General Discussion
The main objective of the present thesis was to gain more insight into the nature, early time course and possible underlying mechanisms of ethnic differences in psychological, social, and educational adjustment comparing children of migrants with a non-Western minority status with native Dutch majority children covering the entire elementary school period. Research in child development suffers from a lack of longitudinal studies on the psychosocial functioning of ethnic minority children with a family migrant background (Aronowitz, 1984; Fuligni, 2001; Stevens & Vollebergh, 2008; Vollebergh, 2003). Also, studies on the link between migration and mental health have mostly been focused on the period of adolescence and adulthood, leaving the elementary school age years a relatively unexplored area of research. However, these early school years constitute a distinctive formative period wherein children’s social world expands dramatically, adequate social-behavioral adjustment is increasingly required, and sufficient emotional regulatory skills are needed. Despite the importance of these developmental changes–also in a context of a different host culture–few empirical studies have been conducted to investigate the psychosocial and educational functioning of children of non-Western migrants during this period.

Importantly, children of non-Western migrants face the double challenge of having to grow up in two different cultures, often starting school with a social and economic disadvantage (SCP, 2001, 2012). As a consequence, their integration into the primary school system may be more complicated. Whilst acculturating, children of migrants simultaneously have to accomplish major universal developmental milestones (such as establishing positive peer relationships, learning and elaborating pro-social behaviors), and have to achieve academic success. Children with a non-Western family background also have to overcome a relatively greater cultural distance (Berry, 1997, 2005; SCP, 2012) than children with a Western minority status. The dramatic changes and requirements that unfold when commencing and going through elementary school are likely to be experienced as more stressful by non-Western minority children, making them more vulnerable to psychopathology (externalizing and internalizing), social problems, and academic underachievement. To further investigate this hypothesis, the present thesis conducted a longitudinal
study during the stepping-stone years of primary education that included measures of psychological, social, and educational adjustment. This thesis specifically aimed to investigate (1) the development of ethnic differences in the domains of behavioral, emotional, and social functioning across the entire elementary school period, (2) whether teacher reports of ethnic differences in externalizing problem behavior may alternatively be due to a behavioral assessment bias as a function of children’s ethnicity, and (3) whether child social-behavioral factors help explain ethnic differences in externalizing and academic outcome.

The empirical studies presented in Chapters 2 to 5, each addressed these gaps in our knowledge. Chapter 2 investigated whether level differences in psychosocial adjustment between ethnic minority non-Western children and ethnic majority Dutch children are already observable in the early elementary school years, and whether these persist or change over time. In Chapter 3 it was examined whether teacher-reported ethnic differences in the level and time-course of externalizing behavior could not alternatively be explained by a possible ethnic bias in behavioral ratings, as much of the school-based research on ethnic differences relies on teacher reports. Finally, Chapter 4 and 5 were centered on unraveling possible mechanisms underlying the most often studied developmental outcomes of ethnicity-related risk: externalizing problem behavior and academic underachievement. Chapter 4 explored ethnic differences in the association between peer social preference and externalizing problem behavior over the first years of elementary school. Considering the well-established relationship between psychosocial adjustment and academic functioning, Chapter 5 addressed whether social-behavioral adjustment in the classroom contributes to ethnic disparities in academic achievement independently of children’s cognitive skills.

**MAIN FINDINGS**

In the present thesis a general picture emerged wherein non-Western minority children have a poorer psychosocial and educational adjustment, but do not show escalating development in problem behaviors when compared to Dutch natives. In Chapter 2, there were no ethnicity-related differences found in change in problem behaviors during the entire elementary school period. This suggests that non-Western minority children’s
psychosocial adjustment over time may be considered comparable to that of native Dutch children. We know of only one previous study on change in problem behaviors across the elementary school years wherein it was found that US ethnic minority children show larger increases in teacher rated externalizing problem behavior when compared to their ethnic majority peers (Keiley et al., 2000). We did not find evidence for a similar escalating growth pattern in externalizing problem behavior among ethnic minority non-Western children in the present Dutch study sample.

Considering ethnicity-related level differences, Chapter 2 and Chapter 4 showed that both teachers and peers reported ethnic differences in social and behavioral adjustment throughout the elementary school years. Compared to Dutch natives, non-Western minority children displayed particularly increased levels of externalizing problem behavior (aggression, oppositional defiant behavior, and conduct problems), and had poorer social behavior and experiences (pro-social behavior, peer victimization, peer social preference) across various points in time. Importantly, these social and behavioral problems were already clearly observable at grade 1, and were found to persist up to the end of the elementary school period in grade 6. These results are in line with previous cross-sectional research indicating an elevated risk for school behavioral adjustment problems (Bevaart et al., 2012; Mieloo et al., 2013; Rutter et al., 1974; Stevens et al., 2003; Vollebergh, 2003; Vollebergh et al., 2005; Zwirs et al., 2010) and poor peer relations among ethnic minority and migrant youth (Matthews, Kizzie, Rowley, & Cortina, 2010; McKenney, Pepler, Craig, & Connolly, 2006; Mieloo et al., 2013; Strohmeier, Kärnä, & Salmivalli, 2011; Verkuyten & Thijs, 2002). The persistence of the level differences that were particularly evident in the outcome dimension of externalizing problem behavior, is also in accordance with two European studies that showed increased externalizing problems among adolescent and adult non-Western minorities persist across three time-points (Sagatun, Lien, Søgaard, Bjertness, & Heyerdahl, 2008; van Oort et al., 2007).

For the outcome dimension of internalizing problem behavior (anxiety), it was found in Chapter 2 that peers concurred with teachers on reporting no ethnic differences over multiple timepoints. Earlier cross-sectional studies suggested no differences or lower levels of emotional problems among non-Western minority children when compared to Dutch natives (Stevens et al., 2003; Vollebergh et al., 2005). The absence of this risk
may be surprising considering the well-established co-morbidity between internalizing and externalizing problems (Lilienfeld, 2003; Weiss & Catron, 1994). Parallel to the observed increase in behavioral problems, one would expect at least similar, if not, higher levels of emotional problems among non-Western children. In light of this, it is also important to note that controlled problem behaviors such as anxiety are more covert than under-controlled problem behaviors like aggression and may therefore be less likely detected in the school environment. However, this may not necessarily imply that emotional problems are not present. An additional factor that could be playing a role in obscuring emotional problems among ethnic minority children are possible cultural differences in the expression of distress symptoms that may go unnoticed by native Dutch teachers. Some support for this idea comes from a Dutch study where non-Western migrant teachers, but not native Dutch teachers, reported increased levels of emotional problems in a sample of non-Western elementary school-age children (Crijnen, Bengi-Arslan, & Verhulst, 2000). Also, internalized stress may be more present during adolescence and selectively more displayed in a safe home environment. Several studies that have used parent and self-report, have indeed found increased emotional problems among non-Western minority youth (Bengi-Arslan, Verhulst, Ende, & Erol, 1997; Janssen et al., 2004; Stevens et al., 2003; Vollebergh et al., 2005).

Importantly, the possibility that teacher reports of ethnic differences in externalizing problem behavior may be alternatively attributed to a behavioral assessment bias as a function of children’s ethnicity was examined in Chapter 3. The results of incremental stringent longitudinal measurement invariance (MI) tests showed no evidence for systematic ethnic bias in teacher ratings of externalizing problem behavior in non-Western minority children versus native Dutch children. MI was established for oppositional defiant behavior (strict factorial invariance) and conduct problems (strong factorial invariance) across different teachers, from grade 1 to grade 6. This suggests that teachers did not conceptualize externalizing problem behaviors differently (configural invariance), nor evaluate their saliency differently (weak factorial invariance), or rate degrees of displayed behaviors as more or less problematic (strong factorial invariance) as a function of children’s ethnicity. Thus, teacher reports of ethnic differences in mean-level externalizing problem behavior between native Dutch and non-Western minority children in this sample are unlikely the result of
GENERAL DISCUSSION

ethnically stereotypical behavioral assessments, and can therefore be interpreted unambiguously.

Having established the nature, validity, and course of ethnic differences in various psychosocial outcomes, Chapter 4 and 5 investigated likely explanatory factors for ethnic differences in externalizing problem behavior and academic underachievement. By far, the most prominent and robust ethnicity effect across informants and time-points was found in the outcome dimension of externalizing problem behavior. In Chapter 4, non-Western minority children received lower peer nominated social preference scores than native Dutch children in the first few years of elementary school. Consistent with this, previous studies show that ethnic minority and migrant children have a lower social position in the classroom (Grünigen, Perren, Nägele, & Alsaker, 2010; Ladd & Burgess, 2001; Lochman & Wayland, 1994; Lubbers, 2006; Monks, Ortega-Ruiz, & Rodríguez-Hidalgo, 2008; Oppedal, Roysamb, & Heyerdahl, 2005). Importantly, as expected a low social position among peers was found to be strongly associated with externalizing problem behavior. Surprisingly however, this link appeared to be more pronounced for non-Western minority children versus native Dutch children. The experience of a low social position was found to affect non-Western minority children more than other children in their behavioral adjustment. More specifically, compared to native Dutch children with low social preference scores, non-Western minority children with the same low peer social preference display higher levels of externalizing problem behavior.

The greater impact of social position on the behavioral adjustment of children with a non-Western background may be related to culturally stronger values for social collectivism or group-orientations (the need to belong) in non-Western societies where the maintenance of harmonious relationships has a high priority (Chen, 2006; Oyserman, Coon, & Kemmelmeier, 2002), and social acceptance is considered fundamental (Baumeister & Leary, 1995). Another possibility is that non-Western minority children may have been confronted with ethnically framed peer evaluations, influenced by society’s devalued image of ethnic minorities (Hagendoorn, 1995; Pettigrew, 1998; Verkuyten, Hagendoorn, & Masson, 1996; Verkuyten & Kinket, 2000; Verkuyten & Thijs, 2002). Feelings of anger and frustration that could arise from such uncontrollable social appraisals, together with a relative higher valued need to belong, may more likely drive non-Western
minority children to resort to emotionally reactive externalizing behaviors as a means to restore the social imbalance (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Coll et al., 1996; Nyborg & Curry, 2003; Smart Richman & Leary, 2009; Strohmeier, Fandrem, Stefanek, & Spiel, 2012; Vega, Khoury, Zimmerman, Gil, & Warheit, 1995). Some indirect empirical evidence for this hypothesis comes from a Dutch study conducted by Novin et al. (2012) where it was found that both a lack of personal belonging to the host culture as well as the culture of origin among non-Western children functioned as a primary predictor of externalizing coping when faced with peer relational conflicts. Finally, alternative related cumulative complicating factors including family poverty, social adversity, familial mental health problems, and perceived discrimination (Oort, Ende, Wadsworth, Verhulst, & Achenbach, 2011; Veling et al., 2007), may also limit the degree of parental support and make children of non-Western migrants less resilient against the adverse psychological effects of being disliked by peers (Berry, Poortinga, & Pandey, 1997).

Considering the ethnic gap in achievement, Chapter 5 showed that non-Western minority children obtained on average lower standardized test-scores on the Dutch national End of Primary School Test (Cito Eindtoets Basisonderwijs; van Boxtel, Engelen, & de Wijs, 2011), which is in agreement with previous research describing disadvantaged ethnic minority and migrant groups at risk for poor academic outcomes (Brooks-Gunn, Klebanov, & Duncan, 1996; Heath, Rothon, & Kilpi, 2008; Jencks & Phillips, 1998; Kao & Thompson, 2003; Levels, Dronkers, & Kraaykamp, 2008). Importantly, the End of Primary School Test or Cito Eindtoets Basisonderwijs has been thoroughly examined for potential differential item functioning (van Boxtel et al., 2011; van Schilt-Mol, 2007) and found valid for ethnically diverse use and interpretation of performance scores. In an attempt to explain the ethnic difference in achievement test-scores, it was found that the increased behavioral problems (opposition-conduct problems) and poorer peer relationships (lower peer social preference and more affiliation with deviant friends) among non-Western minority children did not contribute to their underachievement when basic cognitive competencies (verbal ability and working memory skills), and classroom attention-deficit/hyperactivity (ADH) were controlled for. Mainstream developmental research has also shown that cognitive skills and ADH account for the potential influence of social-behavioral factors on academic achievement.
(Barriga et al., 2002; Blair & Razza, 2007; Duncan et al., 2007; Fergusson & Horwood, 1995; Frick et al., 1991; Hinshaw, 1992a, 1992b; Rapport, Scanlan, & Denney, 1999). Studies on the ethnic gap in achievement in the US have also highlighted the importance of cognitive skills (Brooks-Gunn et al., 1996; Jencks & Phillips, 1998; Lee & Burkam, 2002; Votruba-Drzal, 2003) and learning directed attention and behavior (Matthews et al., 2010; Rabiner, Murray, Schmid, & Malone, 2004; Sektnan, McClelland, Acock, & Morrison, 2010). Our study extends on these findings by showing that social-behavioral adjustment does not predict ethnic disparities in achievement when accounting for cognitive skills and attention-deficit behaviors, using peers as informants for social adjustment, and using a standardized multi-domain achievement test as an academic outcome measure.

Non-Western minority children’s substantial lower scores on cognitive skills (effect sizes 1.10 for verbal ability and 0.69 for working memory), and ADH problems, fully explained the ethnic difference in achievement. These large ethnicity effects may likely be related to different practices in parent-child dyadic book reading, home-based cognitive stimulation, and exposure to the language of instruction in school (Brooks-Gunn et al., 1996; Farah et al., 2008; Farkas, 2004; Jäkel, Schölmerich, Kassis, & Leyendecker, 2011; Lee & Burkam, 2002; Magnuson, Lahaie, & Waldfogel, 2006; Verhallen & Bus, 2010; Votruba-Drzal, 2003). The family migration history of non-Western children may also exert its influence. These children’s migrant parents and grandparents are mostly low educated or illiterate workers originating from economically less developed parts of non-Western countries (Becker, Klein, & Biedinger, 2013; Driessen, 2001; Heath et al., 2008; SCP, 2001a, 2001b; Song, 2011). With regard to the poorer attention and behavior inhibition among ethnic minority children, these difficulties have previously been found associated with insufficient cognitive training at home (e.g. few educational materials and activities; Blair & Razza, 2007; Lengua et al., 2007; McClelland, Morrison, & Holmes, 2000; Sektnan et al., 2010; Welsh, Nix, Blair, Bierman, & Nelson, 2010).

**IMPLICATIONS**

By addressing several important knowledge gaps concerning the adjustment of non-Western minority youth in the Netherlands, the present thesis also attempted to give empirically grounded starting points for the design
and implementation of preventive interventions. The results of this thesis may have practical and theoretical implications for researchers, policy makers, (school) psychologists, teachers, and mental health care institutions working with ethnically diverse youth.

Regarding ethnic differences in the early course of psychosocial adjustment, no evidence was found for escalating developmental patterns in externalizing problem behavior, internalizing problem behavior, or in social behavior and experiences. Children with a non-Western migrant background thus likely go through the same developmental trajectories as ethnic majority Dutch natives. This suggests no need for ethnically different or adjusted prediction models for child development. Although this can be interpreted as good news, it is important to point out that we also did not find evidence for over time de-escalation of increased problem behaviors. That is, the increased social-behavioral problems among non-Western minority children that were found at elementary school-entry continued to persist until the end of elementary school. These childhood problems have frequently been associated with a variety of proximal and distal outcomes such as social exclusion, conduct and depressive disorder, school failure, and delinquency (Broidy et al., 2003; Campbell, Spieker, Burchinal, & Poe, 2006; Coie, Terry, Lenox, Lochman, & Hyman, 2009; Deater-Deckard, 2001; Miller-Johnson, Coie, Maumary-Gremaud, & Bierman, 2002). These findings advocate more attention and professional care for non-Western minority youth at an early stage as this youth forms an at-risk group for adjustment problems.

Most previous research on school-age disadvantaged minority and migrant children’s poorer behavioral adjustment has relied on teacher assessment (Stevens et al., 2003; Vollebergh et al., 2005). In the present thesis, classroom peer nominations clearly confirmed teacher reports of increased levels of externalizing problem behavior. In addition, cumulative restrictive measurement invariance tests on the item level of the constructs oppositional defiant behavior and conduct problems indicated that teachers did not show systematic differential (biased) assessment as a function of children’s ethnic minority status. Therefore, when screening for externalizing problems, elementary school teacher reports can be considered a valid method to assess ethnically diverse children in the Netherlands. Furthermore, early screening by teachers may constitute both an effective and an efficient way to refer ethnic minority non-Western
children to youth mental health care institutions. A greater role of teachers in the screening process of non-Western minority children’s behavior may help bring more balance in their lower likelihood to receive professional help for psychological problems (Zwirs, Burger, Schulpen, & Buitelaar, 2006) and their parents’ low problem perception (Bevaart et al., 2012; Keiley et al., 2000; Stevens et al., 2003). In any case, the established ethnic equivalence of teacher’s behavioral assessment justifies using Dutch norm groups and cut-off scores for the screening of behavioral problems among non-Western minority elementary school children in the Netherlands.

Currently, there are growing concerns about societal polarization in the Netherlands, particularly between non-Western minorities and Dutch (often right wing) natives. More attention may therefore be needed for implicit forms of social exclusion (e.g. ethnic discrimination) and in what way these may hamper the early educational adjustment of non-Western minority children. Several reports have shown that non-Western minorities, and youth especially, face great hindrance integrating in society mainly due to their substantially higher unemployment rate and longer period of unemployment after establishing proper qualifications (e.g. SCP, 2014). This indicates that non-Western minority youth may not only experience a low social position during elementary school, but likely also have an outsider status in society during adolescence. Their increased sensitivity for (forms of) social exclusion may possibly make them more likely to affiliate with non-mainstream groups, for example same-ethnicity peer groups that share an identity based on their societal position. These potential societal outcomes are likely to become apparent at later stages of development (i.e., during identity formation in adolescence) and underscore the importance of early implementations of prevention interventions that are focused on improving the social status and behavioral adjustment of non-Western minority children. Especially during early development, non-Western minority children may integrate better into the primary educational system if they are assigned to beneficial pre- or elementary school based programs directed at the enhancement of behavioral regulatory skills, language proficiency, and peer pro-social interaction. School-based approaches are a known efficient and cost-effective way to reduce behavioral problems and ameliorate social-emotional skills (van Lier, Muthen, van der Sar, & Crijnen, 2004; Witvliet, van Lier, Cuijpers, & Koot, 2009).
Regarding scholastic performance, although social-behavioral adjustment did not help to explain the ethnic achievement gap, this does not undermine its impact in other developmental areas. Particularly the large and robust ethnicity effects found in oppositional defiant behavior and conduct problems are disconcerting, these externalizing problem behaviors are considered strong childhood predictors of societal maladjustment in the form of antisocial behavior (Loeber, van der Laan, Slot, & Hoeve, 2008; Miller-Johnson et al., 2002; Nagin & Tremblay, 1999; Parker & Asher, 1987; Timmermans, van Lier, & Koot, 2009; Woodward & Fergusson, 2000). Considering that cognitive skills and ADH accounted for the achievement gap, interventions aimed at providing language-rich and cognitively stimulating environments are a promising avenue. Specifically, the development of sufficient verbal ability, working memory skills, and attention and behavior regulation skills, are necessary for successful learning in general, and indispensable for the incremental learning processes on which formal schooling relies. These basic competencies may best be understood in relation to specific daily classroom activities. For instance, these involve understanding and following(-up) directions, the organization of learning material, planning and structuring learning-related behaviors (e.g. mainly through inner speech), inhibiting impulsive behavior, dismissing distractions, and sustaining attention. Given that non-Western minority children experienced problems related to these specific academic skills, they may likely benefit from early childhood programs that train language skills, the mental retention and use of task-relevant information, and attentional strategies (Barnett et al., 2008; Diamond & Lee, 2011; Klingberg et al., 2005; Marulis & Neuman, 2010; Verhallen, Bus, & de Jong, 2006; Verhallen & Bus, 2010; Wass, Scerif, & Johnson, 2012).

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**STRENGTHS & LIMITATIONS**

Up until now, the link between migration and psychosocial adjustment has most often been studied in the period of adolescence and adulthood, using cross-sectional methods. Younger age groups like elementary school-age children were collapsed together with older age groups, making it difficult to determine at what specific age possible ethnic differences may become apparent, and also how these differences may further develop in time. In addition, previous findings regarding psychological and social problems
among ethnic minority and migrant youth remain complex to interpret, partly because of their reliance on cross-sectional designs that do not assess the degree of robustness or fluctuation over time. In order to address several of these limitations, the present thesis investigated the psychosocial and educational adjustment of a relatively large sample of non-Western minority children. We tracked their within-individual trajectories across the formative childhood years in elementary school, controlling for family SES, using both teacher and peer reports of important developmental outcome measures including externalizing problem behavior, internalizing problem behavior, and social behavior and experiences.

Although the present thesis aimed to clarify the nature and course of ethnic differences in psychosocial and educational adjustment, it is important to point out several limitations that need to be taken into account when interpreting the results. First, all research questions were investigated in an ongoing study among community elementary schools from rural and urban areas that were not selected at-random. This however, did not seem to have biased the distribution of low SES families in the study sample as this was found to be comparable to the general Dutch population. In addition, due to oversampling of inner cities, our sample contained a large proportion of ethnic minority non-Western children. As a consequence, our sample may not be completely representative of all ethnic minority children with a non-Western background residing in the Netherlands and caution is therefore recommended when generalizing the results. Second, the ethnically specific subgroups within the larger non-Western minority group (e.g. Turkish, Moroccan, Surinamese) were unfortunately too small to explore individually from a longitudinal perspective, considering the large number of estimated parameters. In addition, the non-Western minority and native Dutch group sizes precluded testing for possible moderating effects of other covariates such as SES, language proficiency, or gender. Finally, owing to the fact that our study specifically aimed to address the school context through the use of teacher and peer reports. Parent, sibling and selfreport were not investigated.

**FUTURE RESEARCH**

The research questions investigated in this thesis were partly motivated by the ongoing debate on the societal integration of non-Western minority
youth in the Netherlands. Unfortunately, this discussion has not often been based on notions and ideas that are empirically grounded. The present thesis aimed to gain a better understanding of non-Western minority children’s psychosocial functioning and possible mechanisms underlying their adjustment problems. In doing so, we used a convenience sample of elementary school-age children which was not selected with the specific goal to study the role of ethnic minority status. In spite of this, the study’s setting and prospective set-up provided the unique opportunity to take a better look at the adjustment of non-Western minority children during elementary school. It afforded us the chance to investigate (1) the development of ethnic differences in the domains of behavioral, emotional, and social functioning reported by both teachers and peers across the entire elementary school period, (2) whether teacher reports of ethnic differences in externalizing problem behavior may alternatively be due to a behavioral assessment bias as a function of children’s ethnicity, and (3) whether child social-behavioral factors help explain ethnic differences in externalizing and academic outcome. Our objective was to take a first step towards clarifying the persistence of early ethnicity effects over time, the role of social context, and potential escalation of problem behaviors. In this way, headway can be made towards empirically-based starting points for (more) effective design and implementation of preventive intervention programs.

The present thesis suggests several points of improvement for future research on ethnic differences in elementary school adjustment. The first and foremost aspect that needs more attention relates to the construct of ethnicity. Psychological research on the role of ethnicity is inherently challenging due to its complex and multi-faceted conceptualization that can involve shared traits such as cultural history, language, race, religion and country of origin (Okazaki & Sue, 1995). The difficulty to distinguish these elements hinders the development of a solid knowledge base in psychological research on ethnic minority groups. The general operationalization of ethnic minority status used in the present thesis was led by practical considerations (i.e., statistical power, sample attrition) and a useful and broad theoretical categorization. Children were divided in an ethnic majority group and an ethnic minority group; respectively native Dutch if both parents were born in the Netherlands, and non-Western if at least one of the parents was born in a country in Africa, South America or Asia (except Indonesia and Japan) or Turkey (Statistics Netherlands,
The non-Western group consists of various (sub)cultures, religions, each with different family traditions and migration histories, and with varying degrees of knowledge on Dutch culture and language (SCP, 2012). Future research using larger samples of ethnic minorities should further investigate and attempt to disentangle the variety of factors that fall under the umbrella of having a “non-Western ethnic minority status”. This may be for example the role of acculturation, the level of second language proficiency, the degree of cultural distance (between country of origin and host country) and cultural identity. In terms of acculturation, there are indications that Surinamese migrant minorities, in particular, are better off than other non-Western minorities when considering employment rates and educational qualifications (SCP, 2001a, 2001b, 2012). The use of larger samples of each minority subgroup (e.g. Turkish, Moroccan, Surinamese, Netherlands Antillean) would enable future researchers to consider them individually in a longitudinal design and help gain specific knowledge on questions related to variations between minority subgroups.

The longitudinal approach of the present thesis was focused on the school context, investigating children’s adjustment across the formative years of elementary school. Because earlier studies have shown great variation between self-, parent- and teacher reports of behavioral and emotional problems in multi-ethnic samples (Stevens et al., 2003; Vollebergh et al., 2005), future studies may elucidate home-school discrepancies by simultaneously including self-, sibling- and parent reports. Also, research that compares native Dutch parent ratings with non-Western minority parent ratings may contribute to a better understanding of potential cultural differences in the experience, perception and conceptualization of problem behavior. An additional consideration for future research is the validation and extension of the present findings by examining possible ethnic differences in specific transactional links between the domains of psychological, social, and academic functioning across time (Burt, Obradović, Long, & Masten, 2008; Cole & Carpentieri, 1990; van Lier & Koot, 2010). This methodological approach would provide insight into the role of ethnicity in possible (accumulating) spill-over effects where adjustment problems in one area are transmitted to another.

Future studies using randomly sampled classrooms should further investigate the potential moderating effect of ethnic classroom composition on psychological, social and academic problems (i.e., Gieling, Vollebergh, &
Dorsselaer, 2010). Additional research is needed to establish how other relevant factors such as gender, numerical minority status, teacher’s ethnicity and the quality of the teacher-child relationship may play a role (Lubbers, 2006; Meehan, Hughes, & Cavell, 2003; Zimmerman, Khoury, Vega, Gil, & Warheit, 1995). Also, additional research should clarify whether children’s peer-nominated social appraisals differ between and within their ethnic groups (Greene, Way, & Pahl, 2006; Rosenbloom & Way, 2004).

Studies on the ethnic achievement gap can extend our findings by investigating social-behavioral and cognitive development in a longitudinal design using repeated measures of standardized achievement test-scores. Our findings underscore the importance of poor cognitive functioning in the areas of working memory skills and verbal ability, and attention problems in the ethnic achievement gap. Future research should conduct randomized controlled (longitudinal) effect studies on the transfer of cognitive skills training among non-Western minority children, which is of importance for attention, planning, and both behavioral and emotion regulation (Blair & Razza, 2007; Lengua et al., 2007; McClelland et al., 2000; Sektnan et al., 2010; Welsh et al., 2010). It would also be interesting to investigate whether social-behavioral adjustment can account for achievement disparities when non-standardized teacher-rated achievement is used.

Importantly, epidemiological findings show relatively higher incidence rates of psychotic disorders among (non-Western) migrants, which has been linked to social-psychological stressors such as social exclusion, low societal status and (perceived) discrimination (Bhugra, 2004; Kirkbride et al., 2012; Selten & Cantor-Graae, 2005; Veling, 2013). Among elementary school-aged children, social-behavioral adjustment problems have been implicated in the pathogenesis of schizophrenia in adolescence (see Tarbox & Pogue-Geile, 2008 for review). In this thesis it was found that elementary school children of non-Western migrants show increased behavioral problems and have poor social experiences (e.g. low peer social preference scores) when compared to native Dutch children. As social and behavioral problems in childhood have been suggested to function as predictors of later-age schizophrenia, ethnic differences in the specific domains of social and behavioral adjustment may deserve more attention in future research on the increased risk for psychosis among second-generation non-Western youth (Veling, 2013).
Finally, the results of the present study suggest that psychosocial adjustment problems and poor cognitive skills among non-Western minority children exist already from the very beginning of elementary school and show stability up until sixth grade. As there were no clear indications for escalation patterns of problem behavior, future studies, especially those with the central aim of primary prevention, are recommended to focus on the developmental phase of preschool and/or the transitional phase to elementary school (children aged 2-3 years for enrollment into preschool, VVE; Nederlands Jeugdinstuut, 2014).

CONCLUSIONS

The present thesis is the first to investigate the adjustment of non-Western elementary school-age children in comparison to native Dutch children from a longitudinal perspective, screening for possible ethnic differences in development on a broad array of simultaneously measured outcomes in psychological, social, and educational functioning, using both teachers and peers as school informants. A general picture can be inferred from the findings, indicating that non-Western ethnic minority children face a complicated, but not a different developmental trajectory during the elementary school period. This thesis shows that they are faced with substantial developmental adjustment problems at school-entry which persist throughout the end of elementary school. It was particularly evident that non-Western minority children display more externalizing problems and experience more peer relational problems across the school years. The increased externalizing problem behavior could not be explained by potential ethnically biased teacher report. Findings related to possible mechanisms underlying the increased externalizing problems indicate that non-Western minority children are more affected by peer-nominated low social preference scores than ethnic majority Dutch children are. Interestingly however, it was found that when cognitive skills and ADH were accounted for, the social and behavioral adjustment of non-Western minority children did not contribute to their poorer academic achievement. Children of non-Western migrants may benefit from home and/or (pre-) school programs that aim to improve social competencies, behavior regulation skills, and verbal and non-verbal cognitive function.