Outlook on relations: Personal networks and psychosocial characteristics of visually impaired adolescents
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Introduction

In this chapter, the theoretical framework and some central concepts of the study are described. In the first section, several concepts with regard to network research - such as structural and functional network aspects - are expounded. Theories used in research on this topic follow in section two (2.2). Special attention is given to the meaning of network aspects in section three, for example their meaning for on well-being or loneliness (2.3). Relevant results of previous research on networks, social contacts, social support and the psychosocial development of blind and visually impaired persons, is presented in the fourth section (2.4) of this chapter. The theoretical framework of this study is extensively described in the last section (2.5).

2.1 Personal network

To explain why some adolescents experience psychosocial problems and others do not, network research provides some answers (Cauce, Mason, Gonzales, Hiraga & Liu, 1994). In close relationships with significant others social support is exchanged. Social support from network members enhances physical and psychological well-being and buffers the negative effects of life stress...
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(Cauce et al., 1994; Meeus, 1994; Robinson, 1995). Social support may improve coping through different forms of helping behavior, such as emotional, informational, practical, and appraisal, in adulthood but also in childhood and adolescence. In addition, support will be protective and will improve well-being through the psychological effects of the mere presence of others preventing isolation, of being a valued part of a network, of receiving signs of love and understanding, and of being sure of receiving help when needed. Friendships help to develop and maintain positive self-images, and provide opportunities for self-disclosure.

In network research a main distinction exists between social network studies and ego-centered network studies (Cauce et al., 1994; Jansen & Van den Wittenboer, 1992). How do these two approaches differ from each other and which approach was chosen in our study?

The social network approach generally refers to all the connections within a specific group of people, for instance the relations between class members in a classroom or relationships of colleagues in a certain division of a hospital. An ego-centered network on the other hand refers to relationships of one individual with his significant persons. This ego-centered network is also called a personal network. In this personal network, the individual is the point of anchorage from which all network linkages can be traced (Buysse, 1997). In our research into the meaning of the network for blind and visually impaired adolescents, the ego-centered or personal network is the focus of interest. Therefore, we use the term personal network in our research. However, some researchers call these kinds of networks, social networks too.

The positive influence of network aspects for individuals found its way into social and psychological science during the last three decades. Reasons that have been formulated for the boom in social support research in general are (Nestmann & Hurrelmann, 1994, p. 2):

1. The detection and confirmation of the potential of social resources for the protection of health and the prevention of disease.
2. The fact that the whole of society views mutual help and support as a desirable quality and wants its members to be socialized in such a way.
3. The resulting opportunities to engage in more life-world-related and less alienated professional intervention.
4. New prevention perspectives concentrating on social relations that buffer stress and maintain health.
5. Considerations on the possibility of cutting costs on expensive professional services by fostering everyday support and lay help.

Social support will not only foster self-esteem and self-assurance, but also 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 child or adolescent’s social and emotional development (Cauce et al., 1994).
The majority of the studies into social or personal networks and social support are conducted with little theoretical and conceptual foundation, resulting in a conceptually and methodologically disorderly research area. Before elaborating on several aspects in a network, we therefore have to discuss the definition of a network for our study. A wide variety of definitions is used in network and social support research from many different disciplines. We use the most simple definition: a network is a group of important persons (Vaux, 1988).

Several aspects are distinguished in studying personal networks. The most clear and popular division is the one between structural and functional network aspects (Tracy & Whittaker, 1990; Whittaker, 1992; Buysse, 1997). They may also be described as quantitative and qualitative aspects of the personal network. In order to close ranks with other researchers in this domain and for reasons of comparison possibilities, we use this distinction too. In section 2.1.1 structural network aspects will be described. Functional aspects are discussed in 2.1.2.

2.1.1 Structural network aspects

Important structural aspects of a personal network are the size and composition of the network. Other structural aspects in network research are: frequency of contact, accessibility, duration or length of relationships, and density (the strength of the link between two network members).

To determine the size of a personal network, various methods might be used. The most familiar ones are (Van der Poel, 1993):

- affective method: participants mention the names of persons of importance for him
- role method: participants mention the names of persons in specific categories like parents, brothers and sisters and friends
- exchange method: participants mention the names of persons with whom he exchanges specific kinds of support or assistance.

In our research, a combination of the affective and the role method was used. Besides the suitability of these methods with regard to answering our research questions (mentioned in section 1.2), the choice for this combination of methods was based on our wish to be able to compare the results of visually impaired adolescents with those of research on non-impaired adolescents (see 3.3.3 and 3.4.2). In what way the instruments in our study gather information about the size of the personal network, will be described in sections 3.3.3 and 3.4.2.

Another structural network aspect, often used in studies in the last decade, is the composition of the personal network. It refers to the variety of people interacting with each other in the network, often described in ratios, such as number of kin to number of non-kin network members (Buysse, 1997).
In describing the composition of a network, knowledge of characteristics of network members is necessary. This information is mainly gathered through the role method: for example, is this important person a parent, a friend or a teacher? Specific categories are distinguishable, for instance parents and peers. Another composition feature is the homogeneity and heterogeneity of the collection of persons in a network. Homogeneity refers to the extent to which network members are similar to each other, e.g. in sex, age or degree of impairment.

As a result of a series of studies conducted by Cauce and her colleagues, a provider model of support was defined (Cauce & Srebnik, 1990; Cauce, Reid, Landesman & Gonzales, 1990). They identified three different support provider systems. Two of these, the family and friend system, consist of informal support providers. The third is a formal system that largely consists of school personnel and professional caretakers. Those network members give support from a professional perspective, it includes services delivered by paid human service professionals (Whittaker, 1992). Distinctions between support providers proved to have implications for how support may relate to adjustment or well-being.

2.1.2 Functional network aspects

Functional network aspects provide information with regard to the quality or the content of a relationship (Buysse, 1997; Buysse & Van der Ploeg, 1992). As such are used:

- social support
- reciprocity; the extent to which support provided is balanced by support received
- intimacy
- satisfaction with support.

In various studies these functional network aspects proved to be essential in predicting the variance of dependent variables like well-being. This will be extensively described in the sections 2.3 and 2.4 of this chapter. For studying the meaning of network aspects for visually impaired adolescents, the most important functional network variables seem to be: social support, reciprocity and satisfaction with support, that is the need for more support. They will be explained successively.

Social support refers to aid, affect and affirmation that is exchanged between people. Buysse (1997, p.9) defined social support as: "potentially useful information, advice, tangible aid, or action that can be proffered either verbally or nonverbally by social network members, or inferred by their presence, and can have beneficial as well as harmful behavioral or developmental effects on the recipient". The provision of social support is influenced by three groups of factors (Sarason, Pierce & Sarason, 1990): intraindividual, interindividual and situational factors.
Two perspectives on the dimensions of social support can be described. Firstly, different kinds or functions of support and secondly, the difference between perceived and received support. With regard to kinds or functions of social support, several typologies have been suggested. In many studies significant relations between those typologies were found (e.g. Sarason, Shearin, Pierce & Sarason, 1987). Two kinds of social support are conceptually the most distinct and other kinds of support are often reduced to these two: social-emotional support and practical-instrumental support (Felling, Fiselier & Van der Poel, 1991). Social-emotional support refers to comforting someone, listening, discussing and giving advice. It is also described as providing help in defining and coping with problems (Tijhuis, 1994). Practical-instrumental support is defined as giving material and concrete assistance in the form of goods or services for example in housekeeping or travelling. This kind of support is also described as the provision of material aid (Tijhuis, 1994). Sarason et al. (1987) have argued that social support is a global concept, so different kinds of social support all refer to one and the same thing, namely the feeling of being loved or not loved by other persons. Most descriptions of support behaviors from children, loaded on one factor (Berndt & Perry, 1986; Dubow & Ulmann, 1989) and were highly correlated (Furman & Buhrmester, 1992).

A second perspective on dimensions of social support is the distinction between perceived and received social support. Perceived support reflects individuals’ confidence that adequate support would be available if it is needed, or characterizations of an environment as helpful or cohesive (Barrera, 1986). In other words, the extent to which a participant feels he can rely on other persons for social support (Whittaker, 1992). Received support on the other hand is described as the frequency of supportive transactions that did take place. It refers to the objective concrete social support exchanged in a certain period. In many studies this distinction between received and perceived support is confounded, because received support is also measured from the point of view of the participant. In this way received concrete support is a kind of perceived received support.

Social support benefits well-being, adaptation to illness and disability and increases adherence to treatment and rehabilitation. Nevertheless, attention should also be paid to the dynamics of social support, regarding possible negative effects like: loss of personal control, creating dependence, overinvolvement and underinvolvement (Lyons et al., 1995).

An important functional network aspect in relationships is reciprocity in social support. Reciprocity concerns the relation between receiving social support from significant persons and giving them support in return. In other words, the extent to which support provided is balanced by support received (Whittaker, 1992). Especially in studies regarding sick or impaired persons, with a certain kind of dependency for kinds of support, this aspect is relevant. The provision of social support may be necessary for adjustment to disability, but reciprocity must be taken into account (Lyons et al., 1995).
Another essential functional network aspect is the satisfaction with the size and composition of the personal network and the amount of social support. Satisfaction with support is an individual feeling about perceived and received support (Antonucci & Akiyama, 1994). One might discriminate between satisfaction with emotional and practical social support as well. Besides satisfaction with network aspects, it may also be defined as the individuals' need for changes of certain network aspects.

2.2 Theories with respect to networks and support

In research into social networks, personal networks and social support, several theories or theoretical frameworks are used. The frameworks of three Dutch studies will be described in this section, successively: the rational-choice theory in network research (Van der Poel, 1993), the social capital theory in network research (Tijhuis, 1994) and the socio-ecological model in network research (Buysse, 1997).

2.2.1 Rational-choice theory

Basic assumption of the rational-choice theory is that people's behavior is based on a rational choice about the expected costs and benefits of several behavioral alternatives. The chosen alternative is the one with the best balance between benefits and costs. In social network research, costs and benefits are studied with regard to getting in contact, staying in contact and breaking off the relationship (Van der Poel, 1993). Hypotheses were formulated concerning the costs and benefits of personal relationships. Higher costs were: less opportunities to get in touch with someone, greater travelling-distance between two persons and a shorter duration of the contact. High benefits were: more importance attached to a specific contact, more inclination to discuss problems with each other, and a small number of remaining relationships. In Van der Poels study, the hypotheses were specified for eleven categories of relationships, for instance with a partner, parents and colleagues. These relations were studied in order to explain the size and composition of the personal network of adults.

Using costs, benefits and demographic variables to explain the size and composition of adult's personal networks worked rather well (Van der Poel, 1993). Half of the hypotheses were confirmed using this theory; it especially worked well with the categories partner, parents and children. With regard to the remaining categories, the theory worked less well. Concrete costs and benefits like travelling distance and possibilities for contact, explained much more of the variance compared with psychological concepts, such as to what extent someone attaches importance to a relationship with a specific person, or the inclination to talk about personal problems (Van der Poel, 1993).
2.2.2 Social capital

It was concluded from several research projects on networks (Van Tilburg, 1988; Boxman, 1992; Tijhuis, Flap, Foets & Groenewegen, 1992; Tijhuis, 1994) that a large and varied network is considered as an individual's social capital. In this view, social or personal networks were regarded as social resources, and these resources were used to achieve goals. People differ in the amount of available social resources. A large and varied network, that is to say the availability of many social resources, was important for offering necessary support, for feelings of well-being, preventing loneliness and creating possibilities for career-making. Using this social capital theory, Tijhuis (1994, p.50) described three mechanisms by which social networks and health are related:

1. Buffer effects of social support.
   If people's well-being is threatened by stressful events, they may reduce the consequences by resorting to their social resources. More social resources and mobilizing these resources for support, might make the consequences of stressful events less severe or of shorter duration. This mechanism is called the buffer effect of social resources or social support.

2. Changes in the social network through changing investment in each other caused by illness or impairment.
   Illness or impairment might be considered as a restraint on network formation. It limits the opportunities for new contacts, and ill people also generally have less resources to spend on others. Another reason for a decline of people's networks through illness or impairments may be that the credit as invested in social relations may become exhausted: the impaired person requires more social support than he will be able to give back. The social resources of a person with an impairment may also be limited, and as a consequence, other persons appeal less to those resources. These limitations or restrictions might occur, but not always do. It will depend on factors like the nature of the impairments, the type of impairments and the social severity of a disease (Tijhuis, 1994, p.54).

3. Social regulation of health behavior, through which people may obtain or remain in better health.
   This process is a byproduct of people investing in each other. When persons share a common future in which they could help each other, and they also share a past in which they invested in each other, it will be implied that they depend on each other and are willing to invest. This is especially the case in a dense, close personal network. Another aspect in this social regulation process has to do with values and norms. Not conforming to the norms shared in a network is considered as a way to disinvest in personal relations and leads to disinvestment in you by others. Thus, when people have invested more in their network, they will behave more closely in accordance with the norms prevailing in this network; this mechanism is called social regulation (Tijhuis, 1994;
Coleman, 1988). For example, a dense network enforcing bad health norms or non suitable strategies, will be a greater threat to health than a loose-knit network with better health norms.

Hypotheses were formulated on the basis of the principles of this social capital theory, to explain the mechanisms between social networks and health. Tijhuis (1994, p.165) concluded that very few hypotheses were confirmed using this social theory alone. In future research, more psychological mechanisms must be included, like coping, identity-confirmation, self-esteem and perceived social support. Social mechanisms as described by Tijhuis, and psychological mechanisms, must therefore be integrated in future research with regard to connections between networks and health.

2.2.3 Socio-ecological model

In the social ecology theory, development is regarded as the result of a progressive, mutual accommodation between an actively growing human being and the changing properties of the immediate settings in which this human being lives (Bronfenbrenner, 1977; 1979). In a socio-ecological perspective, development is influenced by factors in the person in interaction with factors in the environment (Van der Ploeg & Schölte, 1990). Researchers in the field of networks and social support emphasize this socio-ecological perspective (Van der Linden, 1991; Buysse & Van der Ploeg, 1992; Buysse, 1997; Meeus, 1994; Rispens, Hermanns & Meeus, 1996).

Originally, Van der Ploeg and Scholte (1990) and Scholte (1991, 1992, 1994) presented a socio-ecological model of the development of behavior problems. These psychosocial behavior problems refer to behavior that is defined as problematic and is usually classified into two main clusters: externalizing and internalizing behavior problems (Buysse, 1997). Examples of externalizing behavior problems are: aggression, bullying, stealing and vandalism. For internalizing behavior problems these are: social withdrawal, depression, loneliness and anxiety. This socio-ecological model, also called the psycho-social approach, was developed on the basis of cross sectional and longitudinal studies and was empirically tested.

As mentioned, the socio-ecological model is based on mutual influence of factors in the person and the social environment. Van der Ploeg & Scholte (1990) distinguished three main subsystems within the social environment: the family, the school and the peer group. These subsystems form the social network of an adolescent. Most of the factors in the person, or personality traits, have to do with cognitive-emotional skills. In this study we call them psychosocial characteristics. Examples of these personality traits or psychosocial characteristics are: self-esteem, locus of control and coping skills. The third kind of factors in the model were demographic and macro-social factors, like unemployment, social economical status (SES) and biological disabilities.

Besides the distinction in factors concerning the person, the social
environment and demographic and macrosocial factors, a second distinction in this socio-ecological model is the one between risk factors and protective factors. Behavior problems were viewed as the outcome of an interaction between risk factors in the personality and risk factors in the environment (Schölte, 1992). Examples of risk factors are: non-responsive child-rearing practice, severe family conflict, conflict with teachers, undemocratic teaching styles, anti-social behavior in friends, low self-esteem and ineffective coping skills. The risk factors are often interrelated with each other. A well functioning family, a favorable school career, a supportive positive peer group and a positive personal disposition serve as protective factors which help to guard against the development of behavior problems (Buysse, 1997).

Buysse (1997) concluded that exploring the relationships in the socio-ecological model demonstrated that social support can operate as a protective mechanism or as a risk factor for behavior problems, depending on other characteristics of the subsystems involved. The variables included in her socio-ecological model explain a small portion of the variance in behavior problems. Further research should examine, for example, how parenting styles influence behavior problems. Future research into the role of support must always include risk factors in the person and social environment. It is concluded that using the socio-ecological model as a theoretical framework, provides insight into the way in which mechanisms, like factors in the person and social environment, - such as network aspects -, can influence behavior problems or well-being.

In a longitudinal national study into rearing children and adolescents in the Netherlands (Rispens, Hermanns & Meeus, 1996), the applied theoretical framework was also partly based on the social-ecological process (Bronfenbrenner, 1986). In this theoretical framework the mutual interaction of features of: educators/parents, children/adolescents, family, and the social environment were studied in the way they relate to the rearing process and the child's development. It was concluded that this model is not a thorough and complete picture of the relationship between rearing process and development of children. Some problems did occur in operationalizations of the concepts. However, the structuring function of this framework worked very well and the percentage of explained variance was acceptable. It should be used in future research, to result in explicitly testing it (Rispens, Hermanns & Meeus, 1996).

2.3 Relevance of network research

As reported earlier, results of network research might explain why some adolescents experience psychosocial problems and others do not (Cauce et al., 1994). In a group that functions as a safety-net, support, love and care is exchanged. Being part of a group of peers has a strong relation with high self-esteem and high level of well-being. The relevance of network aspects is often related to these psychosocial characteristics, therefore they are explained first in section 2.3.1 (Kef, 1995). In 2.3.2 the relevance of network aspects is elaborated.
PSYCHOSOCIAL CHARACTERISTICS

Psychosocial characteristics often function as indicators for adjustment in adolescence. More specifically in this study, for adjustment to a visual impairment. Two reasons are formulated to demonstrate the role of these psychosocial characteristics in our study. Firstly, the meaningful relationship between factors in the social environment and these characteristics, and secondly the focus on some of these characteristics in several comparative studies into impaired and non-impaired persons. Successively, the following characteristics are described: self-esteem, locus of control, coping strategies, acceptance of the impairment, well-being, loneliness, and the overall factor adjustment.

Self-esteem takes an important place in adolescence, a period characterized by intensive thinking about identity and relationships with others. Self-esteem is based on the conception of one's own worthiness, which is determined not only by self-perceptions but also by interpretations of feedback from significant others (Rosenberg, 1979). The esteem or appreciation of oneself is an affective judgement, and differs between high or low. The distinction between self-concept and self-esteem is very important. In the light of attitudes towards oneself, self-concept is the cognitive part of it, and self-esteem the affective part (Verkuyten, 1988). The main origins for self-esteem according to Dodds, Bailey, Pearson and Yates (1991) are: a sense of self-worth acquired during childhood and the perceptions of one's own competence in everyday life. The judgements of other people, adults as well as peers, are influential in this self-esteem, as well as the looks or appearance of a person. Research showed that self-esteem gradually increases during adolescence (Harter, 1990). Certain groups of adolescents, for instance depressive or delinquent adolescents, experienced a lower self-esteem compared with other groups of adolescents (Verkuyten, 1988).

The locus of control construct is described as follows (Rotter, 1966): internal control refers to the perception of positive and negatives events as being a consequence of one's own actions and thereby under personal control; external control refers to the perception of positive and negative events as being unrelated to one's own behavior in certain situations and beyond personal control. To simplify, it means the extent to which someone feels he can influence behavior or events, to have control over outcomes. Internal locus of control is an indicator of high (good) adjustment and high achievements in several domains (Rotter, 1966). The opposite feeling of external locus of control means the extent to which someone feels that he cannot influence behavior or events; they are determined by fortune or faith. Besides the concept of locus of control, the feeling of control is also operationalized in research as 'self-efficacy', but analysis demonstrates that this might be converted to one central concept. Individuals with a high sense of self-efficacy (Bandura, 1977) will try new things and expect to be successful. Those with a
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low sense of self-efficacy will avoid attempting new things because they expect to fail (Dodds, Bailey, Pearson & Yates, 1991).

Coping is defined as the use of cognitive behaviors or strategies to handle or manage a stressful situation (Lazarus & Folkman, 1984). Two basic strategies are: emotion-focused and problem-focused coping strategies. Emotion-focused strategies are often used in stressful situations with a stressor associated with a low degree of control. Individuals deal with stress by using this kind of strategy in attempting to manage their emotional reactions to the stress situation. Problem-focused strategies are especially used with stress in a situation with a stressor associated with a high degree of control or the possibility to eliminate the stressor. Individuals deal with stress by using this kind of strategy in attempting to change the nature of the stress situation. Besides these two basic strategies, several others are described, but most often they are related to these two. A Dutch instrument (see 3.4.1) used a third coping strategy: avoiding stress or a stressful situation.

The acceptance of an impairment, like blindness or visual impairment, is a process of phases. It is a lifelong process of growth and not a static state. No specific order occurs in phases of acceptance. The phases in the process are: shock and denial, mourning and withdrawal, depression, reassessment and reaffirmation, coping and mobilization, self-acceptance and self-esteem (Tuttle, 1987). Dechesne described four phases of accepting for physically impaired people (1979):

1. Acceptance of current purposes or targets, the impairment is not experienced as an obstruction.
2. Acceptance of current purposes or targets, the impairment is experienced as an obstruction.
3. Relativization of current purposes or targets, the impairment is experienced as an obstruction.
4. Relativization of current purposes or targets, the impairment is not experienced as an obstruction.

Acceptation problems were characterized by: taking actions and not considering the consequences of the visual impairment or blindness (Van Beek, 1986). Individuals who accepted or coped well with their impairment, made real demands on themselves. In the period of adolescence, accepting the visual impairment or blindness and their consequences can be difficult. Adolescents have to cope with negative reflections of others, insecurity of their own abilities to maintain control over situations and the dependency on others to accomplish some daily tasks (Tuttle, 1987). Particularly during the adolescent or young adult years, some individuals exhibit a super-independent attitude, trying to prove to the world and themselves that they are fully competent and adequate. In the process of finding one's own identity, striving for independence and wanting to belong to a group of peers, negative attitudes of others and the
almost everlasting dependency might cause problems with regard to acceptance. Adolescents were often situated in phases one or two of Dechesne (1979). The aspirations, judgements, standards and values of a person with a visual impairment were mostly not congruent with significant others' expectations, judgements, standards and values (Tuttle, 1987). The interactions with significant others and their attitudes and social support may strongly influence the process of acceptance.

Well-being is often assessed as a general feeling of happiness, and might be measured in specific domains, for example happiness with regard to school, academic achievements and sport or gymnastics. In some studies well-being is seen as one of the personal factors in predicting or indicating, for instance, behavior problems. In other studies it is regarded as a factor that is predicted with other personal factors, like self-esteem or locus of control.

These two views can also be applied for loneliness. In some studies it is a predicting variable, in others it is a dependent one. Loneliness in adolescence has to do with personal feelings, influenced by other psychosocial characteristics of an individual. For instance, significant correlations were demonstrated between assertiveness, locus of control and loneliness in American students (Gambrill, Florian & Splaver, 1986). It also was connected with aspects in the social environment, like the quantity and quality of social contacts, for instance the intensity of the contact with friends and family (Broers & Roskam, 1995).

Psychosocial characteristics are considered to be indicators for (psychosocial) adjustment in adolescence. These characteristics, like self-esteem, locus of control and coping strategies, are also regarded as indicators for, or form an operational definition of, adjustment to a visual impairment. Adjusting in this way is described as the process of responding to life's demands with the added stress of a visual impairment (Tuttle, 1984, 1987).

The contribution of structural and functional network aspects to adjustment and well-being in adolescence, is never studied in a nation-wide study before. It will provide insight into the reasons why, within a group of visually impaired adolescents with the same gravity of impairment, some adolescents do experience psychosocial difficulties and some do not.

2.3.2 Relevance of network aspects

Various studies demonstrated the relevance of network aspects for adolescents. For example, support from friends, emotional as well as practical support, was very important with regard to a good adjustment in adolescence (Cauce et al., 1994). Support from parents, family and other adults was less important in that regard. Another important result of their study was the meaning of the satisfaction with support. This concept was more important in its meaning for adjustment and feelings of competence, than the perceived support itself and structural aspects of the network, like the size or composition.
The meaning of satisfaction with support was confirmed in a study of Kissman (1989). In adolescents from 13 to 18 years old, a high satisfaction with support was strongly correlated with a high feeling of life satisfaction. Compared with the effect of age on life satisfaction, the network aspects had more effect.

In a research with adolescents from 11 through 18 years of age, the quality of the relationship with parents contributed to a high self-esteem, for girls as well as for boys (Walker & Greene, 1986). The quality of the relationship with friends did contribute to the self-esteem of girls, but did not for boys. Furthermore, the contribution of the quality of a relationship to self-esteem is not effected by age.

Robinson (1995) demonstrated that several kinds of support had a different effect on self-esteem in adolescence. Emotional support and approval had a higher effect on self-esteem than instrumental practical support. The sources of these kinds of support, like parents or friends, did not influence this result in her study. Sex did; the difference in effect of emotional and practical support was stronger for boys than for girls.

A panel study into personal networks and social support of 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 the parents was more important for the solution of problems regarding leisure time, school and relationships than the support from peers; between ages 16 and 18, the importance of peer influence became equal to that of parents (Meeus, 1994). Support from parents as well as from peers contributed significantly to well-being (Meeus, 1993, 1994); more support was correlated to higher well-being. Some differences for sex were also demonstrated in this study. Girls perceived more relational or emotional support from their parents than boys, and this support contributed stronger to well-being for them.

Verkuyten (1988) found that factors such as coping abilities and supporting networks were more significant for self-esteem and well-being of adolescents, compared with personal background characteristics such as age, sex or social economical status.

Buysse (1997) studied the networks of adolescents with behavior problems in residential care, compared with those of adolescents without behavior problems, as a reference group. Firstly, adolescent girls reported larger networks than adolescent boys. Secondly, the networks of adolescents in residential care tended to be smaller than those of adolescents in the reference group. Adolescents in residential care tended to list fewer friends. These results were also found in a former study (Buysse & Laird, 1992). In this former study the amount of social support between the residential and 'normal' adolescents was equal. Important sources for social support for the adolescents with behavior problems were friends, parents, professionals and grandparents. Siblings were less important for them.

In Buysse's thesis (1997), the interrelations between all variables in the socio-ecological model were analyzed using bivariate associations, regression
analyses and structural equation modelling, for the overall sample of adolescents. The results showed that social support can operate as a protective mechanism or as a risk factor for behavior problems, depending on other characteristics of the subsystems involved, like a delinquent group of friends. Risk factors in the person, risk factors in the environment and the selected network characteristics explained 44% of the variance in internalizing behavior problems and 41% of the variance in anti-social behavior problems. Behavior problems were most strongly associated with functional characteristics. An interesting result was the relation between support and personal factors; high perceived support was related to a more internal locus of control and more effective coping.

In a study of 1992, Buysse and Van der Ploeg showed that adolescents with a low self-esteem turned more to professionals for support. Adolescents with a high external locus of control turned mainly to their friends for support. The relationships between personal factors and network characteristics were nevertheless small in their study.

Jansma and Van de Voorde (1992) also reported results concerning the social resources of adolescents with behavior problems in residential care. A romantic partner and friends were the most important sources for social support, siblings were less important. Correlations showed that perceiving more social support was associated with more approach (problem-focused) coping.

2.4 Networks, social support and psychosocial development of blind and visually impaired persons

Because of the transition to independence and finding one's own identity, the adolescence in general is an interesting period for research on personal networks and social support. Adolescence may cause specific problems for blind and visually impaired adolescents. Professionals and parents of visually impaired children are often concerned about the social contacts and psychosocial development of blind and visually impaired children and adolescents. What is the impact of being different on social interactions? Several research results confirm the problems in (psycho)social functioning of blind and visually impaired adolescents, while other studies do not. How do blind and visually impaired Dutch adolescents develop psychosocially, and what is the meaning of social contacts and social support from specific network members? To answer these questions, it is necessary to study the structure of the personal network and the social support of blind and visually impaired adolescents, and their psychosocial development. Results of previous studies - Dutch and other studies - on these topics will be described in this section.

2.4.1 Results concerning social contacts

In earlier research into the life situation of blind and visual impaired adults in the Netherlands, several problems in the daily functioning were indicated:
problems regarding acceptance of the impairment, dependency, and social contacts (Habekothé & Peters, 1993). However, the content of the problems on these domains is unknown. This gives cause for our nationwide study on those topics with blind and visually impaired adolescents.

Social skills are very important for social contacts. Van Beek (1988) studied the effect of training of social skills by visually impaired Dutch adolescents. After training, social skills and the social well-being of the participants increased and this effect was still present after six months. Van Beek (1986) also concluded that social behavior problems in blind or visually impaired adolescents might occur in relation to the self-concept, self-esteem, expectations of oneself and others, and social skills of the person.

The first large research into the social support networks of blind and visually impaired persons is from Weiner (1991). He studied the networks of young adults in one state (Delaware) of the United States of America. The size of the personal network in his study consisted of ten persons on average. A large network was best predicted by the categories: to have a job, a high level of mastery (internal locus of control), being blind and being female. From his sample, seven percent had less than five friends. The most important sources of social support were family and friends, and Weiner described a great dependency on family for social support. No significant effects of the severity of the visual impairment or age on social support or the structural network characteristics were found.

The social and psychological development of individuals is also influenced by macro-social factors (see 2.2.3). One important macro-social factor is the degree of integration or inclusion of impaired persons in the community. In the last two decades, the process of integration of impaired people, for example in having the same rights and possibilities as non-impaired people, has spread all over the Netherlands as in other countries. The majority of the blind and visually impaired children and adolescents attends classes at regular schools, often with assistance from an itinerant teacher (Bodin-Baarends & Versantvoort, 1992). The didactic of education for the blind and visually impaired is formulated as follows: the didactic is determined by on the one hand the special needs because of the visual impairment and on the other hand the demand of giving the blind and visually impaired the education that makes it possible for them to integrate in a cultural, social and professional way (Moonen, 1996). Integration in employment situations proved to be much more difficult.

Integration and normalization have many positive aspects, for instance dealing with the normal social demands of peers, people getting used to meeting and associating with the impaired and vice versa, and a positive change in the attitude towards the blind and visually impaired (Forsbak, 1995). The reason for supporting the enrollment of visually impaired children in public schools, was not primarily based on the need to provide a stronger academic program for them. Rather, integration was stressed because of the significant social advantages to having visually impaired children live at home with their families, attend neighborhood schools, make friends in school and
their neighborhoods, and begin to connect with their communities. However, an international tendency developed to overlook the development of social skills (Hatlen, 1992). The equally vital social needs of these children have not usually received equal attention (Augusto, 1992). It is demonstrated that blind and visually impaired children who cannot observe social interactions directly, often experience difficulties in becoming socially adapted (Augusto, 1992). Sacks (1992) observed that students in regular public schools in the U.S.A. lacked the social skills to start and carry on conversations, to play games effectively, and to join and feel part of a group; were uncomfortable talking about their visual impairments; and, what was most important, tried to hide the fact that they are visually impaired. Visually impaired persons often have difficulty establishing and maintaining social relationships with sighted people. Reardon and Sacks (1985) stated that attaining a repertoire of socially acceptable behaviors and skills is important to achieve greater independence and increased feelings of self-worth.

The environmental situation of adolescents with a visual impairment in Germany was studied by Walther (1994). The social environment, and especially the family and friends situation, is an important indicator for social rehabilitation. A striking result of his study was that 18% of the sample did not have friends or acquaintances. Causes for this result according to the author: insufficient support, lack of personal initiatives and a low level of perseverance.

The social functioning of pupils from a Dutch school for blind and visually impaired children was studied by Van der Pluijm and Van Dongen (1994). They found that 57% of the students had visually impaired and sighted friends or acquaintances, and 38% had only blind or visually impaired friends. Two percent had no friends or acquaintances at all. Their study did not show whether the pupils were satisfied with the number of friends or the quality of the relationship.

Parents as well as professionals are nowadays often concerned and sceptical about the social integration and the psychosocial development of blind and visually impaired young people in the Netherlands (Brandenburg & Van Gelder, 1994). They stated that students often experience problems in maintaining social contacts with classmates or teachers. More and more attention is focused on this aspect in supporting the blind and visually impaired.

A large research project into the daily lives and social activities of visually impaired American adolescents is started by Sacks & Wolff (1998). They found that visually impaired adolescents spent significantly more time alone than sighted adolescents. With respect to maintaining friendships, visually impaired adolescents had to work harder compared with sighted adolescents.

Complementary, more in-depth, results are presented by Rosenblum (1997, 1998). She studied the best friendships of visually impaired adolescents in the U.S.A. The small sample of blind and visually impaired adolescents who had a best friend included in her study, were successful in establishing and maintaining reciprocal, intimate best friendships. The majority of the sample of
visually impaired adolescents were slightly older than their best friends. Sighted adolescents seemed to have more best friends than visually impaired adolescents. An interesting result of her study was that 30% of the best friends of the visually impaired adolescents had disabilities. Also a sex difference was found in both groups: girls reported to have more best friends than did boys. A positive result was that the few limitations in activities that existed within the friendship dyad, did not have a strong negative impact on their friendships.

Huurre, Komulainen and Aro (1996) studied the personal networks of blind and visually impaired adolescents in Finland. The data were collected with the Social Network Inventory, a self-report inventory in which adolescents list any important person in the categories of family, relatives, other important adults and friends at school. The size of the network is construed as a sum of these four categories. The average size of the networks of visually impaired adolescents was slightly smaller than that of adolescents without impairment, but the difference did not reach statistical significance (Huurre & Aro, 1998). Huurre, Komulainen and Aro (1996) and Huurre and Aro (1998) found that the average composition of networks of Finnish adolescents with a visual impairment and that of a comparison group sighted adolescents were quite similar. However, visually impaired adolescents less often had many friends, and they had less often dating experiences than sighted adolescents. They also reported more often difficulties in making friends than their sighted peers. The same researchers also studied the social support of blind and visually impaired adolescents (N=115, aged between 13 and 16) (Huurre, Komulainen & Aro, 1999). They included in their study the following six functions of social support: intimate interaction, material aid, physical assistance, guidance, feedback, and social participation. The score for perceived available support was constructed by summation of these six functions of social support, separately for parents and friends. A dichotomized scale was used with categories: 1 = named no friends/parents as a source of this kind of support, and 2 = named friends/parents as a source of this kind of support. Findings showed that parents seemed slightly more supportive than friends. They found no difference on the amount of parental support between visually impaired adolescents and sighted adolescents. With regard to support of friends, visually impaired girls perceived less peer support than sighted girls, whereas they found no differences for boys on this subject.

A Dutch study into dating, sexuality and friendships of blind adolescents (N=38) indicated that they did experience several specific problems on these domains (Sloep & Reek, 1998). Problems with regard to friendships were mostly experienced in the beginning of a friendship. Once a person was a good friend, they experienced no difficulties that were related to their visual impairment. A small group (18%) never took the initiative in a romantic contact. Furthermore, their study showed that almost one third of the blind adolescents never had a date, never went steady and therefore had no sexual experience. Compared with sighted adolescents, the blind adolescents had less sexual experience: 50% of sighted 18-year old adolescents had sexual intercourse, compared with 18% of 18-year old blind participants. Especially blind boys proved to have less
sexual experience. Nevertheless, most participants were satisfied with their friendships and romantic contacts. They did mention specific difficulties in the transition between friendship and romantic relations (Sloep & Reek, 1998).

Schep (1998) also stated that the sexual development of visually impaired adolescents is slightly different from that of sighted adolescents. They develop more slowly, they have to acquire specific knowledge about sexual behavior, and the skills that are necessary for developing socially and sexually, need special attention.

Several studies examined the networks of persons who were chronically ill or had a disability (Lyons et al., 1995; Janssen, 1992). The majority of these participants suffered from acquired physical disabilities. Their results regarding the effects of disability on relationships are summarized as follows (Lyons et al., 1995):
- reduced network size
- reduced social contacts
- changes in social space
- remodeling of the network, including other persons with health problems and professionals
- higher percentage of kin members
- lower number of friends
- less shared activities
- increased value of relationships.

The changes of the networks are caused by various factors: intrapersonal, interpersonal and situational factors. The impaired or sick person could feel that he has nothing to offer to other persons, other persons are afraid of the illness or get burnt out, or a social stigma could cause negative reactions towards ill or impaired persons. Illness or disability involves a unique set of stressors like chronicity, unpredictability and social stigma. They place substantial constraints on the ability to maintain and to restructure relationships (Lyons et al., 1995).

2.4.2 Results concerning psychosocial characteristics

With regard to psychosocial characteristics, several studies with blind and visually impaired people were carried out in the last three decades. It has been generally recognized that the visual loss itself, as well as its subsequent effects, cause unique difficulties in the emergence of a healthy self-image (Cook-Clampert, 1981). Self-acceptance, acceptance that one has a disability and knows how to cope with it, is vital to a positive self-concept. Meighan (1971) found that the self-esteem of blind and visually impaired was significantly lower compared with the self-esteem of sighted persons, although many methodological remarks are made with regard to his study. Blind and visually impaired adolescents did experience more inconsistent and negative evaluations from others, which might negatively affect their self-esteem (Tuttle, 1987).
According to Tuttle (p.157), visually impaired adolescents may experience four problems:

1. In order to feel competent and adequate, they must first develop good coping skills and adaptive behaviors.
2. It is difficult to maintain a sense of high self-esteem in the face of negative reflections from others.
3. It is difficult to maintain control over a situation, to perceive alternative courses of action.
4. The problem of the negative impact on self-esteem, that results from the fact that a visually impaired person is still dependent on others to accomplish some daily tasks, and as a result does not appear to be exercising an internal locus of control.

In the Netherlands the self-esteem of blind and visually impaired adolescents was studied by Gerestein (1986). Gerestein stated that impaired persons perform in different social roles and the social adjustment in this role-fulfilment is essential. The social adjustment of blind and visually impaired persons is ambivalent: they want to adjust to non-impaired persons to feel equal, and want to adjust to other blind and visually impaired persons to support each other. Especially the moderately visually impaired feel this ambivalence (Gerestein, Baarda & Van Weelden, 1987). In this process of social adjustment, physical, internal and external personal factors, and social aspects play a part. Their research with adolescents who lived in a residential setting, demonstrated a small difference in self-esteem of blind versus visually impaired adolescents, in favour of the first group.

Beaty (1992) demonstrated that compared with sighted adolescents, blind and visually impaired adolescents had a significant lower self-esteem. His explanation is: "It may be that the loss of vision or a severe impairment of vision can cause these adolescents to feel inadequate and inferior and that these feelings have a generalized debilitating effect on their self-images" (Beaty, 1992, p.712). However, Obiakor and Stile (1992), showed that the self-esteem on several domains, like academic performance, school adaptiveness, of blind and visually impaired adolescents was higher than those of sighted adolescents.

With regard to locus of control, Land and Vineberg (1965) found that blind children experienced lower feelings of internal locus of control compared with sighted children. The visual disorder however, was not the only contributing variable, factors like the support of parents and teachers were also very important. A strong relationship between high level of internal locus of control and a high level of adaptive behavior was found for blind and visually impaired children (Parsons, 1987).

Rickelman and Blaylock (1983) studied the coping strategies of blind and visually impaired adults in a situation with inappropriate behavior of sighted people towards them. Most of the participants felt anger and frustrations in
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those situations. In the light of these feelings, the strategies they used were striking: 57% used passive or avoiding strategies and the minority used more suitable reactions like active strategies as asking questions or making remarks.

Visually impaired persons should learn how to cope with the consequences of the impairment, how to use communication skills and how to deal with conflicts (Sinnema, 1992). A very important aspect is focusing on good qualities, instead of focusing on deficiencies. To become a socially adapted person, blind and visually impaired adolescents must have a feeling of self-control (Van Beek, 1988). In self-control, certain mechanisms are important: orientation, definition of a problem, possible strategies to solve or dealing with the problem, choice for a strategy, carry out the strategy, and evaluating the effect of this strategy. Visually impaired people did not recognize or define a problem properly, according to professionals, stated Van Beek (1988). Missing visual cues and feedback is partly cause of that, but also feelings of fear, external locus of control, anger of insecurity contributes to their way of dealing with problems.

Very few results of research are available on acceptance of the impairment and the consequences. But, parents and professionals often express their feelings of concern with regard to this problem, especially in adolescence, when young people want to be independent. A small study with visually impaired adolescents was carried out by Breurkens and Van Dooren (1985). A striking result is the positive outcome for the group as a whole. Only adolescents in regular education and girls experienced more acceptance problems compared with adolescents in special education and boys.

Already in 1961, Cowen, Underberg, Verrillo and Benham studied and wrote about: 'adjustment to visual disability in adolescence'. Adjustment in their study was determined by seven indicators, among other things: self-concept, self-ideal discrepancy and acceptance. The other indicators concerned the environment, like overprotection and rejection. Main research question was: "How do visually disabled adolescents compare with demographically similar but sighted adolescents in terms of personality make-up and adjustment" (Cowen et al., 1961, p.169). No significant differences were found in adjustment between the two groups. Within the group visually impaired adolescents there was a tendency that visually impaired adolescents experienced more adjustment problems than blind adolescents did. Dodds et al. (1991, 1993, 1994, 1996) described the following indicators for adjustment to visual impairment: learned helplessness, depression, attributional style, self-esteem, locus of control, self-efficacy, handicap acceptation and attitude towards visually impaired persons. These indicators are operationalized and form the Nottingham Adjustment Scale.

For well-being and loneliness we cannot revert to results of research on blind and visually impaired persons. At meetings or conferences, parents and professionals often expressed their concerns: blind and visually impaired persons could experience more, and more intense, feelings of loneliness or decreased well-being. They could be at great risk of isolation. At this moment these statements and concerns can not be confirmed with research results.
2.5 The meaning of personal networks and social support: a theoretical framework for this study

In the social science literature it is well established that social support enhances physical and psychological well-being and buffers the negative effects of life stress (Cauce et al., 1994; Meeus, 1994; Robinson, 1995). Social support from our social networks can buffer stress and can improve coping through different forms of helping behavior, such as emotional, informational, practical, and appraisal, in adulthood but also in childhood and adolescence. In addition, support will be protective and will improve well-being through the psychological effects of the mere presence of others preventing isolation, of being a valued part of a network, of receiving signs of love and understanding, and of being sure of receiving help when needed.

As mentioned in section 2.3, research is only now beginning to address the question whether supportive relationships affect the child or adolescent's social and emotional development (Cauce et al., 1994). In adolescence, often dated between 12 and 22 years of age (Ter Borgt & Meeus, 1994), many psychological and social changes occur. In a psychological sense, adolescents have to complete certain developmental tasks, such as finding their own identity. This phase is characterized by self-reflection, changes in relationships with adults and peers and growing to maturity with regard to the mental, moral and political development (Ter Borgt & Meeus, 1994). In a social sense, adolescence is a period with many alterations, for instance from school to work, from living with parents to living independently. To conclude, the period of adolescence is characterized by psychological and social changes in several domains, which influence one another and have no specific order. Those interpersonal changes occur in association with relationships with other persons and the social environment in general (De Wit, Van der Veer & Slot, 1995).

Thus, in adolescence, social contacts and the content of a relationship will change considerably. Adolescents with impairments might experience specific difficulties in this stage of their life. Between the age of 12 to 22, young people are increasingly susceptible to what other peers think of them. Most adolescents want to be part of a group, and not belonging to one might be unpleasant. The existence of an impairment may make them feel different from non-impaired peers, and many adolescents struggle in a certain extent with this aspect. Psychosocial characteristics, like self-esteem or locus of control, are of importance during this psychological and social development of adolescents, also or especially in the presence of an impairment. Some results for blind and visually impaired persons on this topic are described in section 2.4. Because of the developmental tasks in adolescence, the meaning of personal networks and social support for psychosocial characteristics is an interesting topic to study.

The theoretical framework of this study is based on the socio-ecological model (2.2.3), the social capital theory (2.2.2) and the process of adjustment to a visual impairment as described by Dodds et al. (1991, 1993, 1994, 1996).
Several considerations determined our choice for this framework. Parts of the socio-ecological model function as a basic model for the associations between the concepts in our study and are used as a guideline for the analyses. The social capital theory can explain associations in our framework concerning the network aspects. The adjustment process can explain mechanisms within the psychosocial variables, well-being and loneliness. In figure 2.1 the general theoretical framework is sketched.

![Diagram of theoretical framework](image)

Figure 2.1 Theoretical framework
Another consideration in using this framework was the combination of the advantages from the different theories as described in section 2.2, and therefore solving most of the shortcomings of them. For instance, if the social capital theory is used in a model, the model must involve psychological variables too (Tijhuis, 1994). In the framework of our study, we include these variables. Many psychological, pedagogical and educational studies in this decade were also based on such frameworks. In this way, our possibilities to compare results of visually impaired adolescents with those of sighted adolescents are optimal. Furthermore, the amount of explained variance using this kind of framework, was mostly satisfying.

Identifying a theoretical framework or model of the associations between several concepts for a specific sample in scientific research, provides more insight into processes in the real world. An advantage of using models is the possibility of including many variables and associations between them, just as human behavior in reality is influenced by many factors. With structural equation modeling techniques, we are able to analyse the above described framework (see Chapter 7). This kind of analysis has the strength that complicated path models can be specified and estimated, for example with intervening variables between the independent and dependent variables. This results in a better understanding of the data and the relationships between variables.