

The Personal Networks and Social Supports of Blind and Visually Impaired Adolescents

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Abstract: This article describes a study of the personal networks and social supports of 316 blind and visually impaired adolescents, aged 14–23, in The Netherlands. The study found that the mean size of these adolescents' personal networks was 15 persons, compared to 15–20 for sighted adolescents. The oldest adolescents had the largest networks, and the blind adolescents had the smallest. The female and oldest adolescents had more friends, whom they considered important sources of support. However, for all the adolescents, parents were the most important source of support.

It has been well established in the social science literature that social support enhances physical and psychological well-being and buffers the negative effects of life stress (Cauce, Mason, Gonzales, Hiraga, & Liu, 1994; Meeus, 1994; Robinson, 1995). Two reasons have been given for the boom in research on social support in general (Nestmann & Hurrelmann, 1994, p. 2): 1) the discovery and confirmation of the potential of social resources to protect health and prevent disease and 2) new perspectives on prevention that concentrate on social relations that buffer stress and maintain health.

Social support from social networks can buffer stress and improve coping in all stages of life through different forms of helping behavior: emotional, informational, practical, and appraisal. In addition, support is protective and improves well-being through the psychological effects of the mere presence of others, which prevents isolation; of being a valued part of a net-

work; of receiving signs of love and understanding; and of being sure of receiving help when needed. These effects foster not only self-esteem and self-assurance, but feelings of security and control over oneself and the environment (Heller, Swindle, & Dusenbury, 1986). Research is only now beginning to address whether supportive relationships with parents, friends, teachers, grandparents, and important others affect the social and emotional development of children and adolescents (Cauce et al., 1994).

Research on networks usually distinguishes between structural and functional variables. Important structural variables in theory and research are the size and composition of the personal network (the ego-centered network of significant persons of one individual). An important functional network variable is social support, both emotional and practical. A distinction is also made between perceived and received social support. Perceived social support is an individual's subjective assessment of his or her social support, based on the interpretation of supportive transactions and the

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personal meanings the person attaches to them. Received social support is the actual amount of support obtained from specific persons in a specific period, such as the amount of parental support in the past six months. Measures of perceived support are more potent predictors of adjustment than are measures of received support or the size of networks (Cauce et al., 1994).

Cauce and Srebnik (1990) found that three systems of providers of support can be readily identified. Two of these systems, the family and friend system, consist of informal providers of support. The third is a formal system that is made up largely of school personnel or professionals. Various studies have suggested that these distinctions among providers of support have implications for how support may relate to adjustment.

Because of the transition to independence and finding one's own identity, adolescence is an interesting period for research on personal networks and social support. A panel study of the personal networks and social support of sighted adolescents in The Netherlands (Meeus, Raaijmakers, & Vollebergh, 1991) indicated that the importance of parental social support recedes during adolescence. Before age 16, social support from parents was more important for the solution of problems regarding leisure time, school, and relationships than social support from peers; from ages 16 to 18, the importance of peer influence was equal to that of parents (Meeus, 1994). An earlier study of the situation of blind and visually impaired adults in The Netherlands, (Habekothé & Peters, 1993) identified the following problems in daily functioning: lack of acceptance of the impairment, dependence, difficulty with mobility, and paucity of social contacts.

However, the specific problems under these general categories still need to be investigated.

Weiner's (1991) study of the social support networks of 55 blind and visually impaired young adults found that the mean size of the personal networks was 10 persons. A large network was best predicted by the variables having a job, having a high level of mastery (locus of control), being blind, and being female. Of the 55 subjects, only 7 percent had fewer than five friends. The most important sources of social support were family members and friends, and the subjects were found to be highly dependent on family members for social support. No significant effects of degree of visual impairment or age on social support were found.

Professionals and parents are sometimes concerned about the psychosocial development of blind and visually impaired children and adolescents. How do blind and visually impaired adolescents develop psychosocially, and what is the influence of social contacts and social support from specific network members? To answer this question, it is necessary to study the structure of personal networks and the social support given to blind and visually impaired adolescents.

Research questions

Does blindness or visual impairment influence the personal networks and social support of adolescents? For the study described here, this question was divided into three parts:

1. What is the size of the personal networks of blind and visually impaired adolescents? Are there any effects of

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- gender, age, and degree of visual impairment on the size of the network?
2. What is the composition of the network of visually impaired adolescents? Are there any effects of gender, age, and degree of visual impairment on the composition of the network?
 3. Who are the most important sources of different kinds of social support—parents or friends? Are there any effects of gender, age, and degree of visual impairment on the sources of support?

Method

RESPONDENTS

In 1994, the author, with cooperation from the Dutch Federation of Organizations of Parents of Visually Handicapped Children, conducted a study of the personal networks and sources of social support of blind and visually impaired adolescents, aged 14–23, with no other serious impairments such as hearing or cognitive impairments. The participants lived either with their parents, in residential centers, or on their own; and they attended classes in regular schools or in special schools for visually impaired students. Through the cooperation of special schools and rehabilitation centers, more than 950 blind or visually impaired adolescents (the population of blind and visually impaired adolescents in The Netherlands) received a large-print or braille letter containing information about the study and were asked to return answer cards. A total of 354 adolescents (37%) returned the cards, but 38 were dropped from the sample because of language problems or the time pressure of school examinations.

Of the final sample of 316 participants, 166 were male and 150 were female. With regard to age, 144 participants were aged 14–17, 98 were aged 18–20, and 74 were aged 21–23. The participants were also categorized according to the degree of their visual impairments, based on self-reports of their ability to perform certain activities; 35 were blind, 81 had severe visual impairments, and 200 had moderate visual impairments.

PROCEDURE

The data were collected in face-to-face interviews using computer-assisted personal interviewing (CAPI). In CAPI, an interviewer visits a participant with a portable computer and conducts a face-to-face interview using the computer. The Ci3 program (Hutchinson & Metegrano, 1991) was used to construct the computer questionnaire. Computer-assisted data collection methods improve the quality of survey data, especially when complex questionnaires are used, and are accepted by participants and interviewers (De Leeuw, Hox, & Snijders, 1995).

Sixteen interviewers, all female college students with majors in special education at the University of Amsterdam, attended a three-day training program in interviewing and practiced interviewing members of their own networks. After this training, they visited the adolescents in their homes and interviewed them for approximately 1½ hours. For the more private topics of the survey, the interviewers only read the questions, and the participants typed in the answers (just one key each). Sometimes a hard-board cover with braille and magnified numbers on it was used to assist the participants with typing. The computer was

programmed to make a beep sound, so the interviewers knew when to read the next question.

INSTRUMENTS

The results of this study were compared to the results of studies of sighted adolescents. To make a valid comparison possible, the same instruments that were administered to sighted students at the Universities of Utrecht and Leiden were used. To measure the size and composition of networks, a slightly changed version of the Social Network Map (Tracy & Whittaker, 1990, cited in Buysse, 1994) was used.

To measure the degree of the two kinds of perceived social support—emotional and practical—and the important sources of this support, a 10-point Likert scale was used. This support can be offered by a fixed set of reference persons when questions or problems arise in relationships with others (emotional support) or at school or work (practical support) (Meeus, 1994).

To measure the degree of visual impairment, the Functional Vision Scale, a self-report questionnaire, was adapted from Weiner (1991). The items measure functional vision instead of visual acuity. This approach was chosen because many participants did not have the correct information about their visual acuities. To obtain data on the acuity of individuals from rehabilitation centers or schools was almost impossible because many participants had not had contact with centers or schools for more than four years.

From the Functional Vision Scale, five items were used and one item was added. The items measure functional vision instead of visual acuity. This scale was chosen because many of the participants

did not have accurate information about their visual acuity. Since an analysis of separate scores on the six items would have yielded too many empty cells or cells with a low number of participants and hence would have weakened the power of the test, three categories of degrees of visual impairment were formulated on the basis of answers to the six items. If the participants used braille, they were categorized as blind; if they could not read regular print but did not use braille, they were categorized as severely visually impaired; and if they could read regular print, they were categorized as moderately visually impaired.

DATA ANALYSIS

An analysis of variance (ANOVA) was conducted to determine whether factors like gender, age, and degree of visual impairment had any effect on the dependent variables of network size, network composition, and sources of support. When applicable, a multivariate analysis of variance (MANOVA) was conducted. The investigators chose the MANOVA because it measures several dependent variables, instead of just one dependent variable, strengthening the power of the test. A second advantage is that it protects against Type I errors caused by multiple tests. The results of evaluations of standard assumptions of normality, homogeneity of variance-covariance matrices, linearity, and multicollinearity, following procedures suggested by Tabachnick and Fidell (1989), were satisfactory.

A significant relation was found between gender and degree of visual impairment ($\chi^2 = 9.27$, $df = 2$, $p = .010$). No significant relationships between gender and age and

Table 1
Degree of visual impairment by gender.

Degree of visual impairment	Male		Female	
	Number	Percentage	Number	Percentage
Blind	11	6.6	24	16.0
Severely visually impaired	39	23.5	42	28.0
Moderately visually impaired	116	69.9	84	56.0
Total	166	100.0	150	100.0

between age and degree of visual impairment were found (see Table 1).

Since the number of cases in the cells was not equal, the effects of gender and degree of visual impairment were confounded. More female participants were found to be blind, and more male participants were moderately visually impaired. The confounding of these effects made it necessary to control for gender in all analyses of the degree of visual impairment, and vice versa.

Results

SIZE OF NETWORKS

The mean number of important persons for the total group of 316 blind and visually impaired adolescents was 15 ($SD = 8.0$, range = 2–49). This number is smaller than the mean sizes of 15–20 persons found in most studies of sighted adolescents' personal networks (Buysse, 1996; Cotterell, 1994). The range for the size of networks was small; most of the participants had personal networks of 8–13 people (38.2%).

The mean personal network of the female participants was slightly larger than that of the male participants (15.4 versus 14.1), but this difference was not significant when tested with an ANOVA with the independent variables gender and degree of visual impairment (to control for the relation between them).

An ANOVA with the independent variable age group and the dependent variable network size indicated a significant effect of age group ($F = 4.73$, $df = 2$, $p = .009$). The youngest adolescents (aged 14–17) had the smallest networks (mean: 13.3 persons), and the oldest adolescents (aged 21–23) had the largest (mean: 16.6 persons); the networks of those aged 18–20 were in the middle (mean: 15.4 persons).

No significant differences in the sizes of the networks of the blind, severely visually impaired, and moderately visually impaired adolescents were found, even when the relationship with gender was controlled for (blind adolescents = 13.9 persons, severely visually impaired adolescents = 15.7 persons, and moderately visually impaired adolescents = 14.4 persons). No effect of the interaction between the degree of visual impairment and gender on size of network was found.

COMPOSITION OF NETWORKS

In the reversed version of the Social Network Map, the participants were asked to name persons who were important to them and made them "feel good" in eight sectors: parents and siblings (close family members), extended family members, friends, schoolmates-colleagues, club mates, neighbors, professionals, and home mates (in the case of those who lived in residential centers). Significant network members could be listed in only one sector. The

sectors friends, close family members (parents and siblings), and extended family members were the largest. Parents were important to most of the participants and were named frequently. A conspicuous finding was that 65.3 percent of the participants had fewer than five friends. Likewise, 53.6 percent named none or one person in the school or work sector, and 76.9 percent named none or one person in the club-mates sector.

The size of the friends sector was significantly affected by gender ($F = 4.99$, $df = 7$, $p = .026$) when the degree of visual impairment was controlled. The female participants had more friends than did the male participants (mean: 4.7 versus 3.7). This finding explains the univariate difference (of one more person) between the total network sizes of the males and females.

The only significant effect of age was found for the sector friends ($F = 4.79$, $df = 14$, $p = .009$). The number of important friends increased with age; the youngest group named 3.5 friends, the middle group named 4.7 friends, and the oldest group named 4.8 friends.

With the MANOVA analysis controlled for gender, no significant differences in the composition of the networks of the blind

and visually impaired adolescents was found. However, the severely visually impaired adolescents named more persons who were not kin than did the blind and moderately visually impaired adolescents.

SOURCES OF SOCIAL SUPPORT

In this part of the study, two domains of perceived social support were analyzed: support with relational and emotional problems and practical support with school or work problems. A scale of 10–100 was used; 10 meant that this person or group was not very important, and 100 meant that it was very important (Meeus, 1994). The results for the two kinds of support are presented in Table 2.

For the visually impaired adolescents, parents were more important for both kinds of social support than were friends. For the total group, the differences between support from parents and friends for the two kinds of social support were significant (using the MANOVA averaged test ($F = 11.78$, $df = 1$, $p = .001$)). A significant difference between the two kinds of support—emotional and practical—was found as well ($F = 18.36$, $df = 2$, $p = .001$). When the means for parents and friends were summed, it was found that the participants apparently perceived that they received more or better emotional

Table 2
Sources of social support.

Type of support	Gender			Age group			Degree of visual impairment		
	Total	Male	Female	14–17	18–20	21–23	Blind	SI ^a	MI ^a
Relational and emotional support: parents	66	67	64	68	65	63	63	66	66
Relational and emotional support: friends	60 ^b	55	66 ^c	60	61	60	57	61	60
Practical support (school/work): parents	65	66	65	71	63	57	67	66	65
Practical support (school/work): friends	53 ^b	48	58 ^c	56	52	50 ^d	50	55	53

^a SI=severely visually impaired, MI= moderately visually impaired.

^b Significant differences for the total group.

^c Significant differences between males and females.

^d Significant differences between age groups.

support than practical support. Also a significant interaction effect between the kind of support and the source of support was found ($F = 44.04$, $df = 2$, $p = .000$). The mean scores for the two kinds of support from parents did not differ, whereas those for the two kinds of support from friends did.

Friends were significantly more important for the female participants than for the male participants ($F = 4.46$, $df = 1$, $p = .036$). Especially for relational support, the female participants tended to turn more to their friends than to their parents. The level of perceived support from parents was the same for the male and female participants; that is, for the two kinds of support from parents, no difference between the male and female participants and no interaction effect between the kind of support and the source of support were found. The interaction effect on sources of support by gender and degree of visual impairment was not significant as well.

MANOVA tests revealed some interesting effects of age. There was a significant effect of age on the kind of social support ($F = 5.53$, $df = 4$, $p = .000$). For the oldest group, there was a sharp decline in practical support from parents and friends, whereas the level of emotional support from parents and friends remained the same. Perceived social support from the two sources showed no significant effect of age. Parents remained an important source of emotional support for the older adolescents, although their importance for practical support declined somewhat.

In addition, no difference was found for the perceived social support of the blind versus the visually impaired adolescents for the two kinds of support or for the most important source for social support: parents

or friends. The pattern of support for different kinds of support and different persons who gave support was equal for the blind, severely visually impaired, and moderately visually impaired adolescents. In spite of the nonsignificance of the findings, it should be noted that the blind adolescents had the lowest scores on emotional support from parents and friends of the three groups.

Discussion

The size and range of the personal networks of the blind and visually impaired adolescents in this study were smaller than those of sighted adolescents. Furthermore, the older adolescents had larger networks than did the younger adolescents. These findings are similar to those found in other studies (see Weiner, 1991). However, whereas Weiner found that blind adults had the largest networks, this study found no significant differences in the sizes of the networks of the blind, severely visually impaired, and moderately visually impaired adolescents, although the blind adolescents had the smallest networks.

With regard to the composition of the networks, the largest sectors found in this study were friends, close family members (especially parents), and extended family members. However, the majority of the adolescents (65.5%) stated that they had fewer than five friends, whereas only 7 percent of the young adults in Weiner's (1991) study did. In the sector school or work, 53.6 percent named one or no persons; in the sector clubmates, 76.9 percent named one or no persons. In addition, the female and older adolescents named more friends, a finding that accounts for the larger personal networks of the females and the older ado-

lescents, but no significant differences were found in the composition of the networks of the blind, severely visually impaired, and moderately visually impaired adolescents.

Parents were listed as the most important source of emotional and practical support. However, friends were more important for female participants than for male participants, especially for relational support, for which they were even more important than parents—a finding that corresponds to the results of other studies. Although parents continued to be the most important source of support for older adolescents, that support was mainly emotional, not practical. In contrast, research on the sources of social support for sighted adolescents has generally found that support from parents decreases for older adolescents. Thus, it appears that blind and visually impaired adolescents are more dependent on their parents for support than are sighted adolescents.

The finding of no significant differences in the sources or kinds of support for blind and severely and moderately visually impaired adolescents corresponds to Weiner's (1991) results. However, the blind adolescents rated (nonsignificantly) emotional support from parents and friends lower than did the visually impaired adolescents. Still, the question remains: What does a low or high score for social support mean? A low score does not automatically imply that the respondent was not satisfied with the support of or needed more support from the specific person or group.

Conclusion

The classification of the blind, severely visually impaired, and moderately visually impaired adolescents in this study was

based on self-reports concerning six daily situations, including reading, the ability to see moving objects, and the ability to recognize facial expression. The researchers' intention is to compare this measure to findings from research on visual function by ophthalmologists to ensure that the information is accurate and free of social desirability bias. Depending on what is found, the classification of the participants in three categories may change.

In the future, many follow-up analyses will be conducted to determine the influence of support from professionals. Different questions will be answered: How many friends are also blind or visually impaired? What is the meaning of a low or high score on social support? Are there any differences between perceived and received support? Is there a balance between giving and receiving support? What is the relation between network and support variables and adjustment variables, such as self-esteem, acceptance of one's disability, and well-being? And finally, what is the effect of attending courses at special or regular schools or of living in residential schools or at home? It is hoped that these analyses will clarify the meaning of the results described in this article. With these results of the relationships between network and adjustment variables, implications for programs for adolescents and young adults who are visually impaired can be made.

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