

## ABSTRACT

Title of Document: ASIAN PARENTS' PERCEPTIONS OF  
CHILD DISABILITY AND SCHOOL  
CONTACT FOR SERVICES

Nayoung Kim, Doctor of Philosophy. 2010

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Counseling and Personnel Services

This study examined Asian parents' perceptions of children's disability and factors influencing their utilization of school services. Using the parent questionnaires from a large national sample of high school sophomores (the ELS:2002 data), survey results from Asian American ( $n=810$ ) and European American parents ( $n=7710$ ) were analyzed to examine cultural differences between the two ethnic groups as well as between immigrant vs. non-immigrant Asians. This study also assessed the extent to which parental characteristics (Belief About Learning, Recency of Immigration, English Proficiency, Socio-Economic Status, and whether they indicate their child is disabled) predict contacting the school for services. Results indicated that Asians were less likely than Europeans to believe that their child has a disability and also were less likely to contact the school for help. Nevertheless, immigrant parents sought help when they perceived that their child had a disability. Neither immigrant parent's length of stay in the U.S. nor English proficiency predicted the school contact behaviors. Implications for introducing school-based services and outreach for Asian American parents are suggested, particularly for recent immigrants.

ASIAN PARENTS' PERCEPTIONS OF CHILD DISABILITY AND SCHOOL  
CONTACT FOR SERVICES

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Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2010

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## Underrepresentation of Asian Students in Special Education

Asian American students are underrepresented in special education especially in the areas of learning disability, emotional disturbance, and intellectual disability (U.S. Department of Education, 1999, 2000). This underrepresentation in special education raises concern that Asian students with disabilities may not be receiving the appropriate educational services that they need (Robertson et al., 1994). The Asian population is projected to be the fastest growing group in the U.S (U.S. Census Bureau News, 2008), and because Asian American students have been academically successful as a whole (Lew, 2006), little research has focused on Asian American students who may require specialized instruction or accommodations. However, existing research suggests that there are in fact Asian American students (Kim, 1997) who require such educational attention (Poon-McBrayer & García, 2000).

Asian Americans have been portrayed as the model minority and have generally been successful in education (e.g., Nakanish, 1995). This model-minority stereotype involves perceiving Asian Americans as smart and hard-working high achievers (Cheng & Chang, 1995). Although this stereotype is positive, the students who do not fit the stereotype may experience even more challenges. One of the major consequences of this success stereotype is inattention to those who are at risk. Because educators and service providers may be less likely to perceive them as having problems, it may also make it difficult to identify and appropriately place a student at risk or in need of special education (Chinn & Wong, 1992). These students without proper educational assistance are likely to drop out of school because they may function up to the expectations. Furthermore, teachers may not recognize the presence of a disability due to language

differences, and thus may neglect to refer a language-minority student for assessment (Sultana, 2000).

Parent involvement, or lack thereof, in terms of initiating remedial services and accommodations, also might contribute to the underrepresentation of Asians in special education. Parent participation in the special education process is pivotal, as the disability law (Individuals with Disabilities Education Act, 2004) mandates family involvement in developing the Individualized Education Program (IEP). However, literature repeatedly has indicated that Asian parents demonstrate low participation in their children's schooling although they generally have high expectations for their children (Desimone, 1999; Mau, 1997). This lack of Asian parent involvement in the school has been broadly examined in research (Mau, 1997) and has been found to be linked to existing barriers and cultural differences of Asian parents.

#### *Definition of Disability*

To understand Asian parents' help-seeking behaviors, it is useful to examine their perceptions about disability because one's belief leads to action (Bandura, 1989). According to the IDEA(2004), "child with a disability" is defined as the following: "with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and who, by reason thereof, needs special education and related services." Each disability is defined with a list of criteria for educational decision making purposes in the U.S.

Nonetheless, definitions of disability are specific to a culture because “normalcy and deviance are socially constructed” (Kalyanpur & Harry, 1999, p.16). The meaning of disability is not universal, but it is often viewed as objective phenomena in American society. This predominant American (clearly ethnocentric) view of disability contrasts with the view that disability is socially constructed with people from different cultures that hold different interpretations of the concept of disability (Fulcher, 1989; Kalyanpur & Harry, 1999). Because definitions of disability vary depending on the contexts and cultures, educational professionals’ understandings do not always match parents’ understanding of disabilities, especially for those parents coming from different cultures. For parents, normalcy may be defined within a broader parameter (Harry, 2002). These parents may be unfamiliar or even uncomfortable with the definition of the word, “disability,” in the American school setting (Sultana, 2000).

For example, in China, only three categories of disabilities are recognized: visual impairment, hearing impairment, and mental retardation (as cited in Lo, 2008, p.86). Chinese schools do not recognize other disabilities such as autism and learning disability, and thus, students and parents with other disabilities do not receive services from the school in China (McCabe, Wu, & Zhang, 2005). Cultural differences in the parents’ definition of disability were evident in the study by Warner (1999). This study was conducted with Bangladeshi parents in United Kingdom. Using a semi-structured interview, seven parents with children having severe learning difficulties responded to specific questions. A few parents appeared to have difficulty accepting the diagnosis, especially those with children diagnosed with Down’s syndrome and autism. Two mothers whose children were diagnosed with autism did not seem to understand the

meaning of autism. Most of these parents noted that there were no special schools in Bangladesh, and that their children would have received help from the family or a servant. Warner (1999) cited a comment from a Bangladeshi educational psychologist that most people, with the exception of doctors in big cities, are unfamiliar with autism. Kalyanpur and Gowramma (2007, p.70) cited a result from Indian National Sample Survey Organization (2003) that “over 94% of children with disabilities in India do not receive any educational services.”

### *Perceptions about Disability*

Even when Asian parents in the U.S. recognize the definition of educational disabilities, it may still be difficult for them to accept their children’s conditions as a disability, much less seek out services for the disability. Research shows that Asians generally hold negative attitudes toward disability (Doan, 2006). Much of the research conducted in Asian countries has verified that Asian parents have negative views of disability along with negative experiences with disability. A study involving Japanese mothers found that these parents experienced negative views toward their children with disabilities as well as themselves (Kasahara & Turnbull, 2005). Thirty Japanese mothers from three geographic areas in Japan participated in either a two-hour long focus group or an interview. Two main questions were raised regarding the followings: (a) being the family of a child with disabilities in Japan, and (b) their partnership with professionals. One of the main themes was their fight against negative/segregative views toward their children with disabilities and toward themselves. The mothers reported that their children were viewed as “abnormal” and “unacceptable” in Japanese society, and that the schools took segregative educational approaches.

Similar results were found in a study involving interviews with 43 Chinese caregivers of children with autism in China (McCabe, 2007). The participants were clients of non-governmental organizations in training to educate their children. The summary of interviews and follow-up questionnaires revealed that they had difficulty finding a school that accepted their children due to the lack of special schools and services in China. Also, the caregivers often experienced discrimination and rejection from the society due to low awareness and acceptance of disability and difference. McCabe added that these negative experiences as well as their fear of rejection made it difficult for the parents to seek help. In Asian societies, there is a societal expectation that requires conformity which fails to take individual differences into account.

#### *Stigma, Shame, and Guilt*

Asian parents are traditionally judged by their children's success which adds another major barrier in initiating contacts for services (McCabe, 2007). Many researchers have reported Asian parents' high educational expectations (Louie, 2001; Okagaki & Frensch, 1998). This was true particularly for students and parents from East Asian and South Asian groups who tend to have higher levels of academic expectation and achievement (e.g. college admission test scores) than those belonging to other Asian subgroups (Kasuya et al., 2003; Shekar & Hegde, 1995). Children's achievement brings honor to the family while their failure brings shame in contrast (Schwartz, 1995).

Historically, East Asians are influenced by Confucianism, Buddhism, and Taoism (Shek, 2006; Wong, 2006) which address the importance of education and effort (Cheng, 1999). When their children do not meet their expectations, these parents may feel inadequate or incompetent because they may attribute inappropriate behaviors to poor

parenting (House & Pinyuchon, 1998). Chan (1986) noted that parents perceive disabilities as a consequence of poor parenting or punishment for previous sins. In Korea, there is a common belief that parents of children with disabilities refer to themselves as sinners (Kim, Lee, & Morningstar, 2007). This is especially the case in East Asian countries where beliefs about parenting and education are heavily influenced by Confucian teaching, where the parents' role requires exerting effort to teach and raise a child as a competent individual (Kim & Wong, 2002). Thus, parents are more likely to blame themselves for their children's failure. And finding a disability can lead to disappointment and detrimental reactions.

A study with Indian parents reported feelings of shame and embarrassment to their families regarding the condition of their children especially when involving cognitive or socio-emotional deficits (Kalyanpur & Gowramma, 2007). Twelve Indian parents of children with diverse disabilities participated in either an hour-long individual interview or a focus group. The findings suggested that a major barrier to accessing services was familial attitudes toward disability. The researchers further noted that the stigma of disability on the child was often extended to other family members, causing rejection from elders. Because family support is highly valued in this culture, accepting a disability may mean admitting to failure and can thus be a threat to the relationship on the mother's part. When physical appearance appears "normal" and accepted by elders, this can be yet another reason to delay accessing services.

Matthew (2000) emphasized the value of the extended family network and the honoring of the family unit, rooted in South and Southeast Asian cultures. East Asian parents also teach their children to respect elders and value filial piety (Cheng, 1999). As

a result, parents do not discuss personal problems with people outside of the family and view sharing of information as a dishonor to the family (Matthew, 2000). In a study involving children with epilepsy, family members tended not to see a member with epilepsy because of shame or fear of discrimination both in Hong Kong and mainland China (Fong & Hung, 2002). Having a child with a disability was an embarrassment (Sileo & Prater, 1998).

### *Belief about Learning Difficulties*

To grasp the cultural influences on the perceptions of disability, Asian parents' beliefs about disability and education should be understood first. In general, parents with struggling children search for causal explanations for their children's failure and are likely to attribute it to either effort or ability (Graham, 1990). Their attribution can be a precursor to different emotional reactions which can lead to particular behaviors (Graham, 1984). In Asian culture, the child's effort is generally emphasized while the parents' role is to facilitate the value of effort and hard work (Holloway, 1988; Stevenson et al., 1990). In the case of a mild disability such as mild intellectual disability (a.k.a. mental retardation) or learning disability, Asian parents may attribute their children's conditions to lack of effort rather than their disability. Harry (2002) noted that cultural variability is expected when the condition is mild.

A few studies have attempted to explore Asian parents' framework of education in relation to their children's learning problems. Hwa-Froelich and Westby (2003) interviewed members of 10 Vietnamese and Cambodian families whose children were part of the Headstart program. Two or three semi-structured interviews were conducted for each family, and three families were observed during conferences with Head Start

staff. Children's behaviors were observed during their activities at Head Start, and all Head Start documents provided to parents were analyzed. Within the framework of child learning/disability, these Southeast Asian parents and grandparents believed that children learned through observation, imitation, practice and hard work. Thus, learning difficulties were associated with laziness or stubbornness which might be improved upon with time and hard work. In other words, they believed that learning difficulties could be overcome with time and effort.

When a severe disability was recognized by the Asian parents, they attributed it to a failure in both effort and ability. A recent study of Asian parents of children with Down syndrome suggested cultural differences in their perception of ability and effort (Ly, 2008). The participants were 25 European American and 17 Asian parents (14 East Asians) of children with Down syndrome. After observing their children's jigsaw-puzzle performances, the parents were asked to report their reactions, attributions, and behaviors. Asian parents reported their children's performance as less successful and attributed this cause to the lack of effort and ability more so than did the European American parents, although this pattern was present in both groups.

#### *Belief about Emotional Difficulties and Help-seeking*

Often, in Asian cultures, psychological disturbance is hidden or ignored in order to avoid social stigma; individuals are afraid of being viewed negatively by their community. Tracy, Glidden, and Leong (1986, p. 334) suggested, "they are more sensitive to the stigma attached to personal/emotional concerns." They suggested that this sensitivity may be attributable to Asian Americans' concern with saving face (Minatoya & Sedlacek, 1981). In fact, in the study of Park, Turnbull, and Park (2001), Korean

parents expressed that they did not want other Korean parents to know about their child's disability. To this effect, traditional Asians may view their emotional difficulties as pathological, whereas Western social context views them as "functional" (Yamashiro & Matsuoka, 1997). Thus, before Asians look for help, they conceal it. These cultural perspectives, along with limited information and resources, may often result in misunderstandings about Asian parents simply because they hold different perceptions regarding special education or accommodation.

Asian's help-seeking attitudes and behaviors have been extensively studied in the context of mental health services. Historically, Asian and Asian American groups have been the least likely to seek mental health services (Fung & Wong, 2007). One of the main reasons is that Asians are unwilling to disclose problems, and may therefore attempt to solve problems on their own (Kim, Sherman, & Taylor, 2008). Social learning theory postulates reciprocal interaction of personal and environment factors in producing behavior (Bandura, 1986). That is, individuals learn to regulate their behaviors or emotions because these reflect personal strength and character. Asians, individual or family, are especially less likely to seek help from a provider of a different cultural background. Their self-reliance is a result of external social forces that tend to restrict the SES mobility, trust, and acculturation. Because they are not familiar with governmental social service agencies, Asians may be less likely to disclose a disability and more likely to handle the disability on their own (Chen, Brodwin, Cardoso, & Chan, 2002). Thus, Asian parents may wait until they have used all other family resource options before they enter the system for formal mental health services. In dealing with a student's difficulty,

parents often assume personal responsibility and use their own resources, such as tutors or a private therapist or counselor.

A few researchers speculated that referral or identification of Emotional Disturbance category could be influenced by parental support as well as their perceptions of stigma. Although there is a body of research on Asian's lack of mental health service utilization, only a few empirical studies investigated the variability in the cultural belief of the etiology of problems which may explain Asians' underutilizations of mental health services (Cheung & Snowden, 1990). Yeh, Hough, McCabe, Lau, & Garland (2004) investigated parental beliefs about the causes of their children's problems and their mental health service utilization. An extensive survey of parents of youths with serious emotional conditions suggested that Asian parents attributed their children's difficulties to racial discrimination/prejudice (odds ratio of 3.54) or nature disharmony (e.g., disruption of the child's energy or vitality flow). They were also much less likely to attribute the cause as a physical cause, as personality, as family conflict or as trauma than were the European American counterparts. A follow-up study found that these parents are likely to seek mental health services if they perceived the difficulties as a biological issue or trauma (Yeh, McCabe, Hough, Lau, Fakhry, & Garland, 2005). However, this research did not account for acculturation levels and ethnic group differences among the Asian ethnic groups.

Even when their causal beliefs were controlled, Asians were less likely to use mental health services (Yeh et al., 2004). Asian Americans are less likely to utilize services due to cost, language differences, time, and lack of knowledge regarding access (e.g., Kung, 2004). Many research findings are available on the topic of Asians'

underutilization of available resources as well as research findings in terms of their attitudes toward seeking help for mental illnesses (e.g., Bui & Takeuchi, 1992). One of the challenging barriers for Asians is their perceived lack of access to services (Fung & Wong, 2007). Hence, similar findings are expected for Asian parents in school settings because they may be underutilizing school services for similar or additional reasons. It is worth exploring to find what may prevent them from seeking out help from the school.

Therefore, we can expect that Asian parents may not seek help from school due to differences in cultural beliefs and practices. Help seeking habits may be reflected in the differences according to specific cultural norms and values. In this respect, less participation is expected from Asian parents whether or not they perceive their children as in need of help from schools.

#### *Asian Parents' Role and School Contact for Services*

Parents' values and beliefs are important in relation to their children's education because their actions are motivated by their values and their beliefs regarding parental obligations (Hoover-Dempsey & Sandler, 1995). Parents have varying views on school involvement and the appropriate level and degree of participation. Hoover-Dempsey (1997) identified two components of parental role in regards to children's education: involvement in day-to-day education and major decisions in schooling. Epstein (1995) identified the six levels of parent involvement as the following: (a) parenting, (b) communicating, (c) volunteering, (d) learning at home, (e) decision making, and (f) collaborating with the community.

Most literature involving Asian parents found that their involvement emphasized parenting and learning in the home environment (Kao, 1995; Huntsinger & Jose, 2009).

Typically, Asian Americans are involved in their children's schooling in indirect ways such as monitoring their children at home rather than participating in school events (Kim, 2007). They are more generally involved in activities outside of school, while European American parents actively participate in school activities (Sy & Schulenberg, 2005). A study with Chinese immigrant parents found that they were neither involved in decision making or community collaboration (Ji & Koblinsky, 2009). Pakistani parents also provided support to their children's education by assisting children at home, but were not actively involved in their children's schooling (Huss-Keeler, 1997).

Among the six levels of involvement, communicating with the school staff about children's progress and programs is important in addressing difficulties facing their children. Yet, Asian parents do not choose to contact the school unless they face serious issues. Wang (2008) in his interview with nine Chinese immigrant parents revealed that they rarely contacted the school, but initiated contacts only when they encountered serious problems. They attributed this passive role to financial pressure, immigration status, language barrier, as well as unfamiliarity with the hidden rules. Furthermore, these parents did not see the contact as important as those parents in China—not investing as much time and effort as those in China—partially because they did not think that it was necessary. The findings also revealed that there was a low level of competition among the American students in comparison to those in China. Although this qualitative study suggested interesting findings, the difference between the Chinese and Chinese immigrants were based on personal experiences and were not systematically compared.

### *Asian Parents' Involvement in Special Education*

In cases where Asian parents are engaged in special education or remedial services, they appear to actively communicate with schools. Crosnoe (2001) indicated that Asian parents with high school students in the remedial track were more involved than were European American parents, although Asian parents with students in the general track were still less involved. Although Asian parents' overall participation was low, another study reported that they attended most of the IEP meetings (Wathum-Ocama & Rose, 2002). Thus, when the parents were invited to participate in the meetings, they willingly and eagerly responded.

Although this may be true, different types of involvement are expected in special education. This is evident in the general education context because of the different expectations of school services and common practices in their home countries. It is important to recognize their common practices and understand how these practices influence their expectations and involvement in the U.S. In most Asian countries, parents do not have the right to participate in educational decision making (Alur, 2001; McCabe, 2007). Furthermore they do not have legislation to mandate parental participation in making decisions in special education.

However, less research has investigated whether or not Asian immigrant parents seek out services from schools depending on their perceptions of disability within the school context. There is a scarcity in research regarding Asian American parents' perceptions of disability along with their roles and perceptions regarding special education in the U.S, and it may be because it is difficult to elicit Asian parent's view of special education (Warner, 1999). Although parents' initiation for services may

influence the referral and identification process, the majority of Asian parents' school contact studies are done within the general education context. Some qualitative research is available to help understand parent involvement in special education.

Initiating the contact for services does not appear to come naturally for Asian parents even when parents are very well aware of needs. They may still rely on school professionals to contact them first rather than seeking help from the schools. Lo (2008) examined Chinese parents' expectations toward American schools. The participants in this study included twelve parents of children with disabilities from two different focus groups in Massachusetts, serving the special-needs population. Most parents had children with Autism or intellectual impairment. Using the semi-structured interview technique, 15 interview questions were posed in Chinese to elicit information regarding their challenges and expectations. Parents viewed the professionals as more knowledgeable about disabilities than they were, and thus expected them to advocate for their children. Lo noted, "the parents felt that it was very ineffective and exhausting if they were the only ones who kept asking for the support and services their child needed" (p.83).

Daro et al. (2007) noted, "Even if such resources are available within one's community, effectively utilizing them may require parents to be proactive in identifying services and overcoming an array of access barriers" (p. 183). Although various barriers were suggested—such as language, communication style, and education level—perceived status in their interaction with professionals seemed most detrimental, because individualism is a characteristic strongly embedded in the U.S. school system, but not valued in Asian school contexts. That is, the American school system is structured so that "ensuring protection is up to the person" (Kalyanpur & Harry, 1999). In America, schools

expect parents to call or visit schools if they are in need. Thus, assertiveness is essential for claiming one's rights.

However, many Asian parents do not have a strong sense of advocacy for their children's education in the same manner. Asian parents tend to be more submissive and compliant to authority, and avoiding confrontation is an intrinsic and essential part of many Asian cultures (e.g., Sultana, 2000). South Asians and Southeast Asian view teachers as having authority, and thus, teachers' decisions are well respected by Asian parents (House & Pinyuchon, 1998). Therefore, they tend to avoid questioning or disagreeing with school professionals' opinions. Park, Turnbull, and Park (2001) examined the perspectives of 10 Korean American parents of children with disabilities regarding partnership with professionals. Participants were found through a parent organization without considering the severity of the child's disability. Two to three in-depth phone interviews were conducted with the parents in Korean. An interview guide was created which facilitated the parents' discussion about their partnership experience with professionals. The parents described experiences of racial discrimination, and believed that their children did not receive the help they needed simply because their children were not European American. Another finding was that parents did not pose questions or disagree with professionals' opinions, rather yielding the authority to school professionals as a way of showing deference. These parents were perceived to be passive or even uninterested by the professionals, suggesting a need for empowering parents to advocate for their children. Kim, Lee, & Morningstar (2007) supported such findings using a qualitative study. Five Korean parents believed that their own attitude toward

professionals prevented them from advocating for their children, often finding themselves agreeing to professionals' suggestions when they did not actually agree with them.

Such communication styles and differences in perceived roles are not exclusive to Asians but also other at-risk groups within the culturally and linguistically diverse population. Regarding the parent's role as a decision maker, Delgado-Gaitan and Trueba (1991) noted, "many immigrant parents come from societies where such decisions were made solely by schools and so they may stay away from contact with schools out of respect and deference to school authorities that is the norm in many immigrant-sending countries." In other words, some immigrant parents do not actively get involved in school as a way of showing respect and deference to school authority.

Immigrant parents must leave their social network and learn to adjust to a new environment where many barriers exist. In general there is a wide discrepancy between the needs of parents of diverse backgrounds and their participation, although their attitude and satisfaction with services differ depending on the population. Many parents believe that they do not have the capacity to express their disagreements whereas professionals may misinterpret such reservations as unwillingness to participate.

Parents' perceptions of school services, involvement, and advocacy have been studied comparing immigrant parents from diverse cultural backgrounds with European American parents. One of the earliest studies investigated Hispanic parents' perspectives on special education using structured interviews (Stein, 1983). Two hundred thirteen Hispanic families with children receiving special education services were randomly selected in a district for this study. The findings suggested that Hispanic and African American parents of children with learning disabilities were less aware of their right to

access student records, less able to participate in meetings, and less involved in the assessment-planning process than the European American parents. Moreover, the Hispanic parents reported offering fewer suggestions in IEP meetings than did the European American parents. Stein stated that Hispanic parents generally had positive attitudes toward special education services, but they were not actively involved in the IEP meetings because they trusted school professionals to make the appropriate decisions.

Lian and Fontanez-Phelan (2001) also examined Latino parents' perceptions of special education, while considering the importance of culturally and linguistically appropriate services. In a large Midwest urban school district, 158 Latino parents of limited English proficiency children with disabilities were approached and 100 of them completed a survey questionnaire. About 50% of parents had a child with learning disabilities; 22% with mental retardation, and 12% with emotional/behavioral disorders were the next two most prevalent disabilities in this study. The questionnaire was given in both Spanish and English based on the Parent Assessment of Knowledge and Advocacy Scale (PAKAS). In this scale, there was a total of 56 Likert scale items inquiring on three main topics: cultural and linguistic issues, parent rights, and home-school partnership. When Latino parents were asked about their rights, they generally knew their rights in the IEP process and special education services (63%-85%) and felt responsible for challenging the school to ensure an appropriate program for their children. However, these parents also reported that they were less confident in pursuing their parental rights because of their lack of education (35%) and lack of English proficiency (42%). Less than 50% of parents had frequent school contacts. From these results, Lian and Fontanez-Phelan concluded that there was a discrepancy between parent's

perceptions of their needs for special education services and their participation levels.

Tohme (2008) also argued for providing a voice to recent immigrant Latino parents in the American public school system because they are often lacking information on how to best advocate for their children within the school system.

Although there are cases in which these parents are fully aware of their rights and responsibilities, they often lack the confidence to seek those rights. A tendency to be passive may not simply reflect disinterest or deference to school's decision, but it may also reflect a lack of real or perceived power to challenge school authority. Harry (1992) suggested that parents withdraw from participation when they do not believe that they can challenge school authorities. Twelve Puerto Rican American families (17 children) receiving welfare benefits were interviewed over a seven month period. Most children had learning disabilities ( $n=11$ ) and the rest were classified as having mental retardation ( $n=6$ ). The results suggested that parents showed deference to school authorities, but did not necessarily trust the school. The author explained that this deference could be easily misunderstood by professionals because some parents tend to acquiesce in professionals' decisions even if they do not agree with them. For parents, it is difficult to disagree with professionals due to their perceived hierarchy.

#### *Lack of Social Resources*

Immigrant parents often lack the cultural resources to access school information that is necessary for their involvement in the school environment (Lopez et al., 1997; Nozaki, 2007). Even if immigrant parents are fluent in English and have attended schools in the United States, cultural barriers may still exist (Sobel & Kugler, 2007). They may lack "cultural capital" or the "tools for success in the mainstream" (Apple & Beane,

1995; Kalyanpur & Harry, 1999), and therefore there is a need for these tools (e.g., specific rules and strategies) to be taught explicitly (Delpit, 1995). Asian immigrants are limited in resources to access services, due to this lack of “cultural capital”. Such lack of information is a critical issue because limited cultural capital affects a students’ motivation as well as their parents’ expectations for success in school (Goldenberg, Gallimore, Reese, & Garnier, 2001).

Misaka (1992) conducted a study of Asian American parents of children with disabilities and their school involvement. Nine Asian American parents within Utah’s educational system were interviewed to identify both barriers and facilitators to school participation. Results indicated that Asian parents’ participation was highly correlated with their knowledge of IEP, motivation and personal strength, acculturation, use of educational enablers, knowledge of educational options, communication skills, communication effort, educational access, participation in organizations, and social support. Parents’ level of education and years of residence in the U.S. was moderately correlated. Severity of disability was neither a significant barrier nor facilitator. The investigator concluded that it is necessary for Asian parents to learn to communicate with the schools, and also that the school not only needs to provide adequate services, but also needs to be mindful of cultural differences.

Wathum-Ocama & Rose (2002) interviewed first-generation Hmong parents residing in Minnesota regarding their perceptions of the educational services and school involvement for their children with hearing disabilities. Six sets of parents and a mother participated in the semi-structured interview, and found that Hmong parents valued education in general, but did not have the basic knowledge to support their children’s

education. Most parents expressed their difficulty in understanding the new school system, especially in the area of special education. Even with the help of interpreters, immediate and direct communication with the educator still caused them frustration. Moreover, they did not possess the specific knowledge of their children's educational goals and progress. In a study with 100 Southeast Asian parents, Rodriguez's (1995) findings confirmed that most parents were unaware of the special education services available for their children with disabilities.

### *Acculturation*

An Asian American's level of acculturation may be related to his or her help-seeking attitudes. Research has shown that Asian Americans who are acculturated to the idea of obtaining psychological help more often tend to seek formal help, and that their association of help seeking with stigma is better tolerated (Atkinson & Gim, 1989). Moreover, parental perceptions on disabilities, beliefs about learning, SES, and language facility may depend on the number of years the person has been in the U.S. and also on the person's level of acculturation. More acculturated individuals are more likely to seek out help at about the same rate as European Americans. Narikiyo and Kameoka (1992) found that cultural values influenced Japanese Americans when seeking help for mental illness although they were seemingly acculturated. Shor (2006) compared the help-seeking approaches of Israeli-born parents and with those of immigrants from the former Soviet Union and found that immigrants from the former Soviet Union exhibited a lower level of willingness to seek help from both formal and informal sources than did Israeli-born parents. The most common reasons for their reluctance were lack of trust and familiarity.

Additionally, increased levels of acculturation may result in a decreased sense of value in hard work and education (Sue & Okazaki, 1995). Selective assimilation theory explains that different ethnic groups will assimilate at different levels while retaining different levels of their culture of origin (Sakamoto & Xie, 2006). Immigrants selectively assimilate into American culture to enhance their socio-economic status and also choose to maintain their culture of origin since parents' involvement in terms of monitoring and help at home may be protective (Harker, 2001). It seems that as Asians assimilate into the American culture, they start to devalue the hard work and education that characterizes Asian culture.

Among Asians, differences in terms of their parenting practice, value of education, perceptions about disability, and school involvement may be small, but their emphasis may be different. Although they share the value of their close relationships with extended families, overly generalizing to each ethnic group may be unwarranted. For example, the acculturation process of Southeast Asians may be different from that of other groups because many of them migrated to the United States in the mid 1970's as refugees. They were forced to persevere through political persecution and endure postwar traumas (Ying & Han, 2008). And because they are involuntary immigrants, their rate of acculturation is slower than other immigrants (Ying & Han, 2007). However, because Filipinos were colonized by the Spanish for over three centuries where most people spoke English and were Catholic (Sustento-Seneriches, 1997). Hence their assimilation rate to the U.S. culture is higher than other Asian groups (Bankston, 2006).

### *Socio-Economic Status*

Because many Asian parents are recent immigrants, they are confronted with linguistic as well as socio-economic barriers, that is, limited English proficiency and low socio-economic status (SES; Harry, 1992; Nozaki & Inokuchi, 2007). Research shows that parents' social class affects students' educational success (Nozaki, 2007). The resources and opportunities that parents have determine their school involvement (Muller & Kerbow, 1993). Many researchers have reported that parents' high SES is related to higher school involvement than those with lower SES (Crosnoe, 2001; Desimone, 1999)

Great variability was found in the level of parental education among Asian immigrants from the Census 2000 data (Hernandez, Denton, & MaCartney, 2009). About half of immigrant parents from Japan, Korea, China, India, and Pakistan/Bangladeshi, Hong Kong, and Taiwan were college graduates while less than 10% of parents from Cambodia, Laos were college educated. The rate of poverty also showed variability among the Asian groups. Immigrant families from Japan, Korean, Hong Kong, and Taiwan were shown to have the lowest rates of poverty. Whereas, severe rates of poverty (50% -61%) were reported in the families from Cambodia, Laos, and Thailand.

### *Language Barrier*

Ladky and Peterson's (2008) Canadian study suggests that language is essential for successfully attracting both formal and informal immigrant parent involvement. However, Asian parents avoid speaking in English because of their lack of fluency and accents (Ramisetty-Mikler, 1993). In this case, Asian parents' lack of participation seems reasonable because if parents speak little or no English, it may limit their access to the school (Wathum-Ocama & Rose, 2002).

A recent study by Turney and Kao (2009) investigated the role of cultural differences in parent involvement and barriers, using the data from the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K). The participants were 12,950 parents of kindergarteners who responded to the ECLS-K questions. Eight barriers were identified as the following: (a) meeting time, (b) child care, (c) safety going to school, (d) welcoming by school, (e) transportation, (f) language, (g) interest, and (h) work conflict. Using logistic regression and Poisson regression, Asian immigrant parents reported welcoming by school (perceived challenge), and language as barriers. Although language was not unique to Asian immigrant parents, they were much more likely to experience these as barriers controlling demographic and socio-economic characteristics. However, native-born Asians and foreign-born Whites showed similar patterns of barriers and native-born Whites, with the exception of language barrier for the foreign-born Whites. The authors concluded that Asian native-born parents' school involvement is similar to White native-born parents. Whereas, Asian immigrant parents were less involved in schools than were the White immigrant parents, Asian immigrants were actually better assimilated than their White counterparts.

Wathum-Ocama & Rose (2002) found that only two instances were reported by 7 families to initiate contact. Although they wanted to participate in school activities, they perceived language as a barrier. This language barrier is the main difference found between immigrants and non-immigrant students (Hernandez et al., 2009).

## Research Questions

In summary, I hypothesized that Asian parents are less likely to request or receive services from schools for the reasons just described. Although some qualitative research has attempted to address Asian parents' lack of school involvement in the special education process, most studies do not provide strong evidence about whether or how Asian culture influences the extent to which parents' seek help from the school. The present study was designed to apply a quantitative approach to the identification of cultural influences on parents' help-seeking behavior. The study investigated the following questions:

1. Do different proportions of Asian American and European American parents perceive that their children have a disability, and do these proportions differ for immigrants and non-immigrant members of these groups?
2. Do parents of these two ethnic groups have different beliefs about learning? And, do these beliefs differ for immigrants and non-immigrant members of these groups?
3. Is there an ethnic group difference in the parents' contact behaviors with schools? And, do these behaviors differ for immigrant and non-immigrant members of these groups?
4. Are parents' perceptions of disability predicted by their culture-related beliefs about learning?
5. Are parents' contact with school (help-seeking behavior) predicted by the perceived presence of disability?
6. Which predictors explain ethnic-group differences in parents' help seeking behaviors among immigrants? I.e., do culture-related beliefs and perceptions, and

English-language proficiency, mediate the relationship between ethnicity and school contact?

7. Does ethnicity moderate the relationship between beliefs about advocacy and school contact? Does it moderate the relationship between perceived disability and school contact?

I hypothesized that parents' English proficiency is a strong mediator. Also, parents' perceptions of a child's disability and their beliefs about learning may be strong predictors of their contact with the school. As for Asian parents, I hypothesized that they would (a) be less likely to perceive their children to have a disability, (b) be more influenced by their belief about learning and the levels of English proficiency in contacting school, and (c) be less likely to contact with schools for either getting help about school problems/difficulties or discussing about the school programs.

## Methods

### Participants

The Education Longitudinal Study of 2002 (ELS:2002; National Center for Education Statistics, 2002) dataset is composed of data collected from 15,530 students who were enrolled as sophomores in 750 public or private schools in the spring term of 2002. Data were collected from students, students' teachers, students' parents, and school administrators, and from school records. All data were collected during the students' sophomore year. ELS:2002 used a cluster sampling method in which schools were first selected, and then students were randomly selected within schools. Students from some smaller populations were intentionally over-sampled so as to allow for subsample analyses with adequately small standard errors.

The data from the parent questionnaire were utilized, consisting of 810 Asian or Asian American parents and 7710 European or European American parents. Only biological parents who responded the questionnaire were selected because the length of residency in the U.S. was measured only for the biological mothers and fathers. This will also eliminate possible variations by unknown factors which may be influenced by non-biological parents. Table 1 shows the demographics of parents in terms of their ethnic membership as well as immigrant status. Asian samples were from the Far East, Southeast Asia, or the Indian subcontinent including Bangladesh, Burma, Cambodia/Kampuchea, China, India, Japan, Korea, Laos, Malaysia, Pakistan, Philippine, Sri Lanka, Thai, Thailand, and Vietnam. The restricted version of ELS:2002 was used to identify their subgroup membership. Then, the respondents were subdivided into three categories: East Asian, Southeast Asian, and South Asian. East Asian (42% of Asians)

included Chinese, Korean, and Japanese. The Southeast Asian (39%) group was composed of Filipino, Vietnamese, Laotian, Cambodian/Kampuchean, Thai, and Burmese people. South Asians (17%) involved Asian Indian, Bangladeshi, and Sri Lankan participants.

Immigrants were defined as those who were not born in the United States. Thus, if a respondent answered that they were born in the U.S. in the question BYP 17 or BYP 21, he or she was put in the non-immigrant group. As such, those who reported that they were born in another country were classified as in the immigrant group.

Table 1

*Demographics of Parent's Ethnicity and Immigration Status*

Parent's Ethnicity	Immigration Status		Total
	Non-Immigrant	Immigrant	
East Asian	60	280	340
Southeast Asian	10	320	330
South Asian	10	130	140
European American	7350	360	7710
Total	7430	1090	8520

*Note.* The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Examining the respondent's relationship with the child, 19% were biological father and 81% were biological mother. Generally, Asian parents who responded were much more likely to be fathers than European parent-respondents. Table 2 shows the parent's ethnic membership with their relationship to child.

Table 2

*Demographics of Parent's Ethnicity and Relationship to Child*

Relationship to Child	East Asian	Southeast Asian	South Asian	European American	Total
Biological Mother	240	210	70	6400	6920
Biological Father	100	130	60	1310	1600
Total	340	340	130	7710	8520

*Note.* The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Measures

*Dependent Variables*

Two measures of parent contact with the school constitute the key dependent variables. Each variable was a composite derived from 6 Likert-type items from the parent questionnaire, selected on content validity grounds. The parent contact questionnaire items are listed in Table A-1 (Appendix A), along with items used to measure other constructs. Principal axis factoring with Varimax rotation with Kaiser normalization, summarized in Table A-2, suggested two factors, Parent Contact Regarding School Programs and Parent Contact Regarding School Problems/Difficulties. These two factors explain 45% of the common variance in the items measuring parent contact with school. Although some cross-loading was present, the correlation of the two factor-based scales composed by averaging the item responses for the items loading highest on each factor was relatively low ( $r = .27$ ). The reliabilities of the two separate scales (see Table A-3) exceed the reliabilities of a scale composed of all of the parent contact items. Each dependent variable is described below.

*School Contact Regarding School Programs (sprogram).* A scale measuring parent contact regarding school programs is the average of parent responses to 3 items

concerning their contact with the school regarding course selection for entry into college, plans after high school, and the child's school program for year. The 3 items have an alpha reliability of .71. The four responses choices for these items are the frequency of parent's (participant or spouse) contact: none, once or twice, three or four times, or more than four times. The distribution is strongly skewed positive because most of the responses are "none." Accordingly, two sets of analyses were performed: One set using the badly skewed criterion variable, and one set in which the criterion variable is dichotomized (0= No contact, 1 = Contact).

*School Contact Regarding Problems/Difficulties (sdiffi)*. This variable measures the frequency of parent's (participant or spouse) contact with the school about problems or difficulties. This composite variable included 3 items: parent contact about poor performance, problem behavior, and poor attendance. The alpha reliability of this measure is .61. The same response choices were provided. This variable also has a highly skewed distribution. The same dual procedure was used in analyzing data for School Problems/Difficulties as for the School Programs variable.

#### *Independent Variables*

There are seven independent variables to be used in this study: (a) Recency of Immigration, (b) Parent Ethnicity (East Asian, Southeast Asian, South Asian, and European), (c) Socio-Economic Status, (d) Immigration Status, (e) English Proficiency, (f) Belief About Learning, and (g) Perceived Disability. Each independent variable is described below. Table A-4 indicates how the variables are coded.

*Recency of Immigration (recency)*. This variable measures the average number of years the biological mother or biological father have lived in the U.S. which is applicable

for immigrants only. This item (number of years ago the father or number of years ago the mother came to the U.S.) is from the parent questionnaire. Cases with missing data were excluded. This distribution is slightly skewed to left, but the shape approximates a normal distribution. It would have been desirable to have a measure of the parent's level of acculturation, but such information is not available in ELS:2002. Thus, the Recency of Immigration variable will be used as a proxy measure to their acculturation level although it does not explicitly measure it.

*Ethnicity (ethni).* This single-item indicator asked the parents about their ethnicity. Asian subgroups were created by restructuring six original categories into three to gain more statistical power: a) Chinese, Korean, and Japanese; b) Filipino and Southeast Asian; and c) South Asian. European American was added as another ethnic group. The European American group includes White, non-Hispanic. The value assigned for the European American parent group is 4 and the one for the Asian subgroups are from 1 to 3. In this database, the European American group accounts for 90.5% of parents in the sample, whereas the Asian group accounts for only 9.5%.

*Socio-Economic Status (ses).* This composite measure, *ses*, was provided in the ELS:2002 data set. This variable was created using the following items: mother's education, father's education, mother's occupational prestige, father's occupational prestige, and family income or an income proxy. According to the ELS:2002 manual, the 1961 Duncan Index was used to determine the occupation prestige values. The primary source of these data was the parent questionnaire, but student data were substituted for any missing data. Then, any additional missing data were imputed.

*English Proficiency (zengl)*. Eight items were selected to form a composite variable that represents parents' level of English proficiency. This variable explains how well the parent participants understand spoken English, speak, read, and write English. Additionally, items measuring parents' language difficulties in practical tasks such as reading English books or magazines, filling out forms, understanding tenth grader's teacher, and making oneself understood to the tenth grader's teachers using the English language. Principal axis factoring was used and found one robust factor ( $\alpha = .93$ ). One important thing to note is that these items were asked only to those whose native language was not English. Thus, the distribution of this composite variable was strongly skewed right. To normalize this distribution, this variable was rescaled into three categories: beginner, intermediate, and advanced. Each category accounts for about 33.3% of parents who are not native English speakers.

If a respondent answered "yes" to BYP28 "Is English your native language?" the highest value was assigned because the native speakers legitimately skipped the English proficiency questions. Because the proficiency of acquired language from birth is higher than those near-native speakers (Kramsch & Whiteside, 2007), a higher value was assigned although native speakers may not speak Standard English. Before forming the scale, an internal consistency item analysis was performed, and then the items were standardized using  $z$  scores. This way, items have equal variances, and yielded the reliability of .93.

*Belief About Learning (blearn)*. This variable is based on the item, "most people can learn to be good at math." This parent opinion was used to represent the parent's general belief about learning. The answer choices were strongly agree, agree, disagree or

strongly disagree, ranging from 1 to 4 respectively. This belief is opposed to the belief that their ability cannot be improved for some reasons. The measure of parent's belief about learning is limited to learning in math because no other item was available in ELS:2002.

*Perception About Disability (disabili)*. This variable measured parents' opinion of whether or not their tenth grader has a learning, physical, or emotional disability. Although measure may be a less-sensitive indicator than a more specific measure of a specific disability, there were limited numbers of Asians who identified their children into specific categories. For the Asian groups, less than 20 children were identified with an IEP. Thus, the perception of disability was broadly defined.

The  $n$  for each ethnic group was reduced due to missing information about IEP. Kappa for each Asian group was moderate indicating a moderate agreement between the two variables (refer to Appendix E). Even for European American parents the percentage of greater-than-chance-possible agreement was only 57% ( $\kappa=.57$ ). These analyses suggest that parents' perception about disability does not necessarily mean that their child has an identified disability.

Parent's response choices were 0 for no disability and 1 for disability. Parent's perception about learning, physical, and emotional disability may be distinctively different. As noted earlier, Asians are more comfortable with physical problems and likely to report higher rate of somatization. Possible problems will be addressed in the discussion section.

## Data Analysis

This is an exploratory/descriptive study to understand a naturally occurring phenomenon. Currently, the Asian parents' lack of school contact to obtain school services has not been sufficiently studied by researchers. However, Asian parents, especially those with children in need of special education or services are rarely available as participants because of the possible barriers listed in this study. Asian students are underrepresented among students with disabilities, and it is difficult to get their parents' participation in research for many reasons. My interest is to explore a range of possible barriers rather than to focus on one or two variables, making descriptive or tenuous causal probes appropriate for this study. A series of regression analyses were used. The internal validity of causal inferences was not a high priority in the present research. The relatively large and diverse sample of Asian and European parents in the sample provides an opportunity to address the research questions in samples of adequate size.

The contractor who produced the ELS:2002 data set has provided individual student weights that can be used to produce estimates for the entire U.S. population of students. These weights were not used because (a) the purpose of the present inquiry is not to describe the U.S. population and (b) students who are members of minority groups were often oversampled and had large sample weights. Using the sample weights would therefore increase error in estimates-including regression estimates and percentages. In all analyses all individual students were given unit weight to avoid this undesirable consequence of the use of weights.

The ELS:2002 database was analyzed to answer the seven questions posed earlier. For the descriptive analyses comparing ethnic groups, data analysis will simply

involve producing the requisite point estimates and their 95% confidence intervals.

Logistic regression analyses were used to address the questions about predictors of parental perceptions of disability and of contact with the school. A procedure for analysis for each question is addressed below.

### *Differences in the Perception of Disability (Question #1)*

The first question is, “Do different proportions of Asian American and European American parents perceive that their children have a disability, and do these proportions differ for immigrants and non-immigrant members of these groups?” To answer these questions, I reported the proportion of children viewed by their parents as disabled separately for the two groups. The proportion was calculated as the following. For instance, the proportion of perceived disability in Asian parents is the number of Asian parents who said “yes” to disability divided by the total number of Asian parent respondents (e.g., number of Asians who said “yes”/ total number of Asian respondents). I computed the 95% confidence interval for Asian parent and European American parent groups as well as Asian immigrants and European immigrants in two ways. First, I assumed (contrary to fact) simple random sampling to calculate the standard error (SEsrs). Second, I multiplied the variance error calculated by assuming simple random sampling (VEsrs) by an estimated average design effect (DEFF) of 2.24 to account for the complex sample design in ELS:2002, and calculated the confidence interval as the observed proportion indicating disability in the sample  $\pm 1.96(VEsrs * 2.24)^{1/2}$ . The value of 2.24 is provided in the ELS:2002 User’s manual (2004), it is the average parent-level design effect based on the parent questionnaire data for all parents. Although using analysis of overlapping confidence intervals may be a conservative comparison, it allows meaningful

information about point estimates and their precision while null hypothesis significance testing may be arbitrary in this sense (Cumming, 2009).

This analysis was expected to confirm the hypothesis that Asian American and Asian immigrant parents are less likely to perceive that their child has a disability than are the corresponding European parents. This analysis may simply describe the group differences without accounting for any other variables. Although this question does not directly address the underrepresentation of Asian Americans in special education, this analysis may suggest that differences in parental perceptions about disability may help explain differences in special education representation.

*Differences in the Beliefs about Learning (Question #2)*

The second question asks about group differences in the parents' beliefs about learning. This question intended to measure cultural differences in beliefs about learning which might influence parents' perceptions about disability and their decisions about seeking help. To find the mean differences of the groups (i.e., Asians vs. Europeans and immigrants vs. non-immigrants) the group means of each variable, Belief About Learning were compared with reference to the two alternative 95% confidence intervals described above. My hypothesis was that Asian immigrants are more likely to believe that their children can learn to improve their skills, yet they are less likely to believe in advocacy for their children. In other words, they are less likely to attribute their learning difficulties to disability and are less likely to believe that they can work together with the school. A similar difference between the immigrant and non-immigrant groups is also expected, with the immigrants more likely to attribute their learning difficulties to their lack of effort, but less likely to consider them as disability.

### *Differences in the School-Contact Behaviors (Question #3)*

Ethnic and immigrant-status group differences were investigated in terms of the parents' contact behaviors with the school regarding school programs and student's school problems/difficulties. Using the two composite scales, Parent Contact Regarding School Programs and Parent Contact Regarding School Problems/Difficulties, the difference between the European American and Asian parent groups as well as the immigrant and non-immigrant groups were compared by calculating the means and two variations on the 95% confidence interval for each group. The hypothesis is that Asian parents contact the school significantly less than the European American parents regarding both school programs and school problems/difficulties.

### *Cultural Beliefs as Predictors of the Parents' Perception of Disability (Question #4)*

I also investigated whether the parents' perception of disability was predicted by their cultural belief about learning. Ethnicity (*ethni*) was used to answer whether belief about learning predicts parents' perception of disability for particular ethnic groups. Logistic regression was used for this analysis because the dependent variable, Disability Perception (*disabili*), is a dichotomous variable. Parent's ethnicity and belief about learning were the predictor variables. The model examined is as follows:

$$\text{Log}(p_{\text{disab}}/(1-p_{\text{disab}})) = \beta_0 + \beta_1 \text{ethni} + \beta_2 \text{blearn} \quad (1)$$

To consider possible interactions of ethnicity with beliefs, one additional equation including the two-way interaction of a paired variable (*blearn \* ethni*) was tested. A likelihood ratio test was calculated from the model deviance for models with and without the interaction term (deviance, *D*, is labeled  $-2 \log$  likelihood in SPSS output) as follows:

$$\chi^2 = D_{(k-1)} - D_k \quad (2)$$

with 1 degree of freedom. The complex sample design was ignored in conducting statistical tests, so to provide additional protection against Type I errors, I required  $p < .01$  to reject the null hypothesis that interaction terms were not required. However, when reporting the results of the logistic regression models, I reported two sets of confidence intervals based on the standard errors—one assuming simple random sampling and a second assuming a DEFF of 2.24 as shown in the following:

$$CIsrs = \text{Exp}[b \pm (1.96(SEsrs))] \quad (3)$$

$$CIcx = \text{Exp}[b \pm (1.96(2.24VEsrs)^{1/2})], \quad (4)$$

where  $VEsrs$  is the variance of error for a simple random sample.

My hypothesis is that Asian parent's belief about learning predicts disability, whereas European American parents are less influenced by this belief. The stronger the parents attribute poor achievement to laziness or lack of effort, the less likely they will see a disability.

#### *Perception of Disability as a Predictor of Parents' School-Contact Behaviors*

##### *(Question #5)*

I was also interested in finding out whether there is an incremental contribution of the parents' perception of disability in explaining parents' contact behaviors with the school. Because parents' contact is so skewed, a logistic regression analysis was used to see whether the parents' perceived presence of disability predicts their contact with the school. Parent's ethnicity and perception of disability were the independent variables predicting two dependent variables, parent contact regarding school programs and parent contact regarding school problems/difficulties. The dependent variables were examined one at a time. First, a two-predictor (ethnicity and perceived disability) equation

predicting school contact was estimated. Then, the interaction of the two independent variables (*ethni\*disabili*) was added to the equation. For the logistic regression, likelihood ratio test with 1 degree of freedom will be used to test the interaction effect, with  $p < .01$  required to reject the simpler model in favor of the model with an interaction term. For the OLS analyses, an  $F$  test for the increment to  $R^2$  was used.

My hypothesis for this question is that if European American parents perceive disability, they are more likely to contact the school than the Asian parents. For the Asian parent group, if they perceive disability, they contact the school less.

*Predictors of Asian Parents' School Contact (Question #6)*

The main interest of this study was addressed in the question #6, “Which predictors explain immigrant parents’ help seeking behaviors? I.e., Do endogenous variables mediate the relationship between ethnicity and school contact? This question investigated possible factors that predict (either prevent or facilitate) Asian parent’s school contact behaviors. These predictors may suggest whether any cultural barriers influence Asian parents in getting or seeking school services. Six independent variables were be used as predictors of each of the dependent variables, School Contact Regarding School Programs (*sprogram*) and School Contact Regarding Problems/Difficulties (*sdiffi*). The equations for the direct effects are as the following, where each beta represents a direct effect of the corresponding variable:

$$\text{Log}(p_{sprogram}/(1-p_{sprogram})) = b_0 + b_1recency + b_2ethni + b_3ses + b_4zengl + b_5blearn + b_6disabili \tag{5}$$

$$\text{Log}(p_{sdiffi}/(1-p_{sdiffi})) = b_0 + b_1recency + b_2ethni + b_3ses + b_4zengl + b_5blearn + b_6disabili \tag{6}$$

Recall that the school contact variables were dichotomized because the distributions were so skewed. As a sensitivity test, the continuous versions of these variables were also examined in subsidiary analyses (equations 7 and 8).

$$Y_{sprogram} = \beta_0 + \beta_1 recency + \beta_2 ethni + \beta_3 ses + \beta_4 zengl + \beta_5 blearn + \beta_6 disabili + e \quad (7)$$

$$Y_{sdiffi} = \beta_0 + \beta_1 recency + \beta_2 ethni + \beta_3 ses + \beta_4 zengl + \beta_5 blearn + \beta_6 disabili + e \quad (8)$$

Analyses proceeded in two steps. First, the dependent variables were regressed on the parental background characteristics (Socio-economic Status, Ethnicity, and Recency of Immigration). Then the hypothesized mediating variables were added to the equation to learn if (a) their inclusion improved the prediction of school contact and (b) if they mediated the influence of ethnicity of school contact.

#### *Ethnicity as a Moderator (Question #7)*

I examined whether ethnicity moderates the relation between the parents' beliefs about learning and school contact as well as the relation between their perceived disability and school contact. The interaction of each specific ethnic group was examined to learn if the regression of School Contact with Belief About Learning or Perceived Disability is different for persons of different ethnic groups. No other two-way interactions were hypothesized, and therefore, I did not test for them. Three-way and higher interactions were also possible, but was not considered in this analysis because no three-way interaction was anticipated or hypothesized.

#### *A Note on Correlations Among Variables*

For the study sample, the correlations among Immigration Status and ethnic group membership were high because most immigrants were Asian and non-immigrants were European. The correlation ranged from  $r = -.76$  (European) to  $r = .50$  (Southeast

Asian), Thus, these two variables were not used in the analysis at the same time. Either ethnicity or immigration status was entered with other variables. Only looking at the immigrants, English Proficiency was moderately correlated with Socio-economic Status ( $r = .46$ ), Recency ( $r = .38$ ), and Ethnicity ( $r = -.27$  to  $.36$ ). The correlation matrices are shown in Table A-7 and Table A-8.

### *Missing data*

I planned to do each analysis twice: Once using the “complete case” analysis as my primary analysis, and once using the EM algorithm to impute missing data as a sensitivity analysis. The rationale for using the complete case analysis as the primary analyses is that many of the variables are categorical, and useful imputation method for categorical variables was not available. Listwise deletion was used if a respondent did not indicate an answer. Thus, different sample sizes were reported for each analysis.

Many Asian parents chose not to respond to the follow-up interview questions, causing missing data for the entire section in the later part. I imputed missing data only for the quantitative variables with a Likert-type scale. Thus, parent’s ethnicity and perception about child’s disability items were excluded from the imputation. Because many of items were systemically missing for non-immigrants (legitimate skip) , I made one run using immigrant items to estimate missing immigrants’ items, and another run for estimates of the non-immigrants’ items. Because the results for the main analyses were similar to those from the imputed data set, the results from the sensitivity analyses are not reported.

## Results

### *Question #1: Differences in the Perception of Disability*

Table 3 displays the proportion of parents of each ethnic group indicating their children have a disability and the 95% confidence intervals for each proportion. The proportion of parents' identification for European American was 11% while for East Asians and Southeast Asians, it was only 5%. Only 4% of South Asian parents identified their child with a disability. The predicted difference between the Asian and European American groups was found. European American parents overall identified a higher proportion of students with a disability than East Asian and Southeast Asian parents. The confidence intervals do not overlap between the European Americans and East Asians or Southeast Asians. However, the South Asian group slightly overlapped with the European American group. This may be due to the relatively smaller sample size (large standard error of proportions).

Table 3

#### *Proportion of Parents Who Report That Their Child Has a Disability by Ethnic Groups*

Variable	N	Proportion	95% Confidence Interval	
			Lower Bound	Upper Bound
European American	7370	.11	.10	.12
East Asian	330	.05	.02	.09
Southeast Asian	320	.05	.02	.09
South Asian	140	.04	.00	.10

*Note.* Confidence intervals are based on standard errors inflated by the design effect estimate. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Because the proportions of parents who perceived a child disability are substantially similar among the Asian subgroups, combining the three Asian subgroups appears reasonable. Relatively fewer Asian parents than European parents identified their

child with a disability. When the immigrant parents were compared to the non-immigrant parents, a smaller proportion of immigrant parents than non-immigrant parents identified their child with a disability. The proportion of non-immigrants reporting a disability was about double that for immigrants. When only immigrants were compared, the proportion was not significantly different between the two groups although a higher proportion of European immigrants indicated a child disability.

Table 4

*Proportion of Groups Who Perceive a Child Disability*

Variable	n	p	95% Confidence Interval	
			Lower Bound	Upper Bound
Asian/Asian American	790	.05	.03	.07
European/European American	7370	.11	.10	.12
Immigrant	1100	.06	.04	.08
Non-Immigrant	7420	.12	.11	.13
Asian Immigrant	710	.05	.03	.08
European Immigrant	340	.07	.03	.12

*Note.* Confidence intervals are based on standard errors inflated by the design effect estimate. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

*Question #2: Differences in the Belief about Learning*

Results for beliefs about learning for each ethnic group are shown in Table 5. Although the confidence intervals for Asian subgroups overlap with each other, none of the intervals for the Asian groups overlap with the confidence interval for European American parents. That is, Asians agree more strongly that their children can learn to be good at math. However, there were negligible ethnic differences among the Asian subgroups.

Table 5

*Mean scores on Beliefs About Learning and Parental Contact Regarding School*

*Programs or Problems/Difficulties by Ethnic Subgroups*

Variable	European American	East Asian	Southeast Asian	South Asian
Belief About Learning	2.05 (2.03-2.07)	1.87 (1.77-1.97)	1.77 (1.67-1.87)	1.73 (1.55-1.91)
Parent Contact Regarding School Programs	1.35 (1.34-1.37)	1.25 (1.18-1.33)	1.19 (1.13-1.25)	1.32 (1.19-1.44)
Parent Contact Regarding School Problems/Difficulties	1.23 (1.23-1.23)	1.13 (1.07-1.19)	1.17 (1.09-1.25)	1.11 (1.03-1.18)

*Note.* Table entries are means; adjusted confidence intervals in parentheses.

*Question #3: Differences in the School-Contact Behaviors*

Results for parents' school contact behaviors regarding school programs and school problems/difficulties are also displayed in Table 5, along with the 95% confidence intervals. Looking at the difference of school contact regarding school programs, European Americans contacted their children's schools more frequently than did East Asian and Southeast Asian parents. However, South Asian parents did not differ from the European parents, contacting the school almost at the same frequency as the European American parents.

The anticipated differences in the parents' contact behavior regarding school problems/difficulties were also found between the European American and East Asian groups, and also between European and South Asians. The European American parents contact the school more often than the two other groups regarding the school problems/difficulties. However, unlike the previous results, the frequency of school contact behavior for the Southeast Asian group was not distinctively different from the

European American. They report contacting the school about as frequently as the European American parents although their confidence bounds also overlaps with those of the two other Asian groups. This difference is partially due to the larger standard errors for the small number of Southeast Asians. The adjusted confidence interval for this group is larger than those of the other groups.

Table 6

*Mean Scores on Belief About Learning, Parent Contact Regarding School Programs, and Parent Contact Regarding School Problems/Difficulties for European and Asian Americans, and for Immigrants and Non-immigrants*

Variable	Mean (Lower CI-Upper CI)			
	Asian	European American	Immigrant	Non-Immigrant
Belief About Learning (Lower score equals higher belief)	1.81 (1.75-1.87)	2.05 (2.03-2.07)	1.85 (1.79-1.91)	2.06 (2.04-2.08)
Parent Contact Regarding School Programs	1.24 (1.19-1.28)	1.35 (1.34-1.37)	1.27 (1.23-1.31)	1.35 (1.34-1.37)
Parent Contact Regarding School Problems/Difficulties	1.14 (1.10-1.19)	1.23 (1.21-1.24)	1.16 (1.12-1.19)	1.23 (1.21-1.24)

*Note.* Table entries are means; adjusted confidence intervals in parentheses.

When Asian subgroups are combined and compared to the European American group, differences clearly exist between the two groups (refer to Table 6). Asian Americans more often than European Americans agree that people can learn to be good at math. Moreover, we again see that the Asian group contacted the school less frequently than the European Americans.

The expected differences were also found between the immigrant and non-immigrant groups. Like the Asian group, the immigrant group more often than the non-immigrant group believed that improved learning is possible. Also, the immigrant parents contact the school less frequently than the non-immigrant parents for either school programs or school problems/difficulties. In the present sample, the majority of the immigrants are Asians (67%). So the results are similar for the comparison between the two ethnic groups and the one between immigrants and non-immigrants.

*Question #4: Cultural Belief as a Predictor of the Parents' Perception of Disability*

Logistic regression was used to investigate whether or not cultural belief about learning predicts parents' perception about disability even when ethnicity or immigration status is statistically controlled. The results are listed in Table 7. Two sets of confidence intervals are reported in Table 7—one set assuming simple random sampling and a second set adjusting for an estimate of the design effect.

Using the forced entry method, all of the predictors were entered into the regression model in one block. When the ethnic groups were entered with the Belief About Learning, the results indicate that parents' belief about learning and East Asian significantly predicted whether or not parents think that their child has a disability. For a one unit increase in belief about learning (disagree more), the odds of perceiving disability increases by 50%, holding ethnicity constant. In other words, when the respondents disagree more with the statement that people can learn to improve, they were more likely perceive their child with a disability. For the Asian groups, the odds of perceiving disability in their child were decreased by a factor of .35 to .49 as compared to European Americans.

Table 7

*Logistic Regression of Parents' Perception About Disability on Ethnic Group**Membership, Parental Belief About Learning, and Immigration Status*

Predictor	<i>b</i>	<i>Exp (b)</i>	Confidence Interval	Adjusted Confidence Interval
Ethnicity <sup>a</sup>				
Belief About Learning	.41	1.50	1.35 - 1.68	1.28 - 1.77*
East Asian	-.80	.45	.27 - .74	.21 - .94*
Southeast Asian	-.71	.49	.30 - .81	.23 - 1.03
South Asian	-1.05	.35	.14 - .86	.09 - 1.34
Immigration Status <sup>b</sup>				
Belief About Learning	.41	1.50	1.35 - 1.68	1.27 - 1.77*
Immigrant	-.71	.49	.38 - .65	.33 - .74*

<sup>a</sup> Total rounded *N* for this regression analysis= 8060. The reference category for Ethnicity is European American.

<sup>b</sup> Total rounded *N* for this regression analysis= 8090. The reference category of Immigration Status is non-immigrant.

Although membership in the Southeast Asian and South Asian groups did not appear to statistically significantly lower the odds of perceiving disability, the sizes of the expected effects are about the same as that for East Asians. The confidence intervals for these groups were large and included one. These large confidence intervals are possibly due to small numbers of South Asian and Southeast Asian parents who perceived that their child with a disability, given smaller sample sizes.

When Belief About Learning was entered in an equation along with the Immigration Status (immigrant), the logistic regression yielded similar results. The odds of perceiving disability compared to not perceiving it were decreased by a factor of .49 when the respondent was an immigrant compared to non-immigrant, controlling for Belief About Learning. No significant interaction effects were found when interaction terms were entered one at a time, and the difference in relative model fit was tested by

examining the difference in the negative two log likelihoods with a single degree of freedom.

*Question #5: Perception of Disability as a Predictor of Parents' School-Contact Behaviors*

The left panel of Table 8 shows that Perception About Disability, being East Asian, and being Southeast Asian contributed to the prediction of School Contact Regarding School Programs. The relationship between each Asian subgroup and parent contact regarding school programs was negative while the Perception About Disability was a positive one. The odds of parent contact regarding school programs were almost doubled (odds ratio =1.98) when the respondent perceived that her/his child has a disability. When the respondents were East Asian or Southeast Asian, the odds of contacting school regarding school programs were decreased by 47% and 59% respectively. Being South Asian also decreased the odds of parent contact but nonsignificantly so, partially due to the large standard error.

Parents' perception about disability also predicted their contact behavior regarding school problems/difficulties, as shown in the right panel of Table 8. When the parents perceived their child had a disability, the odds of contacting school regarding school problems/difficulties were 3.9 times higher than when they do not have that perception. All Asian subgroups had lower odds of parent contact behavior regarding school problems/difficulties. The odds ratio for South Asian was .61 while East Asian's was .41 followed by the Southeast Asian's which was .46. The reference group was European. These results indicated that Asians are less likely to contact the school regarding school problems and difficulties, which is not consistent with the results from

the OLS analysis shown in Appendix B. A test for interaction of Asian subgroup and perception about disability indicated no significant interaction effects.

Table 8

*Results of Logistic Regression of School Contact on Ethnicity, Perception About Disability, and Immigration Status*

Predictor	Parent Contact Regarding School Programs			Parent Contact Regarding Problems/Difficulties		
	<i>b</i>	<i>Exp(b)</i>	Lower CI- Upper CI	<i>b</i>	<i>Exp (b)</i>	Lower CI- Upper CI
<b>Ethnicity<sup>a</sup></b>						
Perception About Disability (Yes)	.68*	1.98	1.59 -2.47	1.36*	3.90	3.14-4.84
East Asian	-.63*	.53	.37 - .75	-.88*	.41	.26- .65
Southeast Asian	-.90*	.41	.28 - .59	-.49*	.61	.40 - .92
South Asian	-.28	.75	.45 -1.27	-.77*	.46	.23 - .93
<b>Immigration Status<sup>b</sup></b>						
Perception About Disability	.69*	1.99	1.60-2.48	1.36*	3.90	3.14-4.85
Immigrant	-.48*	.62	.51- .76	-.49*	.62	.49 - .78

<sup>a</sup> The total  $N_{sprogram}$  for this regression analysis = 8080,  $N_{sdiffi}$  = 8040. The reference category for Ethnicity is European American.

<sup>b</sup> The total rounded  $N_{sprogram}$  for this regression analysis = 8030,  $N_{sdiffi}$  = 8060. The reference category for Immigration Status is non-immigrants.

For the analyses of immigrants, the results were similar to the Asian groups since most of the immigrants were Asians in this sample. Parents' immigration status also predicted their school contact behaviors. The odds for both school contact variables were decreased by a factor of .62 when the respondent was immigrant compared to non-immigrant, controlling for perception of disability.

*Question #6: Predictor of Immigrant Parents' School Contact*

To answer the question of which predictors explained immigrant parents' help-seeking behavior, all variables were entered in the regression analysis in two different steps. Because Socio-economic Status, Recency, and Ethnicity were used as control variables, they were entered first and generated the Model 1. Then, the parents' Perception About Disability, parental Belief About Learning, and their English Proficiency were entered to generate Model 2. The results of immigrant parents' School Contact Regarding School Programs predicted by six variables are shown in Table 9.

Table 9

*Logistic Regression of Immigrant Parents' School Contact Regarding School Programs on Socio-economic Status, Recency, Ethnic Group Membership, Parents' English Proficiency, Parent's Perception of Disability, and Parental Belief About Learning*

Variable	Model 1 <sup>a</sup>			Model 2 <sup>b</sup>		
	<i>b</i>	<i>Exp(b)</i>	Confidence Interval	<i>b</i>	<i>Exp (b)</i>	Confidence Interval
Socio-economic Status	.50*	1.65	1.26 - 2.15	.45*	1.57	1.17 - 2.11
Recency	.01	1.01	.99 - 1.03	.01	1.00	.98 - 1.02
East Asian	-.51	.60	.35 - 1.03	-.40	.67	.38 - 1.20
Southeast Asian	-.64*	.52	.31 - .91	-.62*	.54	.31 - .94
South Asian	-.23	.80	.41 - 1.57	-.24	.79	.40 - 1.56
English Proficiency				.18	1.20	.87 - 1.65
Perception About Disability				1.01*	2.73	1.06 - 7.03
Belief About Learning				-.21	.81	.59 - 1.12

*Note.*  $N_{rounded} = 950$ ,  $\chi^2 = D_{(k-3)} - D_k = 15.13$ ,  $p < .01$ , Adjusted confidence intervals are reported.

<sup>a</sup>  $-2LL = 1210.78$ . The reference category for Ethnicity is European. The reference category for Perception About Disability is 'no disability'.

<sup>b</sup>  $-2LL = 1195.66$

As shown in Table 9, the hypothesis predicting a relationship between cultural belief about learning and school contact regarding school programs was not supported when socio-economic status, recency, and ethnicity were controlled. In addition, the expected relationship between English proficiency and school contact was not supported. However, being Southeast Asian was associated with less school contact behavior. The odds of Southeast Asians contacting school regarding school programs were about a half of the odds for European immigrants, all other predictors being equal. Being an East Asian or South Asian immigrant did not significantly affect the odds of a school contact. Both groups were less likely to contact the school than the European immigrants regardless of their level of English proficiency and the number of years in the U.S., although this difference was not statistically significant.

The odds that immigrant parents contacted the school increased almost threefold when they suspected that their child has a disability. In Model 2, when the Parent's Perception about Disability was entered along with English Proficiency and Belief About Learning, the  $-2LL$  was decreased by 15.13 ( $df=3$ ), indicating a better fit. The coefficient for Perception About Disability was statistically significant. In other words, immigrants do contact school regarding school programs when they think that their child has a disability regardless of their ethnic membership. The odds of school contact were increased a whopping 2.73 times when parents believed that their child had a disability. Socio-economic status also increased the odds significantly. As the parent respondents' level of income or education level increased, the school contact was also likely to increase.

Evidently culture-related beliefs and perceptions, and English language

proficiency do not mediate the relation between ethnicity and school contact. The partial regression coefficients for ethnicity in Model 2 in Table 10 are not lower than the coefficients in Model 1.

Table 10

*Logistic Regression of Immigrant Parents' School Contact Regarding School Problems/Difficulties on Socio-economic Status, Recency, Ethnic Group Membership, Parents' English Proficiency, Parent's Perception of Disability, and Parental Belief About Learning*

Variable	Model 1 <sup>a</sup>			Model 2 <sup>b</sup>		
	<i>b</i>	<i>Exp(b)</i>	Confidence Interval	<i>b</i>	<i>Exp(b)</i>	Confidence Interval
Socio-economic Status	.16	1.17	.86 - 1.60	.19	1.21	.85 - 1.73
Recency	.02	1.02	1.00 - 1.04	.01	1.01	.99 - 1.03
East Asian	-1.02*	.36	.18 - .72	-.98*	.38	.18 - .79
Southeast Asian	-.37	.69	.38 - 1.27	-.36	.70	.37 - 1.32
South Asian	-.78	.46	.19 - 1.09	-.78	.46	.19 - 1.11
English Proficiency				.06	1.06	.72 - 1.55
Perception About Disability				1.72*	5.56	2.21-13.96
Belief About Learning				-.09	.91	.62 - 1.34

Note.  $N=960$ ,  $\chi^2 = D_{(k-3)} - D_k = 29.75$ ,  $p < 0.001$ , Adjusted confidence intervals were reported.

<sup>a</sup>  $-2LL=945.04$ , The reference category for Ethnicity is European. The reference category for Perception About Disability is 'no disability'.

<sup>b</sup>  $-2LL=915.29$

Results from the analyses of two models investigating prediction of School Contact regarding School Problems/Difficulties are presented in Table 10. Again, the hypothesized relationships between belief about learning and school contact regarding school problems/difficulties were not supported. Nevertheless, being an East Asian immigrant reduced the school contact, holding the other factors constant. Although the

size of odds ratios for East Asian and South Asian are comparable, the confidence interval of South Asian includes one, a result of relatively higher standard errors. Using this dependent variable, the odds of that an East Asian immigrant will contact the school is only four fifths that of European immigrants. The other Asian immigrant groups were also less likely to contact the school regarding the same issues, but not significantly so.

The model improved when Parents' Perception About Disability, Belief About Disability, and English Proficiency were entered in Model 2. This model better predicted the school contact ( $\chi^2 = D_{(k-3)} - D_k = 29.75$ , nominal  $p < .001$ ). Consistent with the previous analysis, Parents' English Proficiency and Belief About Learning did not predict the Parents' school contact behavior. However, school contact was strongly linked with the parent's perception about disability. When the immigrant parents perceived that their child has a disability, the odds of contacting the school were 5.56 times higher than for parents without such perception. Interestingly, socio-economic status was not an effective predictor for this model, meaning that parents' school contact regarding school problems and difficulties were not influenced by the parent's income or educational levels. In other words, immigrant parents may contact the school to help their child with problems and difficulties regardless of their levels of income or educational level and their length of stay in the U.S. Of course, it is also possible that parents contacted the school in response to the school's initiation for the problems or difficulties that a student might have presented. From this study, it is hard to separate which comes first, whether the parent or the school initiated the contact.

*Question #7: Ethnicity as a Moderator*

Interaction variables (i.e., East Asian\*Disability, Southeast Asian\*Disability,

South Asian\*Disability, East Asian\*Belief About Learning, Southeast Asian\*Belief About Learning, and South Asian\*Belief About Learning) were added one by one to the models in question #6 to examine whether ethnicity moderates the relation between the parents' beliefs about learning and school contact as well as the relation between their perceived disability and school contact. The results indicated that no interaction term significantly contributed to the model. Also, a supplementary analysis was done using only interactions when two ethnic groups were examined: European and Asian. Asian group was put together so that the standard errors might be reduced. The ethnicity-by-disability interaction was not significant. In short, no interactions appeared to be significantly present.

## Discussion

### *Cultural Differences in Parents' Perceptions of Disability, Beliefs about Learning, and School Contact Behaviors*

This study examined the cultural influences of parental perceptions of disability and the barriers to school contact. First, the proportion of child disability was examined. This study found that Asian and Asian American parents identified smaller proportions of their children as having a disability than did their European or European American counterparts. Although this analysis did not address whether there were more European/European American children who truly had disabled conditions or more Asians/ Asian Americans with disabled conditions, the findings showed a clear difference in the parents' perceptions of disability between the two ethnic groups. These results are consistent with special education statistics, indicating that Asians are underrepresented in special education (Department of Education, 1999, 2000) although it is important to keep in mind that identifying a disability and receiving special education services are not the same. Just as in the special education statistics, Asian parents also less often indicated that their children had a disability.

Another finding was that Asians or Asian Americans believed that their children could learn to be good at math, more so than did European Americans. Although both group believed that people could learn to improve, Asians believed this more strongly than did European Americans. As hypothesized, parental belief toward learning was a good predictor of their perceived disability. In other words, they were more likely to see their child as having a disability when they believed that their child was unable to learn to improve. This finding was consistent with the studies supporting a strong emphasis on the

value of hard work and effort in the Asian culture (Holloway, 1988; Stevenson et al., 1990; Hwa-Froelich & Westby, 2003; Ly, 2008). When Asian parents see their children with potential to do better, they are less likely to see them with a disability because of their belief that people can learn to improve their ability with time and effort.

However, even when this belief was controlled in a statistical model, Asians especially East Asians, were still less likely to believe that their child had a disability. One possible explanation is that the effect of parental belief about learning may be present only in mild cases of learning difficulties. When more severe cases are involved such as intellectual disability, Asian parents may also attribute the difficulties to their child's inability (Ly, 2008). Perhaps because the severity and the type of disabilities were not considered in this study, the effect of parental belief on learning was not as strong as I anticipated.

Furthermore, this result may be related to cultural factors that were not explicitly explored in this study, but we can speculate a few possibilities based on the existing literature. First, Asians may not have the same definition or level of awareness in identifying someone with a disability as defined by the U.S. education law. For example, only two categories are recognized in China (Yang et al., 2007). Unless the child's disability or conditions are physically noticeable, their learning difficulties may not be recognized in the ways that school professionals consider as disabilities. Second, even if parents are aware of the conditions, they are less likely to accept the condition as a disability because of the stigma, shame, and resulting segregation associated with disabilities. In Asian countries, influences of stigma, shame, and rejections associated with disabilities are more prevalent than in America. In fact, according to Asian parents,

identifying a disability may reflect poor parenting or result in a change in relationship with other family members which may place heavier blame on the parents (House & Pinyuchon, 1998; McCabe, 2007; Kalyanpur & Gowramma, 2007). Third, the effect of parental belief about learning is not the only component attributing to their child's failure. For instance, parents may attribute it to racial discrimination or prejudice instead of biological or traumatic causes (Yeh et al., 2004).

As expected, European Americans were more likely to contact the school than were Asians. As noted in previous literature, Asian parents' way of helping their children may not necessarily mean communicating their needs or concerns with school staff. Asian parents perceive their role as an active teacher in the home environment, and may not see contacting school as an appropriate way to deal with their child's problems (Park et al., 2001; Lo, 2008). Instead, they may look for information or seek help from outside resources (Sy & Schulenberg, 2005).

More specifically, East Asians and Southeast Asians contacted the school less than the European Americans regarding school programs. Even when other factors were controlled, Southeast Asians were indicated as having significantly lower rates of contact. I suspect that this finding is a result of their lack of "cultural capital" or social resources, which was not completely controlled by their length of stay in the U.S. These parents may still lack the knowledge about the U.S. school system and may not know how to get help.

However, South Asians did not show a dependable difference from the European Americans, possibly due to the small sample size. The odds of Parent Contact Regarding School Programs were increased by parent's perceptions of disability as well. That is, the

odds were almost doubled. The parents contacted the school to make current and future plans for their children when they perceived that their child had a disability. In other words, Asian parents contacted the school to make educational arrangements and acknowledged their need for services only if they perceived that their child truly had a disability. In contrast, if parents did not recognize those conditions, they were at a greater risk of undermining the needs of specific programming or support.

Parental contact in dealing with problems and difficulties of children in schools shows a similar pattern. Although it is possible that Asian students may have fewer problems or difficulties than European American, Asian parents' reluctance to perceive problems or disabilities may also influence the occurrence or lack thereof of school contact. Membership of the Asian (especially East Asian) or immigrant groups as well as parental perception about disability were both predictors of how active the parents were in contacting the school regarding problems and difficulties. The odds of school contact were increased 4 times when they perceived their child as having a disability. The result is consistent with Wang (2008)'s study that Asian parents would not contact the school unless they see a "serious problem."

An alternative explanation is that these Asian groups might have been influenced by other cultural factors that were not examined in this study. As suggested in the literature, Asian parents may not communicate the need or ask for help because of other factors such as their lack of assertiveness, deference to school's decisions, or mistrust in the system (House & Pinyuchon, 1998; Sultana, 2000; Park et al., 2001; Yeh et al, 2004). As true as it seems, however these may not be issues that apply only to Asians, but could apply to any immigrant in the U.S.

### *Immigrant Parents' Perceptions and School Contact*

The study also explored differences between immigrants and non-immigrants. Relatively fewer immigrant parents than non-immigrant parents identified their children with a disability. Being an immigrant reduced the odds of perceiving the presence of a disability by about half. These results are consistent with the hypothesis that immigrants including Asians and Europeans are less likely to identify a disability in their children because of many barriers such as English proficiency and cultural and/or financial resources due to their lack of acculturation. Although it is also possible that immigrant parents may have relatively fewer children with a disability, this possibility was not examined in this study.

After examining the factors that might prevent or facilitate immigrant parents' contact with schools, their level of English proficiency, the amount of time they had resided in the U.S., and their beliefs about learning did not predict school contact behaviors. That is, parents' length of stay in the U.S., having better English skills, and believing that learning will improve—and therefore less likely to see a disability—did not directly affect their decision to contact the school either to inquire about school programs or about problems or difficulties of their children. Surprisingly, immigrants', mainly Asian parents', lack of English proficiency did not necessarily prevent parents from seeking help. This is contrary to the findings in previous studies (Wathum-Ocama & Rose, 2002; Ladky & Peterson, 2008; Turney & Kao, 2009) which concluded that language barrier was the largest factor limiting their partnership with schools. What really seemed to drive immigrant parents to look for help was the perception that their child might have or has a disability. When parents perceived that their child had a

disability, the odds of contacting the school were increased by almost 3 to 6 times depending on the dependent variable. As long as a child's disability was obvious to the parents, immigrant parents sought services from schools regardless of other barriers. Perhaps a language barrier may be more problematic when parents specifically know what they want from the school or when they are already in contact with the school for their children's disabilities. Or, perhaps differences in research methods accounts for the difference in findings of the present and earlier smaller studies. The earlier studies with small samples are less dependable in estimating the importance of language facility than the present larger-sample study.

Parental belief about learning did not significantly contribute to the prediction of school contact. That is, among immigrants, beliefs about learning might not have been a unique feature that predicted school contact. It is evident that no interaction effect was found between immigration status and belief about learning.

The number of years in the U.S. also did not predict parents' school contact. It was hypothesized that immigrant parents would increase their cultural resources and might become familiarized with the U.S. educational system in time. However, the length of residency may not represent their acculturation level. Simply living in the U.S. does not mean that parents automatically learn more about when and how to contact the school unless they are explicitly introduced to the concepts.

Socio-economic status (SES), however, did predict the immigrant parents' school contact regarding school programs. This result supports the earlier studies suggesting that higher SES parents usually seek more services from schools (e.g., Lareau, 1989). Nevertheless, this was not the case for school contact regarding problems or difficulties.

Immigrant parents contacted the schools to address their children's school problems or difficulties regardless of their SES. Again, immigrant parents contacted the school when they perceived problems. Thus Asian parents or immigrant parents may be equally involved in school once they recognize that problems exist, which is partially supported by Crosnoe (2001)'s study.

#### *Asian Immigrants' Barriers to School Contact*

Asians did not seek help very often and were less likely to seek help than were European immigrants. The finding here is that Asian parents tend not to perceive disabilities, but even when they do, they are still less likely to contact the school for help. This was shown when perceptions of disability did not mediate the influence of being an Asian. As stated earlier, Asian immigrant parents may not initiate services unless a disability is clear to them. When this is the case, introducing the possibility of special education or other services may not be welcomed by these parents. Thus, in the case that schools initiate support, it is possible that Asian parents may not agree with the professionals. According to the models examined here, both ethnicity and perceptions about disability directly influenced the likelihood of school contact. The results suggest that there are still unknown factors that can explain why Asian immigrants seek less service from school. This phenomenon was not fully explored in this study, but it may be worthwhile to investigate variables such as social stigma and different views of parental roles in future studies.

Among immigrants, none of the interactions of ethnicity with other predictors of school contact were significant. These results indicated that beliefs about learning, perceptions about disability, and English proficiency operated in much the same way for

all immigrant groups examined. Ethnicity mattered, but it did not change the relationship between school contact and the other variables examined.

### Implications for Practice

I have personally observed numerous occasions where the parents' ethnic membership makes a difference in special education meetings as well as other educational meetings or conferences with parents. Many Asian parents appeared to avoid special education services or non-academic support from the schools in the event where non-physical disabilities were involved.

### *Cultural Differences and Awareness*

Given the low likelihood of Asian parents to identify their child as having a disability, the definitions of certain disabilities and the available services should be clearly communicated with the parents. As suggested by Harry and Kalyanpur (1999), parents may not be familiar with the definitions or categories of disabilities nor the services available for their children in the U.S. school system. It is possible that Asian parents with children experiencing disabilities face many barriers in recognizing their conditions as learning disability and emotional disturbance, and may not seek assistance until they fully understand the disabling conditions. If they believe that their difficulties can be ameliorated with time and effort, they will not look for help. Yeh and colleagues (2004) suggested etiological explanations for children's problems. For instance, "when early signs of the child's difficulties arise, schools could discuss with parents the full range of etiological explanations that might account for child's problem (e.g., biological, trauma related, sociological) beyond personality characteristics and relational issues" (p. 355).

Parents also need to be introduced to benefits and consequences of special education and accommodation services so that they could make an informed choice. Kalyanpur and Gowramma (2007) suggested, “informing parents of the values, helping them to understand the consequences of their decision and allowing them the dignity of risk” (p.79). For example, parents may be invited to visit a special education classroom and be able to explore some options. Thus, special education or remedial services do not necessarily mean segregation from general education. Therefore, a focus of outreach should be on helping the parents understand their children’s disabilities as well as the available services. And in order to do so, we need to take a more culturally sensitive approach to communicating with parents coming from different cultural values, beliefs, and experiences. Our goal is not to alter their cultural beliefs, but to introduce definitions of disabilities as identified in the U.S. and inform them of the services available at school.

Because immigrant parents’ perception of disability does make a difference, school professionals’ understanding of cultural differences in perceptions of disability may help design better ways of communicating with these parents. Professionals should explore their own expectations and understand the norm so that one’s own cultural interpretation may not be one that is ethnocentric. Professionals should also understand how identifying a student with a disability or initiating contact regarding a possible disability can be difficult for parents possibly due to barriers such as stigma, shame, and guilt. Careful approach and thorough explanations are necessary to avoid possible culture conflict that may create embarrassment, confusion, or discomfort for parents. Also, it may be appropriate to communicate that a child’s problem or disability are not a source of shame or guilt because their difficulties can be resolved through collaboration between

the school and family. This collaboration can be achieved only through genuine understanding in the difference of cultural backgrounds and respect on the part of the school. Zhang and Benette (2003) suggested professionals take time to understand the emotional reactions of parents and to avoid using labels that do not make sense to them. One way is to avoid simply categorizing children into a disability code or diagnosis and providing prescribed service plans, but rather listening to the parents' frustration and difficulty. This way parents can fully explain how this service can help their children better function at school.

Kalyanpur and Harry (1999) emphasized the importance of cultural reciprocity and family-centered practice. They stated, "We suggest that professionals adopt this approach whereby they engage in explicit discussions with families regarding differential cultural values and practices, bringing to the interactions an openness of mind, the ability to be reflective in their practice, and the ability to listen to the other perspective" (p.118). Professionals including school psychologists and special educators should approach these parents with an understanding of cultural variations. Many questions still remain unanswered, but it is important to note that Asian parents need acceptance of their cultural and linguistic differences by the school (Lian & Fontanez-Phelan, 2001), regardless of whether language proficiency predicts school contact.

My speculation that Asian parents tend to not seek services was strongly supported by this study. Clearly, there are cultural biases of underlying assumptions and expectations in the U.S. school system. U.S. schools expect parents to initiate services, to be proactive, and to actively participate, and to make choices. However, many studies involving Asian immigrants highlighted their lack of knowledge regarding the U.S.

school system. Asian parents did not know how to provide support in the new school system (e.g., Lo, 2008). And Asian parents might not initiate conversations regarding special services out of their respect for authority figures to avoid confrontations and disagreement.

Thus, another implication in the practice with Asian parents is that student's difficulties and cultural differences should be addressed in the process of initiating or considering special education for children. Asian parents may need more proactive initiation from the school if they do not perceive a disability. When children have difficulties or problems at school, the school should take the initiative to provide information and involve parents. It is the school's responsibility to inform the parents that calling or visiting the school to request help or services is anticipated and encouraged in U.S. schools when their children encounter problems at school. Also, courses designed for parents can be particularly helpful to involve other family members. It is necessary to explicitly introduce when and how to contact the school for getting services. Providing school orientations for these parents at the school can be a way to meet these initial needs (Birman, Weinstein, Chan, & Beehler, 2007).

The minimal role that the level of English proficiency played was surprising, considering that many immigrant parents struggle with the language. Immigrant parents do, in fact, contact the school regardless of their ability to communicate or the number of years they've resided in the U.S. if they see that their children are having disabilities. English proficiency may not influence their decision to seek help, but it may influence them in getting the services once they recognize the need for them, and this is evident from the previous research that examined parent school collaborations (Park et al, 2001;

Lo, 2008). Additionally, quality interpreters or bilingual liaisons may ameliorate the effects of language barrier or different communication styles.

Understanding of cultural differences should take place in the system as well. In America, there is a paradigm shift focusing on more conclusive and comprehensive ways of looking at special education services. More services are provided in general education along with functional interventions rather than identifying students with a disability and placing them in special education. This inclusive education approach would eventually benefit Asian students who may not necessarily be identified as needing extra support for disabilities.

#### Limitations and Future Direction

This study was potentially vulnerable to a few threats to validity due to limitations of the information available from the ELS:2002 database. The ELS:2002-restricted version database offers general information regarding Asians and immigrants, but the information was not collected specifically to address the present research questions.

#### *Treats to Internal Validity*

The main threat to internal validity is potential model misspecification. That is, the suggested statistical model might omit variables that could be correlated both with the dependent variables and with the predictors. These omissions and measurement error constitute threats to the interpretation of the models for question 6 as reflecting effects. Therefore, the results provide weak probes of the causal hypotheses.

### *Threats to Construct Validity*

Due to reliance on this existing set of data, compromises were required in the measures used to represent the intended constructs, producing potential threats to construct validity. Specifically, the variables used to measure parent contact with the school to obtain help for their children and the hypothesized influences on school contact may be either a too general or too specific. The two dependent variables, parent's school contact regarding school programs and school problems/difficulties may be too general. These measures are not sensitive to the quality of demand and the magnitude of needs. Furthermore, there is no specific indication whether or not the parents initiated the school contact. Ordinarily, a person seeks help because he or she is aware of his or her needs.

However, in this study, it is possible that parents could have contacted the school in response to the school's initial contact. The extent to which this school contact variable represents a response to problems identified by the school rather than parent initiative to obtain help cannot be assessed in the present study. In contrast, school contact regarding school programs appears less likely to be taken in response to a problem identified by the school. On the other hand, it is a virtue of the present inquiry that these two distinct types of school contact were available for study. The results imply that the perception about disability increases the odds of both kinds of school contact, yet the magnitude of the effect of a perceived disability was larger for the contact about a school problem than for contact about programs. In the principal analyses, a perceived disability increased the odds of school contact regarding school programs by a factor of 2.7, whereas a perceived disability increased the odds of school contact regarding school problems/difficulties by a

factor of 5.6. In this case, there is a distinct possibility that the school initiates the contact regarding problems and difficulties.

Parent's perceived disability is another variable that is broadly defined in the present research because the type and the level of disability are not specified. This variable represents a subjectively defined perception of disability by parents. Because this study investigated the overall perception of whether or not a disability exists, the type and level of disability is ambiguous in the present research. It is possible that results might differ if well defined disabilities were specified. For example, if parents were asked to whether they believe that their child has a learning disability, I would anticipate stronger effects of ethnic group differences in cultural beliefs. For behavior-related or emotional disabilities, even greater ethnic group differences might be expected.

By the high school age, the tenth graders' parents may have come to know whether or not their child has a disability through many different sources. It is possible that either the school or other professionals may have informed the parents about a disability condition. Thus, it may be difficult to detach the parents' subjective identification of disability from the formal identification or diagnosis that they could have learned over time. However, this study assumed that this variable reflects parent's perception. It is possible that some parents might be resistant to the idea that their child has a disability even if they have been informed by others.

In contrast to the parental reports on perceptions of disability which may reflect ambiguity due to their too-general nature, other variables examined in the present research may be too specific. Beliefs About Learning is only specific to the parent's belief about learning in math, which does not signify their overall beliefs about learning.

It is possible that their belief about learning in math is different from learning in other subject areas such as English. However, this variable is the only variable available from the ELS:2002 database, measuring parent's belief about learning. The Belief About Learning variable may therefore incompletely represent parents' overall belief about learning.

Even the key variable of ethnic identification suffers from ambiguity. Asian subgroups (East Asians, Southeast Asians, and South Asians) were examined separately under an assumption that different countries of origin share similar cultures. But no specific ethnic group shares all of the same views or experiences as other groups (Betz, 1993). Values and beliefs vary culture to culture, which are influenced by their country of origin, religion, and other factors—including geographic or subcultural differences within countries. Since this study is one of the earliest attempts to quantify the cultural values with a large sample size, the practical and theoretical significance of using a general Asian classification should be emphasized. The focus of some parts of the study is on Asians in general, and others focus on more specific ethnic groups which themselves may represent considerable diversity. Future studies should identify separate Asian groups, measure the extent of group self-identification, and examine cultural differences specific to their contexts.

There is a possibility of construct confounding because not all constructs could be represented in the models examined. Omitted constructs may result in incomplete model specification. For instance, parents' perception of school experiences (e.g., experiences of being welcomed or experiences of difficulty communicating) may have an influence on their school contact behaviors. The measurement of such potential

influences would have been desirable, but they could not be measured in this study. Other important constructs such as the parent's relationship with teacher, perceptions of the school administration, perception of stigma, and experiences of racism or discrimination would be helpful to include in future studies.

It is possible that parent's school contact may be influenced by their utilization of other source of assistance that they may have available. Parents may receive educational services from outside of the school and thus not see the need of obtaining services from the school (e.g., Asian parents may send their children to a private therapy or after-school program instead of asking for help from the school). There is no specific measure to assess this possibility. On the other hand, the availability of outside resources seems less likely to influence parents' perception of disability. Again, it would be helpful to measure the availability of extra-school resources in future studies.

Finally, recency of immigration should not be confused with the parent's acculturation level because recency is only one of many possible influences on the acculturation levels of parents. It has been necessary in the present investigation to make an assumption that people with more years in the U.S. are more likely to be informed about the school system and have higher level of acculturation.

#### *Treats to External Validity (Generalizability)*

The ELS:2002 used complex sampling, in part to allow the overrepresentation of ethnic minority students and parents. Due to the complex sample, this unweighted study sample is not strictly representative either of specific ethnic groups or of the U.S. population of students and parents. The oversampling of minorities is a virtue of the sample, because it allows research on ethnic groups that would be represented only by

small samples had they not been oversampled. Of course, the results may not be generalizable to school settings beyond the U.S. school system.

Finally, the type of the school was not considered in the study. Parents in private schools and public schools may not share the same values or perspectives. This study does not account for the possibility of this difference.

#### *Threats to Statistical Conclusion Validity*

Steps were taken to avoid unnecessary threats to statistical conclusion validity. For example, the distributions of the variables used were examined, and where necessary transformations were used to avoid the violation of the normality assumption. In such cases, analyses using both transformed and untransformed data were conducted as sensitivity tests. Generally, alternative approaches to the analysis produced similar results.

#### *Future direction*

Although the awareness of the value of family involvement in special education is increasing, there are still a limited number of empirical studies available about families from diverse backgrounds. This study was developed in attempt to extend previous qualitative studies to a quantitative study, exploring various factors with a national sample of Asian and European parents. Given difficulties even locating and examining minority populations, qualitative method have often seemed appropriate. However that may be, quantitative survey-based research and experimental studies of interventions are required to provide clearer evidence about cultural variables and their implications for service utilization.

Findings of this study have reinforced earlier suggestions that Asians underutilize school services (Poon-McBrayer et al., 2000). Future research targeted at the present research questions might profit from the explicit inclusion in data collection of culture-related beliefs and knowledge will be helpful in further examination of the core issues raised in the present research.

## Appendix A

Table A-1

*Variables from Parent Reported Data*

<i>Composite</i>	<i>Questionnaire Items</i>
Recency of Immigration	Number of years ago mother came to US (BYP18)
	Number of years ago father came to US (BYP21)
English Proficiency	How well parent understands spoken English (BYP31A)
	How well parent speaks English (BYP31B)
	How well parent reads English (BYP 31C)
	How well parents write English (BYP 31D)
	Problems reading English books/magazines (BYP32A)
	Problems parent has filling out forms in English (BYP32B)
	Problems parent has understanding 10 <sup>th</sup> grader's teachers (BYP 32C)
	Problems parent has making self understood by teachers (BYP32D)
	Problems helping 10 <sup>th</sup> grader with homework in English (BYP32E)
Parent Contact Regarding School Programs	Parent Contacted school about plans after high school (BYP53C)
	Parent Contacted school about school program for year (BYP53B)
	Parent contacted school about course selection (BYP53D)
Parent Contact Regarding School	Parent contacted school about poor performance (BYP53A)

Problems/Difficulties	Parent contacted school about problem behavior (BYP53B)
	Parent contacted school about poor attendance (BYP53E)
	Parent contacted school about helping with homework (BYP53I)
Belief About Learning	Most people can learn to be good at math (BYP58A)
Perception About Disability	Thinks that tenth grader has disability (BYP49)

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Table A-2

*Varimax Rotated Two-Factor Solution Parent Contact Variables*

<i>Parent Contact Variables</i>	<i>Factor</i>	
	1	2
Parent Contacted school about plans after high school	.78	.05
Parent contacted school about course selection	.77	.03
Parent Contacted school about school program for year	.51	.27
Parent contacted school about poor performance	.16	.63
Parent contacted school about problem behavior	.06	.65
Parent contacted school about poor attendance	.05	.55

Table A-3

*Internal Consistencies for Scales*

<i>Scale</i>	<i>Alpha</i>
English Proficiency	.93
Parent Contact Regarding School Program	.71
Parent Contact Regarding School Problems/Difficulties	.61

Table A-4

*Coding of Nominal and Categorical Variables*

<i>Variable</i>	<i>Coding</i>
Parent Ethnicity	1 = East Asian, 2 = Southeast Asian, 3 = South Asian, 4 = White/non-Hispanic
English Proficiency	1 = Beginner, 2 = Intermediate, 3 = Advanced, 4 = Native Speaker
Belief about Learning	1 = Strongly agree, 2 = Agree, 3 = Disagree, 4 = Strongly disagree
Perceived Disability	0 = No, 1 = Yes
Parent Contact Regarding School Programs & School Problems/Difficulties	0 = No, 1 = Yes (For OLS analysis: 1 = None, 2 = Once or twice, 3 = Three or four times, 4 = More than four times)

Table A-5

*Descriptive Statistics for All Samples*

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Socio-Economic Status ( <i>ses</i> )	8700	-2.11	1.82	.22	.71
Parent's Ethnicity ( <i>ethni</i> )	8520	1	4	3.79	.70
Immigration Status ( <i>immigration</i> )	8740	0	1	.15	.36
Parental Perception About Disability ( <i>disabili</i> )	8190	0	1	.11	.31
Parental Belief About Learning ( <i>blearn</i> )	8140	1	4	2.03	.63
Parent Contact Regarding School Programs ( <i>sprogram</i> )	8080	0	1	.49	.50
Parent Contact Regarding School Problems/Difficulties ( <i>sdiffi</i> )	8110	0	1	.31	.46

*Note.* The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Table A-6

*Descriptive Statistics for Immigrants*

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Socio-Economic Status ( <i>ses</i> )	1290	-2.11	1.81	.09	.87
Parent's Ethnicity ( <i>ethni</i> )	1100	1	4.00	2.52	1.19
Parent's length of stay in the U.S. ( <i>recency</i> )	1050	0	50	19.24	11.11
Parental Perception About Disability ( <i>disabili</i> )	1080	0	1	.06	.23
Parental Belief About Learning ( <i>blearn</i> )	1070	1	4	1.85	.65
English Proficiency ( <i>zengl</i> )	1110	-2.28	.87	0	.90
Parent Contact Regarding School Programs ( <i>Sprogram</i> )	1060	0	1	.38	.49
Parent Contact Regarding School Problems/Difficulties ( <i>sdiffi</i> )	1070	0	1	.22	.41

*Note.* The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Table A-7

*Correlations Among, SES, Perception About Disability, Belief About Learning, Immigration Status, Ethnicity, and Parent Contact Variables for the Entire Samples*

Variable	1	2	3	4	5	6	7	8	9
Socio-economic Status	-								
Perception About Disability	-.08**	-							
Belief About Learning	-.02	.09**	-						
Immigration Status	-.08**	-.07**	-.11**	-					
East Asian	.04**	-.04**	-.05**	.43**	-				
Southeast Asian	-.12**	-.04**	-.08**	.50**	N/A	-			
South Asian	.03**	-.03**	-.06**	.32**	N/A	N/A	-		
European American	.04**	.06**	.12**	-.76**	N/A	N/A	N/A	-	
School Contact Regarding School Programs	.05**	.10**	.00	.06**	-.05**	-.08**	-.02	.10	-
School Contact Regarding School Problems/Difficulties	-.10**	.20**	.03*	.08**	-.06**	-.05**	-.04**	.09	.53**

*Note.* Pairwise  $N_{rounded}$  ranges from 8120 to 8740.

Table A-8

*Correlations Among SES, Recency of Immigration, Ethnicity, Perception About Disability, Belief About Learning, English Proficiency, and Parent Contact Variables for immigrants.*

Variable	1	2	3	4	5	6	7	8	9	10
Socio-economic Status	-									
Recency	.13**	-								
European	.14**	.32**	-							
East Asian	.08**	-.12**	N/A	-						
Southeast Asian	-.29**	-.11**	N/A	N/A	-					
South Asian	.10**	-.16**	N/A	N/A	N/A	-				
Perception About Disability	-.06	.10**	.06	-.30	-.01	-.03	-			
Belief About Learning	.02	.02	.12**	.01	-.08*	-.08*	.09**	-		
English Proficiency	.46**	.38**	.36**	-.27**	-.17**	.09*	-.03	.04	-	
School Contact Regarding	.23**	.10**	.15**	-.04	-.15**	.05	.09**	-.04	.20**	-
School Programs										
School Contact Regarding	.05	.12**	.16**	-.12**	-.01	-.05	.21**	0	.09**	.27**
School Problems/Difficulties										

*Note.* Pairwise  $N_{rounded}$  ranges from 1020 to 1290.

Appendix B

Table B-1

*Results of Ordinary Least Square (OLS) Regression of School Contact Variables on Perception of Child Disability and Ethnicity or Immigration Status*

Predictor	Parent Contact Regarding School Programs	Parent Contact Regarding Problems/Difficulties
<b>Ethnicity<sup>a</sup></b>		
Perception About Disability	.17* (.12 - .22)	.39* (.35 - .43)
East Asian	-.09* (-.17 - -.01)	-.07 (-.14 - .00)
Southeast Asian	-.15* (-.23 - -.07)	-.03 (-.10 - -.04)
South Asian	-.03 (-.15 - .09)	-.09 (-.20 - .02)
<b>Immigration Status<sup>b</sup></b>		
Perception About Disability	.17* (.12 - .22)	.39* (.35 - .43)
Immigrant	-.07* (-.12 - -.03)	-.05* (-.09 - -.01)

*Note.* Reported numbers are Regression Coefficients; adjusted confidence intervals in parentheses. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

<sup>a</sup> Total  $N_{sprogram}$  for this regression analysis = 8010,  $R^2_{sprogram} = .02$ ,  $N_{sdiffi} = 8040$ ,  $R^2_{sdiffi} = .08$

<sup>b</sup> Total  $N_{sprogram}$  for this regression analysis = 8030,  $R^2_{sprogram} = .02$ ,  $N_{sdiffi} = 8060$ ,  $R^2_{sdiffi} = .08$

Table B-2

*Results of Ordinary Least Square (OLS) Coefficients and Confidence Intervals of Immigrants for Parent School Contact Variables*

Predictor	Parent Contact Regarding School Programs <sup>a</sup>	Parent Contact Regarding Problems/Difficulties <sup>b</sup>
Socio-economic Status	.07* (.01-.13)	.01 (-.05 - .06)
Recency	.00 (.00 - .00)	.00 (.00 - .00)
East Asian	-.04 (-.16 - .09)	-.05 (-.16 - .06)
Southeast Asian	-.10 (-.22 - .02)	-.01 (-.11 - .10)
South Asian	-.02 (-.17 - .13)	-.09 (-.22 - .04)
Perception About Disability	.23* (.03 - .42)	.44* (.27 - .60)
Belief About Learning	-.06 (-.13 - .01)	-.03 (-.09 - .03)
English Proficiency	.03* (-.03 - .10)	.04 (-.02 - .10)

*Note.* Reported numbers are Regression Coefficients; adjusted confidence intervals in parentheses. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

<sup>a</sup> Total *N* for this regression analysis = 950

<sup>b</sup> Total *N* for this regression analysis = 960

## Appendix C

### ELS:2002 Parent Questionnaire

- BYP1 What is your relationship to the tenth grader named on the front cover?  
(MARK ONE RESPONSE)  
Options: Biological mother, biological father, adoptive mother, adoptive father, stepmother, stepfather, foster mother, foster father, girlfriend or partner of 10<sup>th</sup> grader's parent/guardian, boyfriend or partner of 10<sup>th</sup> grader's parent/guardian, grandmother, grandfather, other female relative, other male relative, other female guardian, other male guardian
- BYP15 Please select one or more of the following choices to best describe your race.  
(MARK ALL THAT APPLY)  
Options: White, Black/African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native
- BYP16 If you marked Asian in question 15, which one of the following are you?  
(MARK ONE RESPONSE)  
Options: Chinese, Filipino, Japanese, Korean, South Asian (Vietnamese, Laotian, Cambodian/ Kampuchean, Thai, Burmese), South Asian (Asian Indian, Bangladeshi, Sri Lankan)
- BYP17 Was your tenth grader's biological mother (father) born in the Unites States  
& (that is, any of the fifty states or the District of Columbia), in Puerto Rico, or  
BYP21 in another country or area? (MARK ONE RESPONSE)

Options: S/he was born in the United States

S/he was born in Puerto Rico

S/he was born in another country

I don't know where s/he was born

BYP18 How many years ago did s/he come to the United States to stay?

& \_\_\_\_ Years

BYP 21 Options: Does not apply. S/he did not come to the United States.

Does not apply. S/he is only temporarily in the United States.

I don't know.

BYP31 How well do you do the following?

(MARK ONE RESPONSE ON EACH LINE)

- a. How well parent speaks English
- b. Speak English
- c. Read English
- d. Write English

Options: Very well, Well, Not well, Not at all

Applies to: Respondents whose native language is not English.

BYP32 Do you ever have difficulty with any of the following?

(MARK ONE RESPONSE ON EACH LINE)

- a. Reading books, newspapers or magazines in English
- b. Filling out forms printed in English
- c. Understanding your tenth grader's teachers
- d. Making yourself understood to your tenth grader's teachers

- e. Helping your tenth grader with homework using the English language

Options: Yes, No, Does not apply

BYP49 In your opinion, does your tenth grader have a learning, physical, or emotional disability?

Options: Yes, No

BYP53 Since your tenth grader's school opened last fall, how many times have you or your spouse/partner contacted the school about the following?

(MARK ONE RESPONSE ON EACH LINE)

- a. Your tenth grader's poor performance in school
- b. Your tenth grader's school program for this year
- c. Your tenth grader's plans after leaving high school
- d. Your tenth grader's course selection for entry into college, vocational, or technical school after completing high school
- e. Your tenth grader's poor attendance record at school
- f. Your tenth grader's problem behavior in school

Options: None, Once or twice, Three or four times, More than four times

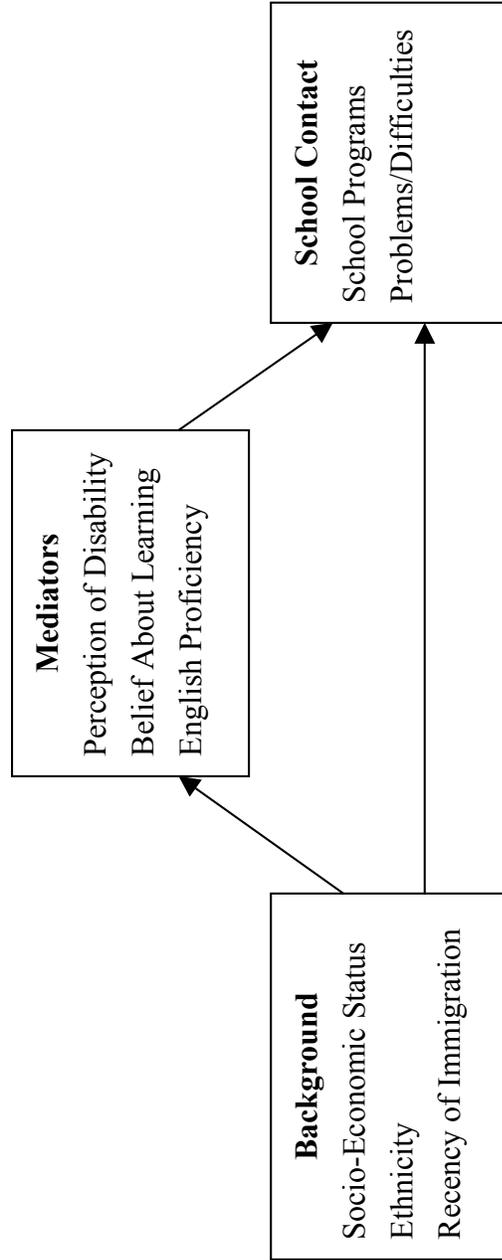
BYP58 How much do you agree or disagree with the following statements?

(MARK ONE RESPONSE ON EACH LINE)

- a. Most people can learn to be good at math.

Options: Strongly agree, Agree, Disagree, Strongly disagree

Figure 1 *Immigrant Parents' School Contact Causal Model*



Appendix E

Table E-1

*Agreement ( $\kappa$ ) Between Official IEP at Background and Parents' Perception of Disability*

Group	$n^a$	$N$ IEP	$\kappa$	$SE_{\kappa}$
East Asian	160	10	.37	.165
Southeast Asian	150	10	.51	.135
South Asian	70	10	.49	.306
European American	470	400	.57	.020

*Note.* <sup>a</sup>Number of cases for when both IEP information and parents' perception of disability was available. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

Table E-2

*Parents' Ethnicity and Federal Disability Category for Base Year IEPs*

Disability Category	East Asian	Southeast Asian	South Asian	European American
Specific Learning Disabilities	0*	10	0	320
Speech or Language Impairment	0*	0*	0	10
Mental Retardation	0	0*	0*	30
Emotional Disturbances	0	0	0	30
Multiple Disabilities	0	0	0	10
Hearing Impairment	0*	0	0	10
Orthopedic Impairment	0	0	0	0*
Other Health Impairment	0	0	0	20
Visual Impairment	0*	0	0	10
Autism	0	0	0	0*
Deaf/Blindness	0	0	0	0*
Other	0	0*	0	0*

*Note.* 4.7% of data were missing. The report of the sample sizes was rounded to the nearest 10 in order to meet the statistical standard of ELS:2002 license.

\*Rounded to zero.

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