 4-point scale;

and their satisfaction with each particular content of intervention on a 5-point scale. A final appraisal of satisfaction with the overall content of intervention is collected on a 5-point scale at the end of the 22 statements.

### Section 3: The Process of Intervention

Section 3 addresses how intervention was provided by professionals, rather than what (the content) had been provided. Items associated with the process of intervention were based on the concept of Family Centered Practice (FCP), which has become so prevalent in relation to working with parents of early identified deaf and hard of hearing children and their families (Law et al. 2005). Standardized instruments do exist already that are aimed at capturing parents’ perceptions of the family centeredness of professional practice, for example, the extent to which professionals work collaboratively to empower parents and the extent to which services are respectful of family priorities. The most commonly used of these is the MPOC (Measure of Process of Care; King, Rosenbaum, and King 1996, 1997). However, we chose not to use or modify this instrument for three reasons.

First, the MPOC includes items that we regarded as more appropriate to the content of intervention section in how we had structured the MVOS. Second, we were concerned that there were specific dimensions of early intervention with deaf babies and their families that would not be captured by simply transposing the MPOC. Third, the MPOC enables parents to rate the extent to which professionals or services are displaying certain desired behaviors and processes, but not how relevant or significant these may be to the parents at the time. We were concerned with both dimensions: the extent of professionals’ performance and importance. Within a longitudinal framework, observing how the relationship between these dimensions on any given set of items changed over time would be an essential element of understanding how particular elements of intervention are effective given changing child and family circumstances.

Thus, Section 3 on the process of intervention is an 18-item scale consisting of professional behaviors known to be associated with promoting Family Centered Practice in the context of deaf and hard of hearing children and their families. These items were generated, and their content validity strengthened, following the same procedure as that previously described in relation to Section 2. Ratings consist of a 7-point scale to describe the extent to which professionals had engaged in the particular family centered

practice item and additionally a 4-point scale to enable participants to rate the importance to them of such a practice.

#### Section 4: The Overall Impact of the Intervention

Section 4 consists of six questions concerning the overall impact of intervention on a 5-point scale and the perceived direction of that impact (e.g., is that difference positive?). Just because a parent perceives there to be a big impact does not mean they would regard that impact as necessarily helpful. The question also invites separate responses in relation to the impact on the child, parent and family as a whole. We made these distinctions in recognition of the fact that parents have reported, with hindsight, the effect of the new experiences (including intervention) associated with having a deaf child (e.g., DesGeorges 2003; Young 2002). It is also well-recognized that families as a system undergo growth and change in response to admitting and/or resisting the potential changes that the deaf child experience brings, including involvement with professional services (Gregory, Bishop and Sheldon 1995; Young and Grealley 2003). Therefore, in inviting assessments of impact, we also wanted to invite parents to consider similar or different degrees of impact for their child, themselves and their family as a whole. In this way we would also be able to see if the balance between perceived impact across those three domains might change at different points over time. Finally, an open-ended question invites parents to comment on anything else.

#### Additional Measures

A key criticism of evaluative questionnaires requiring participants to make a subjective evaluation based on experience is that responses are heavily influenced by the personal disposition of the rater. For example, participants with a more positive outlook on life may give higher ratings of impact and more positive evaluations of effect. In order to investigate and control for bias deriving from personal disposition, parents were also asked in the study to complete a short form of the standardized instrument: Trait Emotional Intelligence Questionnaire (TEIQue; Petrides and Furnham 2001). In the version given to parents to complete, it was termed “My approach to life.” The TEIQue is a 30-item questionnaire rated on a 7-point scale of agreement. Petrides (2006) reported good internal consistency in its four subscales – emotionality (Cronbach’s  $\alpha=0.78$ ), self-con-

trol ( $\alpha=0.79$ ), well-being ( $\alpha=0.83$ ), sociability ( $\alpha=0.81$ ) and global trait emotional intelligence ( $\alpha=0.90$ ). Parents completed the TEIQue on an individual basis on one occasion only – at entry to the study. The completion of this additional standardized questionnaire would enable us to test out the extent to which subjective ratings of quality of intervention were closely allied with specific parental personality traits known to mediate individuals’ interpretations and life experience. Participating parents also completed a short demographic questionnaire referred to as “Your family.”

#### Sample

The sample used for purposes of validation of the MVOS was drawn from the wider Positive Support study (Bamford et al. 2009). Following appropriate processes of ethical approval, parents were recruited via professionals passing on information and an invitation to participate; through parental self-selection to participate in response to advertising; and via information being distributed to those on the national (England) newborn hearing screening program database. A total of 105 parents of eligible children consented to be involved in the study: 82 provided initial data, of whom 52 provided follow-up data 6 months later, and of these, 23 also provided follow-up data at twelve months after study entry. The decreasing number of returns did not primarily result from study attrition. Not all parents who completed MVOS at entry into the study were able to complete it at subsequent time points because of when they entered the study and when the data collection window closed. (The wider study was funded for three years only, with data collection running over a period of 20 months).

Of the 82 infants whose parents provided initial data, 32 (39%) had a moderate hearing loss; 17 (21%) had a severe hearing loss, and 32 (39%) had a profound hearing loss. In one case, degree of deafness was reported as mild resulting from Auditory Neuropathy Spectrum Disorder. Twenty-six children (32%) spent more than 48 hours on a Neonatal Intensive Care Unit (NICU). Twenty-three children (28%) were reported by parents to have disabilities; of these, 15 (65%) had spent more than 48 hours on NICU.

The average age of the children when parents first completed the MVOS was 11.7 months (SD 6.3 months, range 0.6 – 27 months). Seventy-two of the 82 children were in two parent families. Seventy-five mothers (92%) and 61 fathers (85%) described themselves as White British with a further eight parents from ‘White other’ backgrounds. A further five parents were from Asian-

---

British backgrounds and two parents were Chinese. All parents were able to complete the questionnaire in English. Eight parents reported having a personal experience of disability. In addition, five reported having a hearing loss, one family of which were BSL (British Sign Language) users but who opted to complete the questionnaire in English even though there was a version available in BSL. Socioeconomic status was skewed to the higher end with 43% of families earning over £35,000 per year (above the national average income).

**Validity and Properties of the MVOS**

**Section 1: A Description of the Structure of Services Evaluated according to Timeliness and Availability**

Results demonstrate that the face and content validity of this section of the questionnaire was adequate. The format was flexible enough to enable amendment of the

professional list. The multiple questions about each professional service did not prove off-putting. The data generated were also confirmed as amenable to the application of statistical tests, such as one-way analysis of variance and linear regressions to investigate relationships, such as the numbers of professionals involved and hours of intervention for different age groups of children.

**Section 2: (The Content of Intervention) Structure Analysis**

The sample size obtained was not large enough for meaningful factor analysis. Exploratory cluster analysis of variables was carried out using parents’ (n=73) ratings of importance for the 22 statements in this section of the questionnaire, in order to identify components of early intervention for parents with deaf infants. Different methods – hierarchical cluster analysis with Ward’s linkage and between-group linkage and two-step cluster analysis – were used to find consistent results. Internal

Cluster 1: “Supporting a deaf child” (SDC)	Cluster 2: “Supporting parents” (SP)
<ol style="list-style-type: none"> <li>1 Information about how to communicate with my deaf child</li> <li>2 Help to encourage my child’s communication skills</li> <li>3 Comprehensive assessments (e.g., language, development, hearing)</li> <li>4 Knowledge about how to play with and enjoy my deaf child</li> <li>5 Knowledge about how deaf children grow up</li> <li>6 Confidence building in parenting a deaf child</li> <li>7 Information about deaf children’s needs and potential</li> <li>8 Information about deafness</li> <li>9 Co-ordination of all the services, and professionals involved with my child and family</li> <li>10 Information about available services</li> </ol>	<ol style="list-style-type: none"> <li>1 Help to understand how professional support systems work</li> <li>2 Advocacy, e.g., professionals help me to make my needs known and to fight for things if necessary</li> <li>3 Referrals to other professionals and services</li> <li>4 Contact with other parents of deaf children</li> <li>5 Contact with deaf people</li> <li>6 Assistance to claim welfare benefits</li> <li>7 Emotional support for me and my family (partner, siblings)</li> <li>8 Support for my whole family, not just me and my deaf child</li> <li>9 Support to make decisions about my deaf child and my family</li> <li>10 Support to help others understand my child’s deafness</li> <li>11 Full consideration of my whole family’s strengths and needs</li> <li>12 Respite care, e.g., support for childcare to enable caregivers to take a break</li> </ol>

**Table 1.** Content of intervention subscale clusters.

consistency of identified subscales was estimated using Cronbach's alpha. Inter-scale/judge reliability was estimated using Pearson's correlation. Test-retest reliability was estimated using Spearman's correlation and Pearson's correlation.

Two main clusters were identified underlying the structure of the 22 items. We term the first Cluster 1: "Supporting a deaf child" (SDC), which includes items relating to specific support associated with parenting a deaf child. Items were linked to what might be different or new for a parent because of the child's deafness. Cluster 2, which we term "Supporting parents" (SP), covers items pertaining to less deaf-specific support and relates more to supporting parents as individuals, or supporting the family more generally (See Table 1).

Both subscales demonstrated adequate internal consistency (Cronbach's  $\alpha = 0.88$  and  $0.86$ , respectively) as did the global scale (Cronbach's  $\alpha = 0.91$ ). Correlation between the subscales was also high ( $r = 0.75$ ). Test-retest correlations after six months for the subscales and global scale were high and statistically significant after six months ( $\rho = 0.88$ ,  $r = 0.68$ ,  $r = 0.74$ ), and twelve months ( $\rho = 0.60$ ;  $r = 0.82$ ;  $r = 0.90$ ), thus demonstrating the stability of the scale over time.

Regarding the data collected on satisfaction with content of intervention, the reliability of the data on both subscales was very high (Cronbach's  $\alpha = 0.91$  and  $0.89$ , respectively) as was the global scale (Cronbach's  $\alpha = 0.94$ ). The stability of the scores over time was good with test-retest correlations on both subscales after 6 months ( $r = 0.68$ ,  $r = 0.64$ ) and 12 months ( $r = 0.69$ ,  $r = 0.56$ ).

### Section 3 (Process of Intervention) Structure Analysis

Tests on the internal structure of the questionnaire items in this section revealed no apparent subscales within the 18 statements. The scale demonstrated high internal consistency (Cronbach's  $\alpha = 0.93$ ) with all 18 statements necessary to achieve such a high level. Reliability did not improve with the deletion of any statements suggesting a high construct validity for the scale. Test-retest correlations after six months were high and statistically significant ( $r = 0.64$ ), and also after twelve months ( $r = 0.82$ ).

### Section 4 (Impact)

Parents had no difficulties in completing this section three times in relation to their child, themselves and

their family as a whole. Ninety-three percent of parents did so in its entirety, demonstrating good face validity.

### Completion of the TEIQue

No significant difficulties were encountered by parents in the completion of the TEIQue. Of the 82 returns, 79 (96%) contained a completed TEIQue also. The acceptability to parents of completing a standardized psychological test alongside an instrument specific to their child and family circumstances was thus confirmed.

### Some Results Concerning Perceived Importance and Satisfaction with the Content of Intervention

Based on returns from the same sample described previously, we investigated parents' perceived importance and satisfaction with the content of intervention (Section 2 of the MVOS).

### Parents' Perceived Importance of the Content of Early Intervention

Unsurprisingly, parents' responses demonstrated that all content of intervention was regarded as highly important. However, statistically significant differences did exist between importance attributed to content that equips them to support their deaf child (in relation to aspects of development and parenting that are different because the child is deaf) and content of intervention that addresses their personal support. Parents consistently reported higher scores on the Supporting a Deaf Child subscale (mean 3.5, SD 0.5) than they did on the Supporting Parents subscale (mean 2.9, SD 0.5) (paired  $t = 12.03$ , d.f. = 1;  $p < 0.001$ ), with a high positive correlation between subscales ( $r = 0.75$ ).

Content items relating to the SDC subscale remained seen by most parents as highly important regardless of length of involvement in early intervention. Parents' ratings on the SDC subscale, across the three time points, showed moderate to high positive statistically significant correlations. Differences on parents' ratings of importance on the SDC subscale were not statistically different when comparisons were made between measures at entry and measures taken six months later ( $t = 1.98$ , d.f. = 47;  $p = 0.054$ ); and measures at entry and measures taken twelve months later ( $t = 1.98$ , d.f. = 20;  $p = 0.062$ ).

Also, looking at differences in parents' ratings of importance on the SP subscale at entry, six months and

twelve months, parents' scores correlated at least moderately. No significant differences could be identified between scores on the SP subscale when comparing measures at entry and measures six months later ( $t = 0.39$ ,  $d.f. = 46$ ;  $p = 0.707$ ); or comparing measures at entry and measures twelve months later ( $t = 1.32$ ,  $d.f. = 17$ ;  $p = 0.204$ ). Therefore, while parents' views of the importance of the content of intervention associated with SP did not change over time, it is also true to say that the lesser degree of importance ascribed to the contents of this subscale, in comparison with the SDC subscale, persisted over time.

Analyses were carried out to test if significant differences observed between importance ratings at entry and six months later were influenced by other variables such as age, type or degree of hearing loss, amplification or disability. Both multiple regressions showed no statistically significant association between child age, hearing loss, cochlear implant and disability, and the parents' scores on the subscales at six months. Only parents' importance ratings at entry showed a significant relationship with parents' ratings on the subscale at six months. This was true for both subscales. Thus, appraisals of the importance of content of intervention were the best predictor of appraisals six months later, over and above any differences associated with child characteristics.

The potential effect of mothers' educational background on their appraisals of the importance of the content of early intervention was investigated. There was a non-statistically significant difference on the SDC subscale (Kruskal-Wallis  $X^2 = 2.68$ ,  $d.f. = 3$ ;  $p = 0.443$ ). However, when exploring the SP subscale in relation to mothers' educational qualifications, statistically significant differences were observed ( $F = 4.23$ ,  $d.f. = 3$  and  $68$ ;  $p = 0.008$ ) – mothers with higher educational qualifications scored significantly lower than others with fewer qualifications. Scores on the global scale of content of intervention revealed, as well, differences in ratings of importance of contents depending on mothers' educational qualifications ( $F = 3.41$ ,  $d.f. = 3$  and  $66$ ;  $p = 0.023$ ).

One possible explanation for this result might be that mothers with fewer educational qualifications were more likely to be in poorer socio-economic circumstances and subject to a range of multiple stressors; therefore intervention associated with personal support was more valued. However, without further investigation of both sources of social/personal support, as well as socio-economic circumstances for all respondents, regardless of educational qualifications, such a conclusion would need to be regarded with some caution.

There were no significant correlations between parents' ratings of importance of content on the SDC, SP or Global scales and their scores on the TEIQue subscales of well-being, self-control, emotionality and sociability or the global TEIQue scale. In other words, specialist content is equally regarded, no matter the diversity of parents and range of personal disposition.

## Parental Satisfaction with the Content of Intervention

Parental satisfaction with content of intervention to some extent mirrored that of attributed importance, in that statistically significant higher satisfaction ratings were associated with content of intervention linked to supporting a deaf child, in comparison with that supporting parents. Parents' satisfaction scores on the SDC subscale were higher (mean 3.4, SD 0.9) than on the SP subscale (mean 3.1, SD 0.8). Furthermore, these differences between subscale ratings by parents were statistically significant ( $t = 3.24$ ,  $d.f. = 55$ ;  $p = 0.002$ ).

However, while parental satisfaction with content associated with supporting a deaf child did not register any statistically significant change over time, satisfaction with content associated with supporting parents did increase with length of involvement in intervention. Statistically significant differences were found when comparing satisfaction scores on the SP subscale at entry and twelve months later ( $t = -3.44$ ,  $d.f. = 14$ ;  $p = 0.004$ ). Parents' as a group had a mean score of 3.14 (SD=0.89) at entry into the study. Twelve months later parents' mean score had increased to 3.5 (SD = 0.78). However, no differences were observed on average satisfaction of parents according to this subscale between entry and six months in the study.

Unlike appraisals of the importance of content of intervention, appraisals of satisfaction with the content of intervention were affected by disposition. While no relation was observed with the global score on trait emotional intelligence, when reviewing correlation with its components (sociability, self-control, well-being, and emotionality) a relationship between well-being and satisfaction was found. Mothers' well-being correlated with satisfaction scores on both subscales (Satisfaction SDC and Satisfaction SP), as well as with global satisfaction scores. While correlations were statistically significant, these were however small ( $r=0.22$ ;  $r=0.23$ ;  $r=0.25$  respectively). All the other traits were not related. In turn, the effects of mothers' well-being on parents' satisfaction scores on the scales (Satisfaction SDC; Satisfaction SP;

Satisfaction Global) were tested. Analysis revealed that in all instances mothers' well-being showed a statistically significant association with parents' satisfaction with the content of early intervention.

The result is potentially important for early intervention practitioners in providing some guidance as to the importance of addressing this aspect of mothers' needs in seeking to boost the effectiveness of intervention, if we assume that satisfaction has an important role to play in the readiness of families to engage with and use intervention.

## Discussion

Emphasis is shifting from seeking to document the outcomes for early identified children and families per se, to seeking to understand what it is that might account for differential outcomes among early-identified deaf and hard of hearing children and their families (Eisenberg et al. 2007). Treating child and family variables as mediators of outcome is not enough in investigating the impact of early identification of deafness. Rather, seeking to understand how child and family variables mediate the very nature of the intervention is crucial. How it is received, the meaning attributed to it, the trust put in it, the motivation it provokes and the extent of perceived fit with families' values will all influence the uptake and impact of intervention.

The MVOS was designed as a first step in capturing some of these complex variables within a context of seeking to measure the quality of early intervention from families' perspectives. As such it was designed as a research tool. However, its potential use by practitioners, including parent-to-parent support workers, became immediately apparent. We have, therefore, made the questionnaire freely available for others to use and adapt, subject to registering their interest on-line and providing some feedback on its use<sup>2</sup>. For example, it is currently being translated into Spanish for use in North America, is being evaluated in the UK as a shared review tool between keyworkers and parents of deaf and hard of hearing children, and parts of it have been adapted into shortened forms and tailored to specific service providers/professionals' input.

Each use and adaptation enables us to learn more about the complex interactions that help define and promote quality early intervention with and for families

with deaf and hard of hearing children. In research studies it is often too easy simply to 'control' for the quality of early intervention in order to factor out variations that might confound results or factor in variations to be measured. However, quality and satisfaction have a particularly complicated relationship with outcomes because parents and families are complex and subjective responses interact with objectively verifiable features in myriad ways. In designing the MVOS we tried to take the messiness of these kinds of relationships as the starting point for what we were seeking to achieve, rather than seeking to find ways to minimize or make irrelevant their influence.

## Conclusion

Universal newborn hearing screening has prompted a revolution in intensive early intervention, opening the gateway to significantly enhanced outcomes for deaf and hard of hearing children. In so doing, new questions arise concerning what makes for a good outcome for parents in their interactions with early intervention services and how can we gain a more sophisticated understanding of what works for which families in which circumstances. These are questions for both research and practice, and we need new tools to assist our evaluations of parental satisfaction, service quality and outcomes and the relationships between these.

## References

- Aytch, L.S., Cryer, D., Bailey, D.B., and Selz, L. 1999. Defining and assessing quality in early intervention programs for infants and toddlers with disability and their families: Challenges and unresolved issues. *Early Education and Development* 10: 8–23.
- Bamford, J., Carr, G., Davis, A, Gascon-Ramos, M., Lea, R., McCracken, W., Pattison, E., Pickles, A., Woll, B., Woolfe, T., and Young, A.M. 2009. *Positive support in the lives of deaf children and their families*. Final Report to the Big Lottery Foundation.
- DesGeorges, J. 2003. Family perceptions of early hearing, detection and intervention systems: Listening to and learning from families. *Mental Retardation Developmental Disability Research Review* 9 (2): 89–93.
- Eisenberg, L. Widen, J.E., Yoshinaga-Itano, C., Norton, S. Thal, D., Niparko, J.K., and Vohr, B. 2007. Current state of knowledge: Implications for developmental research – Key issues. *Ear and Hearing* 28: 773–777

<sup>2</sup> <http://www.nursing.manchester.ac.uk/research/researchgroups/socialcareandpopulationhealth/sord/methods/>



- Gascon-Ramos, M., Campbell, M., Bamford, J., and Young, A.M. 2010. Influences on parental evaluation of the content of early intervention following early identification of deafness: A study about parents' preferences and satisfaction. *Child: Care, Health and Development* 36 (6): 868–877.
- Gregory, S., Bishop, J., and Sheldon, L. 1995. *Deaf young people and their families*. Cambridge: Cambridge University Press.
- Joint Committee on Infant Hearing (JCIH) 2007. *Year 2007 position statement: Principles and guidelines for early hearing detection and intervention*. Available from <http://www.asha.org/policy>
- King, A.M., Rosenbaum, P.L., and King, G. 1996. Parents' perceptions of caregiving: Development and validation of a measure of processes. *Developmental Medicine and Child Neurology* 38: 757–772.
- King, G.A., Rosenbaum, P.L., and King, S.M. 1997. Evaluating family-centred service using a measure of parents' perceptions. *Child: Care, Health and Development* 23: 47–62.
- Law, M., Teplicky, R., King, S., King, G., Kertoy, M., Moring, T., Rosenbaum, P., and Burke-Gaffney, J. 2005. Family-centred service: moving ideas into practice. *Child: Care, Health and Development* 31: 633–642.
- Petrides, K. V. 2006. Internal Consistency Data for the TEIQue and TEIQue-SF (v. 1.50). Retrieved January 14, 2010 from. <http://www.psychometriclab.com/default.aspx?Content=Page&id=18>
- Petrides, K. V., and Furnham, A. 2001. Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality* 15: 425–448.
- Yoshinaga-Itano, C. 2003. From screening to early identification and intervention: Discovering predictors to successful outcomes for children with significant hearing loss. *Journal of Deaf Studies and Deaf Education* 8: 11–30.
- Young, A.M. 2002. Parents of deaf children – factors affecting communication choice in the first year of life. *Deafness and Education International* 4 (1): 1–12.
- Young, A.M. 2010. The impact of early identification of deafness on hearing parents. In M. Marchark, and P. Spencer (eds.), *Oxford handbook in deaf studies, language and education Vol. 2*. New York: Oxford University Press.
- Young, A.M., and Grealley, A. 2003. *Parenting and deaf Children: Report of the needs assessment study undertaken as part one of the NDCS parents' toolkit development project*. London: NDCS
- Young, A.M., Carr, G., Hunt, R., McCracken, W., Skipp, A., Tattersall, H. (2006). Informed choice and deaf children – Underpinning concepts and enduring concerns. *Journal of Deaf Studies and Deaf Education* 11: 322–336.
- Young, A.M., Gascon-Ramos, M., Campbell, M., and Bamford, J. 2009. The design and validation of a parent-report questionnaire for assessing the characteristics and quality of early intervention over time. *The Journal of Deaf Studies and Deaf Education* 14: 422–435. Free full text access: <http://jdsde.oxfordjournals.org/cgi/content/full/14/4/422>

