

Identity Development in German Adolescents with and without Visual Impairments

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Structured abstract: *Introduction:* The study reported here assessed the exploration of identity and commitment to an identity in German adolescents with and without visual impairments. *Methods:* In total, 178 adolescents with visual impairments (blindness or low vision) and 526 sighted adolescents completed the Ego Identity Process Questionnaire. *Results:* The levels of identity exploration and making commitments, as well as the distribution of identity statuses, did not differ between the two groups. However, adolescents with congenital visual impairments showed lower levels of identity exploration than their peers with acquired visual impairments. In addition, more severe disability was associated with less exploration of identity. Furthermore, levels of identity exploration and commitment varied by age, parental education, levels of social support, and levels of problem behavior. *Discussion:* The findings indicate that adolescents with visual impairments do not fall behind sighted adolescents in developing a sense of identity. *Implications for practitioners:* Adolescents who are congenitally blind or have a high level of disability may need support in exploring and accessing information on future opportunities.

Identity development is a critical task in adolescence. According to Erikson (1959), adolescents achieve a coherent sense of identity by exploring and questioning values, beliefs, and goals. They then make commitments to their own personal set of values, beliefs, and goals.

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Identity exploration consists of actively questioning and weighing various identity alternatives before making a decision about which values, beliefs, and goals one wants to pursue. Commitment involves making a relatively firm choice in an identity domain and engaging in significant activities to implement that choice. Marcia (1966) divided both exploration and commitment into “high” versus “low” levels to yield four identity statuses: diffusion, moratorium, foreclosure, and achievement. *Diffusion* refers to young people who have not yet actively explored different identity alternatives and who lack strong identity commitments. *Moratorium* refers

to active exploration of different alternatives without strong current commitments. *Foreclosure* refers to adopting commitments, such as parental beliefs, without prior exploration of possible alternatives. *Achievement* refers to establishing commitments following a period of exploration of potential life options. Identity achievement has been considered a desirable developmental outcome (Marcia, 1966).

Adolescents with visual impairments may have difficulty achieving a coherent sense of identity for several reasons. They are, on average, more dependent on their parents and other adults than are sighted adolescents and may, therefore, be less likely to question the values, beliefs, and goals of their parents and other adults. Parents of young people with visual impairments may be overprotective and inhibit the young people's identity development (Adenzato, Ardito, & Izard, 2006). Adolescents who are visually impaired may have limited socialization experiences with peers that are important in exploring their identities (Pfeiffer & Pinqart, 2011). They may have less access to information about available opportunities for the development of identity, for example, because of their inability to access visual information. Finally, planning future goals may be complicated by the uncertainty of the prognosis of some eye diseases. Some barriers to identity development, such as limited contact with peers, may be higher for adolescents with more severe physical and sensory impairments.

Two factors, however, may counteract these barriers to identity development. When visual impairment restricts the number of available opportunities for the

development of identity, individuals may need less time to explore them. Individuals with visual impairments may receive more support in exploring available opportunities for personal development from teachers, counselors, or relatives.

Only one study addressed the processes of identity development in individuals with visual impairments. Lin's (2010) case study described the identity development of a person with an acquired visual impairment based on a semistructured interview. After the emergence of visual impairment, the previous identity could not be maintained, followed by identity diffusion, identity exploration, moratorium, and identity achievement. Thus, individuals with visual impairments may reach identity achievement if they have sufficient time to adapt to their vision loss. Positive attitudes toward disability, flexibility in coping, and the availability of social support were reported as having helped this person with identity development (Lin, 2010).

Several factors may be related to the identity development of individuals with visual impairments, such as age and gender. According to Marcia (1966), as adolescents become older they tend to progress from identity diffusion to identity foreclosure to identity moratorium and finally to identity achievement on the basis of increases in the levels of exploration and commitment in identity-related areas. Kroger, Martinussen, and Marcia (2010) provided support for this progression in adolescents without disabilities.

Samuolis, Layburn, and Schiaffino (2001) provided some evidence for higher levels of commitment and exploration of identity in female adolescents than among male adolescents, although other studies

found no gender differences (see, for example, Luyckx, Goosens, Van Damme, & Moons, 2011). In addition, higher parental socioeconomic status may promote identity development. Adolescents from families with higher socioeconomic statuses may have more attractive alternatives to explore and from which they can choose. In fact, Rollins and Valdez (2006) found that adolescents from families with higher socioeconomic statuses had better scores on identity achievement.

A series of studies has shown that adolescents in the various identity statuses differed in the quality of relationships with members of their social networks. Specifically, adolescents who embodied the achievement status had good relationships with their parents and received high levels of support from family members throughout the individuation process (Marcia, 1993). Positive associations of peer support with identity development have also been observed (Meeus & Deković, 1995), while research is lacking on the role of other members of the social network, such as teachers. Lin (2010) emphasized the role of social support for identity development in an individual with an acquired visual impairment.

Studies have also shown that achieved identity and foreclosure are associated with the lowest levels of emotional and social problems (Luyckx et al., 2008, 2011). This finding may indicate that having clear goals protects against emotional and behavioral problems because young people invest most of their time in attaining goals, for instance. Alternatively, commitment making in individuals with more severe behavioral problems may be inhibited, because such people explore available alternatives less systematically

or because they have fewer attractive opportunities from which they can choose (such as when school problems limit future career opportunities).

Research questions

The first research question asked whether adolescents with visual impairments differ from their sighted peers in their levels of identity exploration, commitment formation, and identity status. In Germany, individuals with severe visual impairments and other disabilities receive a certificate of disability that reports their degree of disability. Following a medical assessment, they are classified as having a certain degree or percentage of disability that is assessed in increments of 10 degrees from 20 to 100. If individuals have more than one disability, the most severe disability is assessed first, followed by an increase in the total level of impairment in daily functioning because of the additional disabilities (Tinter, 2011). The second research question asked whether adolescents with more severe visual impairments and degrees of disability differ from those with low vision in their identity development.

Lin (2010) observed that an individual with an acquired visual impairment needs a sufficient amount of time to rebuild an achieved identity. Therefore, the third research question asked whether processes of identity exploration and commitment as well as identity statuses would differ by the duration of a visual impairment. The final research question asked whether identity exploration and making commitments by young people with and without visual impairments would vary by age, gender, parental socioeconomic status, social support, and behavioral problems.

Methods

SAMPLE

We collected data from 180 adolescents with visual impairments and 540 sighted adolescents. The results from 2 visually impaired adolescents and 6 sighted adolescents were excluded from the analysis because of missing values. According to the criteria of the ICD-10 (WHO, 2010), 63 participants with visual impairments were blind and the others had low vision. Twenty-four participants with visual impairments reported that they also had a second disability, such as cerebral palsy (2 participants) and hearing impairments (2 participants).

The participants with visual impairments were, on average, more likely to be older and male and to have parents who did not complete the highest school track than did the sighted participants (see Table 1). Thus, age, gender, and educational attainment were used as control variables in the analyses.

The adolescents participated in the third wave of the Marburg Study on Vision Loss (MARVIL; Pfeiffer & Pinquart, 2011). During the first wave, children in Grades 6–11 who attended three German secondary schools for young people with visual impairments were recruited, as were children from six secondary schools for sighted students. In accordance with the admission criteria of the schools for students with visual impairments, all the participants from these schools fit the criterion of a visual acuity of less than 20/70 in the better eye with the best possible correction. Because a portion of the adolescents with visual impairments came from boarding schools, some sighted adolescents were also chosen from boarding schools.

For repeated data collection, the students who were still enrolled in school were recontacted during the first- and second-year follow-up analyses. In addition, students who had recently entered the assessed classes in Wave 2 were included in the study. All the participants were enrolled in the highest school track that qualifies for attending university. The study was approved by the Ethics Committee of the German Psychological Society. After approval from the school boards and informed consent from the parents and adolescents had been received, the students were asked to answer a questionnaire in their classrooms. The average response rate was 87% at each wave.

MEASURES

Identity

Identity was assessed with the Ego Identity Process Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995). This measure contains 32 items that assess the exploration of identity. Identity status assignments are made using median splits of levels of past exploration and present commitment on the basis of Marcia's (1966) definitions of identity statuses. Two sample items are as follows: "I have discussed religious matters with a number of people who believe differently than I do" (exploration) and "I am very confident of what kinds of friends are best for me" (commitment). In our study, the Cronbach's alphas were .71 (exploration) and .68 (commitment).

Social support

A modified version of the subscales Perceived Emotional Support and Perceived Instrumental Support from the Berlin Social

Support Scales was used (Schwarzer & Schulz, 2000). All items regarding support from parents, peers, and teachers were asked separately (rather than with regard to support in general). Answers were marked on a 4-point Likert-type scale ranging from 1 = totally wrong to 4 = totally true in response to statements like “Those people really like me.” In the study, the scale had internal consistencies of $\alpha = .83$ (parents), $.90$ (peers), and $.87$ (teachers).

Behavioral problems

We computed the Total Difficulties Score of the self-report form of the Strengths and Difficulties Questionnaire (Goodman, 1997). Negative attributes were assessed using 20 items referring to the past 6 months, namely, emotional problems, conduct problems, hyperactivity or inattention, and peer problems (with 0 = not true, 1 = somewhat true, and 2 = certainly true). A sample item was “I am often unhappy, depressed, or tearful.” In the study, the Cronbach’s alpha was $.73$.

Sociodemographic characteristics

Age (in years), gender (1 = male, 2 = female), educational attainment of parents (2 = at least one parent completed the highest school track, 1 = other), and degree of disability as reported in the certificate of disability (in percentages) were assessed with single items.

Results

We computed two analyses of covariance, with levels of identity exploration and commitment as dependent variables; visual impairment (1 = yes, 0 = no) as the independent variable; and age, gender, and parents’ educational attainment as covariates. As is shown in Table 1, the

groups did not differ in their levels of exploration and commitment.

Next, we did median splits for commitment and exploration and assigned each individual to one of Marcia’s (1966) status groups. The participants with below-median levels of commitment and exploration were assigned to diffusion. Those with above-median levels of exploration and below-median levels of commitment were assigned to moratorium, and those with below-median levels of exploration but above-median levels of commitment were assigned to foreclosure. Finally, those with above-median levels of commitment as well as exploration were assigned to the group with achieved identity (see Table 1). Then we tested whether the pattern of identity statuses would differ between the participants with visual impairments and those who were sighted (Von Eye, Mair, & Mun, 2010); however, the distribution of the identity statuses did not differ between the two groups: $\chi^2(4) = 1.22$, n.s.

The second research question addressed differences between the participants who were blind and those with low vision. Because the groups did not differ with regard to age [$F(1,177) = .97$, n.s.], gender [$F(1,177) = .96$, n.s.], and parents’ educational attainment [$F(1,177) = 2.90$, n.s.]—there was no need to control for confounding variables. We computed two analyses of variance for comparing levels of commitment and exploration. The levels of exploration did not differ between the participants who were blind ($M = 39.31$, $SD = 6.44$) and those with low vision [$M = 39.81$, $SD = 6.53$; $F(1, 177) = .92$, n.s.]. The same was true for levels of commitment—($M = 45.45$, $SD = 6.41$) versus [$M = 44.51$, $SD =$

Table 1
Characteristics of the participants.

Variable	Total sample		Visually impaired participants		Sighted participants		Test for between-group differences
	Mean	SD	Mean	SD	Mean	SD	<i>F</i> (1,712)
Age (in years)	15.88	2.20	17.22	2.23	15.34	1.98	72.04***
Female gender (%)	51		42		54		8.68**
Students from boarding schools (%)	22		18		23		2.23
At least one parent completed the highest school track (%)	58		38		64		39.30***
Blind (%) ^c			35				
Low vision (%) ^a			66				
Duration of visual impairment (in years) ^{a, b}			15.50	4.49			
Degree of disability (%) ^{a, c}			83.6	23.6			
Exploration ^d	38.82	6.10	38.95	6.51	38.78	5.94	0.08
Commitment ^d	43.93	6.11	44.26	6.30	43.82	6.01	0.54
Diffusion (%) ^d	26		25		26		
Moratorium (%) ^d	23		20		23		
Foreclosure (%) ^d	24		26		23		
Achievement (%) ^d	28		29		27		
Parental support (mean score) ^d	21.36	3.84	21.48	3.61	21.36	3.92	0.11
Teachers' support (mean score) ^d	13.20	4.15	14.82	4.25	12.66	3.96	31.71***
Peers' support (mean score) ^d	19.44	3.78	19.56	3.88	19.26	3.74	3.68
Behavioral problems (mean score) ^d	10.56	5.07	11.07	4.78	10.34	5.16	2.26
<i>N</i>	704		178		526		

^a These variables were assessed only in the group with visual impairments.

^b This information was available only for 162 students.

^c Scores ranged from 20% to 100%.

^d The between-group differences controlled for effects of age, gender, and parental education.

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

6.19; $F(1,177) = .24$]. Identity achievement seemed to be slightly less frequent in the participants who were blind (30%) than in those with low vision (36.2%), while the reverse was true for foreclosure (30% versus 23.3%). The distribution of identity statuses, however, did not show statistically significant differences between the two groups: $\chi^2(4) = 1.29$, n.s.

Information on the level of general disability was available for 162 participants with visual impairments. We found a negative correlation between the degree of disability and level of exploration ($r =$

$-.19$, $p < .02$). No such association was observed for commitment ($r = .02$, n.s.).

The third research question asked whether the levels of exploration and commitment differed by the duration of the visual impairment. Because the duration of visual impairment was correlated with age ($r = .31$, $p < .001$), we computed partial correlations of exploration and commitment with the duration of the visual impairment while statistically controlling for age. We found a significant negative partial correlation between exploration and the duration of the visual

Table 2

Associations of visual impairment, sociodemographic variables, social support, and behavioral problems with identity exploration (multiple linear regression analysis).

Variable	Total sample		Visually impaired			Sighted		
	<i>B</i>	β	<i>B</i>	95%-CI of <i>B</i>	β	<i>B</i>	95%-CI of <i>B</i>	β
Visual impairment	.19	.01						
Age	.69	.25***	.41	.01 .83	.14*	.82	.57 1.06	.27***
Female gender	-.71	-.06	-1.24	-3.23 .80	-.09	-.51	-1.52 .50	-.04
Parental education	1.49	.12***	2.49	.50 4.48	.19*	.96	-.05 1.97	.08
Parental support	-.07	-.04	-.10	-.37 .17	-.06	-.06	-.19 .07	-.04
Teachers' support	.16	.11**	.06	-.17 .29	.04	.21	.09 .33	.14***
Peers' support	-.03	-.02	-.04	-.30 .22	-.03	-.01	-.14 .13	-.00
Behavioral problems	.17	.14***	.12	-.10 .35	.09	.17	.07 .27	.15***
Constant	25.71		20.73			23.16		
<i>R</i> ²	.11		.08			.12		
<i>N</i>	704		178			526		

Note: *B*(β) = unstandardized regression coefficient, CI = confidence interval.

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

impairment ($r = -.18, p < .02$). No such relationship was observed for commitment ($r = .02, n.s.$).

We also found that the levels of exploration were lower in the participants who were congenitally blind ($M = 39.17, SD = 6.73$) than among those with acquired visual impairments [$M = 42.39, SD = 4.66; F(1,177) = 5.87, p < .02$]; however, the two groups did not differ in their levels of commitment ($M = 44.77, SD = 6.52$) versus [$M = 44.95, SD = 5.02; F(1,177) = .02, n.s.$]. When we compared identity statuses, we observed that achievement was slightly more frequent in the participants with acquired visual impairments (46.4%) than among those who were congenitally blind (31.3%), while the reverse was true for foreclosure (14.3% versus 28.0%). However, because of limited statistical power (only 28 participants had acquired visual impairments), the between-group differences analyses were not significant: $\chi^2(4) = 5.41, n.s.$

In the final research question, we analyzed whether age, gender, parental edu-

cation, social support, and behavioral problems were associated with identity exploration and commitment. We computed two simultaneous multiple linear regression analyses by using the total sample. As is shown in Table 2, the levels of exploration increased with age. In addition, higher parental academic achievement, higher levels of support from teachers, and *more severe* behavioral problems were associated with higher levels of exploration.

Separate regression analyses of the groups of participants with visual impairments and of sighted participants showed that higher age and higher parental academic achievement were associated with higher levels of exploration in those with visual impairments. In the sighted group, higher age, higher levels of support from teachers, and more severe behavioral problems were associated with more identity exploration. However, the nonoverlap of the 95% confidence intervals of the regression coefficients indicates that the regression

Table 3

Associations of visual impairment, sociodemographic variables, social support, and behavioral problems with commitment (multiple linear regression analysis).

Variable	Total sample		Visual impairment			Sighted				
	<i>B</i>	β	<i>B</i>	95%-CI of <i>B</i>	β	<i>B</i>	95%-CI of <i>B</i>	β		
Visual impairment	-.33	-.02								
Age	.41	.15***	.42	.00	.84	.15*	.40	.14	.65	.13**
Female gender	-.61	-.05	-.18	-.18	1.47	-.01	-.62	-1.66	.43	-.05
Parental educational attainment	-.04	-.00	1.21	-.64	3.06	.09	-.42	-1.46	.63	.03
Support from parents	.23	.14***	.09	-.16	.34	.05	.28	.15	.41	.18***
Support from teachers	.01	.01	-.08	-.30	.14	-.06	.05	-.08	.18	.03
Support from peers	.23	.14***	.28	.03	.52	.17*	.23	.08	.37	.14**
Behavior problems	-.15	-.12**	-.32	-.52	-.12	-.24**	-.11	-.21	-.00	-.09*
(Constant)	30.01		34.95				28.75			
<i>R</i> ²	.10		.13				.10			
<i>N</i>	704		178				526			

Note: *B*(β) = unstandardized regression coefficient, CI = confidence interval.

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

coefficients did not differ significantly between the groups.

As is shown in Table 3, we observed that higher age, higher levels of support from parents and peers, and lower levels of behavioral problems were associated with higher levels of commitment. In the participants with visual impairments, higher age, higher levels of peer support, and lower levels of behavioral problems were associated with higher levels of commitment. Associations of age and peer support were also observed in the sighted participants, and higher levels of support from parents were associated with higher levels of commitment in those participants. Again, the nonoverlap of the 95% confidence intervals indicates that the regression coefficients did not differ significantly between the groups.

Discussion

We found that the levels of exploration and commitment, as well as the distribution of the identity statuses, did not differ

between the sighted participants and the participants who were visually impaired, as well as between those who were blind and those with low vision. However, being congenitally blind and having a visual impairment for greater time spans and a more severe disability were associated with lower levels of exploration. Higher age was associated with higher levels of exploration and commitment. In addition, higher parental educational attainment predicted higher levels of exploration by the participants with visual impairments, while higher levels of support from peers and lower levels of behavioral problems were associated with higher levels of commitment in that group.

We observed that the participants with visual impairments and the sighted participants did not differ much in their identity development. Similar results have been reported in comparisons of the identity development of young people with and without chronic physical illnesses, such as cancer, congenital cardiac disease,

and diabetes (Luyckx et al., 2008, 2011; Madan-Swain et al., 2000). As we discussed in the review of the literature, there may be factors that complicate the identity development of young people with visual impairments (such as less access to visible information and overprotection), while other factors may even promote faster identity exploration and commitment (for example, fewer available career options). For example, the schools provided a lot of information about the available career opportunities for students with visual impairments. These factors may have balanced each other and caused the lack of differences between adolescents with and without visual impairments. Although it may be difficult to determine an optimal level of identity exploration of individuals with visual impairments, our results indicate that there may not be large differences between these individuals and those who are sighted in this regard.

Although the levels of identity development did not differ between the participants who were blind and those with low vision, we found that more severe degrees of disability were associated with lower levels of identity exploration. A more severe disability indicates more dependence on parents and other adults and may, therefore, inhibit the questioning of values, beliefs, and goals that are enforced by parents and other adults and trying alternative ways of living.

We observed that a longer duration of vision loss and having a congenital visual impairment were associated with lower levels of identity exploration. This finding may indicate that some young people with acquired visual impairments had started exploring their identities before

the onset of their visual impairments, thus leading to higher levels of exploration. In addition, individuals with acquired vision loss may have accumulated more resources that helped with identity exploration, such as social ties with sighted peers.

With regard to the correlations of identity exploration and commitment, we found similarities and differences between the participants with and without visual impairments. In both groups, exploration and commitment increased with age, and support from peers was associated with higher levels of commitment. However, we observed only in the participants with visual impairments that higher parental educational attainment was associated with higher levels of exploration. Higher parental education may provide better access to information from parents or other adults and better access to computers and the Internet.

It may be surprising that support from teachers was associated only with the sighted participants' identity exploration. However, the participants who were visually impaired received, on average, more support from their teachers than did their sighted peers. All or most of them may have received the support needed from teachers for their identity development, thus making it difficult to identify an association between teachers' support and identity development.

It is interesting that more severe problem behavior was associated with higher levels of exploration and lower levels of commitment in the total sample. Identity exploration is associated with abandoning traditional values of parents and adults in general, distress that is due to identity confusion (Schwartz, Zamboanga, Weiskirch, & Rodriguez, 2009), and some

delinquent behaviors such as alcohol and drug abuse (Brown et al., 2008). Making commitments reduces confusion and associated distress, and many commitments (such as developing high career aspirations) are not compatible with problem behavior. The lack of a significant association between problem behavior and identity exploration in the participants with visual impairments should be interpreted with caution because of the lower statistical test power in that group. Nonetheless, adolescents with visual impairments tend to have smaller peer networks than do sighted adolescents (Pfeiffer & Piquart, 2011), which may limit some kinds of problem behaviors that are associated with testing limits (like drinking alcohol with peers).

Limitations and conclusions

Our study had some limitations. We assessed only students from the highest school track. Because the large majority of German adolescents with severe visual impairments attend special schools, we were unable to locate a representative sample of students from integrated schools.

We analyzed data from one point of measurement. Thus, we could not analyze predictors of change in identity exploration and commitment. Finally, it may be considered a limitation that we stayed only with the classical identity statuses presented by Marcia (1966) and did not examine the various modifications that have been suggested, such as the distinction between diffused diffusion versus carefree diffusion (Luyckx et al., 2008, 2011). Widely used identity measures do not provide separate scales for these statuses, thus it was unlikely that the inclu-

sion of these statuses would have uncovered significant differences between the sighted participants and those who were visually impaired.

Despite these limitations, several conclusions can be drawn from the findings. Since there were only minor differences between the identity scores of the participants with visual impairments and the sighted participants, we conclude that adolescents with and without visual impairments are comparable with respect to their levels of identity exploration and commitment. These results counter anecdotal findings that youths who are visually impaired are falling behind with respect to developing a coherent sense of identity. Congenital visual impairment and a long duration of visual impairment seem to inhibit identity exploration, but not commitment making. Adolescents with visual impairments do not need more support with identity development than their sighted peers. However, if an adolescent with a visual impairment does not appear to be able to explore values, beliefs, and goals and to make steady identity commitments, but instead worries about where his or her life is heading, then he or she needs help promoting identity development. Providing access to information about future opportunities could promote identity exploration. Interventions that are aimed at the identity development of young sighted people have been suggested (Schwartz, Kurtines, & Montgomery, 2005). They promote the search for information, the generation of possible identities, and the critical evaluation of these alternatives. Although these interventions have been applied to only young

adults who are sighted, the interventions could be easily adapted to meet the needs of those who are visually impaired.

Future studies should compare the identity development of adolescents who are visually impaired from integrated schools and special schools for students who are visually impaired. They should also compare the identity development of students with visual impairments from different school tracks. Finally, because identity development is not finished after the end of adolescence (Kroger, Martinussen, & Marcia, 2010), more research is recommended to expand knowledge of the identity development of emerging adults and young adults with visual impairments.

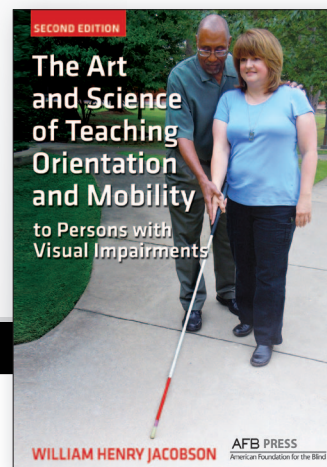
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