Hebrew and Palestinian Arabic in Israel
Linguistic Frameworks and Speech–Language Pathology Services

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This article is the result of cooperation between Israeli Jewish and Arab psycholinguists and speech–language disorders specialists. It presents two facets of the Israeli communications disorders scene: (1) a review of some linguistic, psycholinguistic, and sociolinguistic facets of Hebrew and Palestinian Arabic, two Semitic languages whose speakers live, work, and study together in Israel; and (2) against the linguistic background, a review of the state of the speech–language pathology services provided to Arab and Jewish residents of Israel. Some specific challenges to service providers in communication disorders in Israel are discussed in greater detail. These include the multilingual and multicultural nature of the Jewish society in Israel, the effects of diglossia in Arabic on the development of language and literacy, and the difficulties encountered by the Bedouin population of the Negev region in receiving speech–language pathology services. This review is followed by an overview of frameworks and policies of speech–language pathology services regarding these two languages, based on the findings of a comprehensive mapping study. The mapping study examined the needs of the Arab population as compared with the Jewish population in Israel in the field of communication disorders from the perspective of the service providers: the speech–language pathologists (SLPs) in both sectors. The topics covered were as follows: (1) academic studies and professional training; (2) adaptation of assessment and treatment tools both to the Arabic language and culture and to the Hebrew language and Israeli culture; and (3) means for information dissemination about communication disorders. The findings point to notable gaps between the two major sectors in Israeli society. Nonetheless, we hope that the goodwill and deep research commitment of Israeli and Arab scholars in the field of language development and disorders will contribute to the amelioration of this situation and that any development in the field will also be of value to SLPs serving Jewish and Arab clients and their families around the world. Key words: Arabic, dialects, diglossia, Hebrew, linguistic and cultural adaptation, Speech-Language Pathology services, Yiddish

Since its establishment in 1948, Israel has absorbed millions of immigrants from all over the world, bringing together speakers of more than 40 different languages, with Modern Israeli Hebrew becoming the target language of the immigrants and the mother tongue of their children (Ravid, 1995; Spolsky & Shohamy, 1999). Immigration waves

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have included many speakers of Russian and Amharic, but like other Diaspora languages, the second generation already speaks Hebrew as a first language (L1), maintaining Russian and Amharic as heritage languages (Donitsa-Schmidt, 2003). These are languages that have been acquired at home, which are minority languages in the society, and are consequently not used for everyday communication (Valdés, 2000).

Side by side with Hebrew, two languages in Israel constitute vibrant mother tongues: Palestinian Arabic, by the large Arabic minority, and Yiddish, mainly by the Jewish ultra-Orthodox Hasidic community (Abugov & Ravid, 2014a); Levin, 1994; Piamenta, 1966). Such linguistic diversity requires speech–language pathology services to be sensitive to the cultural, social, educational, and linguistic settings and needs of each of the populations. This article focuses on Hebrew and Palestinian Arabic, the two mother tongues and official Semitic languages of Israel today, addressing psycholinguistic and sociolinguistic facets of these languages. This is followed by a report of results from an original needs-mapping study of frameworks and policies of speech–language pathology services relating to training of these two linguistic systems. In addition, the challenges of Israeli Hasidic Yiddish, a non-Semitic Jewish language, are outlined briefly in the discussion section of this article.

THE LANGUAGES

Hebrew and Arabic are the two major spoken languages of Semitic origin in the world today. Hebrew has one of the longest written records compiled in the last two millennia, deriving from ancient historical periods during which Classical Hebrew was a spoken, living language. Its descendant, Modern Hebrew, was revived as a spoken language at the turn of the 20th century, with the first native speakers attested in 1916. Modern Hebrew has been the main official language of Israel since its establishment in 1948, with about 7 million people for whom it is currently either a mother tongue or the major language, that is, the language most frequently used, and one that is used by its speakers in most of the communicative contexts of their daily life.

Arabic is the most widely spoken Semitic language in the world: It is an official language in 27 countries (including Israel) and the mother tongue of nearly 300 million people worldwide. In 1971, Arabic was declared an official language of the United Nations alongside English, French, Chinese, Russian, and Spanish. Arabic is a general term referring to the different dialectal Arabic varieties spoken in different regions of the Arab world and to Modern Standard Arabic (MSA), the pan-Arabic variety of Arabic used throughout the Arab world for written and formal oral communication. Everyday communication, however, is more likely to be carried out in one of the regional dialects, of which the Palestinian Arabic spoken in Israel is one.

Because of their Semitic heritage, Hebrew and Arabic share two important features that impact typical language acquisition, as well as language and literacy disorders. One is the critical importance of morphology as the main organizing principle both of the lexicon and of numerous grammatical inflections (Ravid, 2012; Schwarzwald, 2002). Another is the challenge posed by homography—that is, the several possible readings of many written words (Bar-On, 2010). These are discussed later, with special reference to Hebrew.

In addition to their Semitic relationship, Palestinian Arabic and Israeli Hebrew coexist geographically and culturally as mother tongues in Israel. They both demonstrate rich intradialectal distinctions between different contexts of language use deriving from a range of sociohistorical factors. As a result, both languages exhibit diglossia in the sense that written and spoken forms can be construed as two distinct varieties of the same language. In this kind of diglossic situation, in both languages, the written variety includes a highly divergent and often grammatically more complex
literary system learned in the context of formal education and used mainly for formal or school-based purposes (Berman & Ravid, 2000, 2008).

**Israeli Hebrew**

Modern Israeli Hebrew is a century-old language that still carries the traces of a 4,000-year-old past in its lexicon, morphosyntax, and orthographic system. Now the mother tongue of third- and fourth-generation native-speaking Israelis, it has its roots in Classical Hebrew (1100 BCE–250 CE), usually divided into the two consecutive periods of Biblical and Mishnaic Hebrew. Biblical Hebrew, a derivative of Canaanite (a northwestern Semitic language), was the language spoken in the Land of Israel from the beginning of the second millennium BCE until the middle of the first millennium BCE, recorded in written form in the Hebrew Bible (the Old Testament) and in various inscriptions. The living heritage of Biblical Hebrew consists of core lexical items, such as kinship terms, names of animals, basic nouns, verbs and adjectives, and the Semitic morphosyntactic underpinnings of Hebrew such as root and pattern morphology, verbless "nominal" clauses, and construct-state compounding (Berman, 1978). A later form of the language, known as Mishnaic Hebrew, was used alongside another northwestern Semitic language, Aramaic, up to approximately the middle of the first millennium CE (Kutscher, 1982; Rabin, 1972). Mishnaic Hebrew differed from the earlier Biblical period in many respects, including the tense system, SVO (subject–verb–object) word order, analytical compounding, and the morphological category of deverbal nominals—all of which are important features of current Modern Hebrew (Bendavid, 1967; Ravid, 1995).

For about 1,500 years, until the 20th century, Hebrew was dormant, no longer a spoken mother tongue, however, used extensively and richly in writing in the Jewish Diaspora for liturgical, religious, cultural, scholarly, and scientific purposes. Under the label of Loshn Koydesh (Yiddish for “sacred language”), it served as the lingua franca of Jews speaking different languages in the world (Ben Hayyim, 1985; Schwarzwald, 2001). Despite the absence of native speakers during this long period, Hebrew continued to change, acquiring new lexical items and grammatical forms (many of which were the result of continuous contact with Medieval Arabic) still used extensively today in Modern Hebrew. Living side by side with the Diasporic languages of Jewish people such as Yiddish, Ladino, and many Judaic Arabic dialects, the latter continued to support the existence of Hebrew throughout millennia in the Hebrew and Aramaic lexicon they retained (Even Zohar, 1986).

The phenomenon known as the Revival of Hebrew consisted of the standardization of Hebrew into a single written language in mid-19th century by central European Jews and subsequently its revival as a spoken language at the turn of the 20th century in prestate Israel. By the 1920s, Modern Hebrew had already emerged as the mother tongue of a first generation of native Hebrew speakers, soon becoming the only common means of spoken and written communication among Jewish Israelis (Rabin, 1972). The Hebrew-speaking community in Israel, now numbering about 7 million people, has always constituted an extreme case of an immigrant society, and as a result, Modern Hebrew has undergone swift and radical changes since its revival. Immigration waves have been coming into Israel more or less every decade since the end of the 19th century, culminating in the two most recent waves of about a million and a half Russian-speaking immigrants from the former Soviet Union and about 100,000 immigrants from Ethiopia speaking Amharic and Tigrinian (Israel Central Bureau of Statistics [CBS], 2012). Although immigrant adults do not always achieve full proficiency in Hebrew (DeKeyser, Alfi-Shabtay, & Ravid, 2010), contributing to the intense languages-in-contact situation, their children invariably join the widening circles of native speakers (Alfi-Shabtay, 2006; Olshtain & Horenczyk, 2002). This situation has brought on a consolidation
of the colloquial vernacular of spoken Hebrew all Israelis share, which at the same time grows further apart from the historical written forms, especially in the last decade of electronic proliferation (Schwarzwald, 2006).

Despite being the language of only about 7 million people, with a typology that is very different from that of English, the empirical, psycholinguistic study of Hebrew is well established. Solid information has been available since the 1980s about processes, categories, structures, and semantics in early Hebrew acquisition (Berman, 1985, 1986; Dromi, 1987; Ravid, 1995; Uziel-Karl, 2001). Since the 1990s, Hebrew acquisition research has focused on children’s conversational interactions (Blum-Kulka & Snow, 2002; Blum-Kulka, Thornborrow, & Coates, 1998), later language development (Avivi Ben-Zvi, 2010; Berman, 2005, 2007; Friedmann & Novogrodsky, 2004; Levie, 2012; Ravid & Avidor, 1998; Ravid & Saban, 2008), discourse production (Berman, 2008, 2009; Berman & Slobin, 1994; Berman & Verhoeven, 2002), reading (Bar-On, 2010), and writing (Berman & Nir-Sagiv, 2009; Berman & Ravid, 2008).

These few citations of course do not do justice to the breadth and depth of the published psycholinguistic literature on the typical and atypical development of Hebrew, a body of knowledge that is available to Israeli speech–language pathologists (SLPs) during the course of their academic studies and in continuing in-service training. The main challenges SLPs face in working with the Hebrew-speaking population are similar to those encountered in other countries—providing diagnosis and therapy for language and communication disorders and for deficiencies resulting from impoverished environmental stimuli (Hart & Risley, 2005). In the current context, we focus on a fundamental typological feature of Hebrew, which is of the utmost relevance to its development and acquisition—its rich and varied morphology.

As a Semitic language, the bulk of Hebrew content vocabulary (nouns, verbs, and adjectives) is morphologically complex, with most words made up of a consonantal root and associated morphological pattern of affixes. For example, the root q-l-d, which means “type,” is shared by nouns mikl´edet “keyboard,” bak-lada “typing,” and kaldanit “typist, Fm” (note that the q is used to transcribe the root for historical reasons, given that the current phoneme /k/ derives from both historical emphatic q and nonemphatic k, which alternates with x. For transcription conventions, see Ravid, 2012). As a language with a dense morphology, Hebrew makes use of morphological structure in most lexical classes, with diverse systems to express different classes of inflection and derivation. Nouns, adjectives, verbs, and even prepositions are heavily inflected and demonstrate rich and complex allomorphy. Hebrew-speaking children thus learn to think about morphology in terms of a systematic, complex apparatus and to use morphological structures as pointers to word category and possible meaning (Berman, 1986; Ravid & Schiff, 2006). These facets of Hebrew ensure the central role of morphology in children’s acquisition of Hebrew in preschool (Berman, 1985; Ravid, 1995; Ravid & Malenky, 2001) as well as in the school years (Ravid & Schiff, 2009, 2012; Schiff, Ravid, & Levy-Shimon, 2011).

Moreover, morphology interfaces importantly with facets of written Hebrew, such as spelling (Levin, Ravid, & Rappaport, 2001; Ravid, 2001, 2005; Ravid & Bar-On, 2005), text production (Beman, Nayditz, & Ravid, 2011; Ravid & Berman, 2009; Ravid & Levine, 2010), and reading (Bar-On & Ravid, 2011; Frost, 2012; Frost, Deutsch, & Forster, 2000; Ravid & Haimowitz, 2006). Two specific areas where morphology is crucial for gaining command of Hebrew literacy are spelling and reading words. The main obstacle in spelling is the existence of homophonous phonemes, which can be spelled in at least two different ways, for example, k, which can be spelled by either ḥ or ẓ . Learning about the morphological roles of letters is helpful because homophonous root radicals may, in principle, be spelled by both alternatives, whereas homophonous affixes take only one option. Thus, being able to discern root from affix
letters is critical for correct Hebrew spelling (Ravid, 2012).

Reading, too, relies on morphology in Hebrew as in other Semitic languages. Hebrew has two orthographic versions, pointed and nonpointed, differing in the amount of phonological information they supply to readers. The transparent or shallow pointed version supplies full phonological information by using letters, as well as the nikud “pointing” diacritics, which supply full information about vocalization and stop/spirant alternations (Bar-On & Ravid, 2011). This version is mainly used for beginner reading instruction in the first grade, where it is necessary to systematically detect and convert all graphemes into phonemes and thus to achieve precise lexical identification. Thanks to the transparent nature of this orthographic version, typically developing Hebrew-speaking children reach 80% accuracy in reading by the end of the first grade (Share, 2004; Share & Levin, 1999).

The opaque or deep nonpointed orthography, the default version among nonnovice Hebrew readers, fully represents consonants; however, vowels are only partially and ambiguously represented, resulting in pervasive homography that challenges novice and even experienced readers (Bar-On & Ravid, 2011). For example, the written string “סְפַּר,” which does not represent vowels overtly, may be read in several ways, such as תֵּכֵּן “book,” סְפַּר “border,” סָפַּר “hairdresser,” סָפּוֹר “count.” Overcoming homography involves heavy reliance on knowledge of morphological structure and meaning, which provide cues regarding the possible reading of words (Bar-On, 2010).

Given the central role of Hebrew morphology in acquisition and literacy, it is clear why it serves as an important testing ground of Hebrew development in various populations (Ravid, 2004). Although children with linguistic impairments lag behind their typically developing peers in morphological abilities (Dromi, Leonard, Adam, & Zadunaisky-Ehrlich, 1999; Ravid, Levie, & Avivi Ben-Zvi, 2003), as do children from low socioeconomic background (Levie, 2012; Ravid & Schiff, 2006; Schiff & Ravid, 2012), growing up using Hebrew scaffolds morphological acquisition more than other morphologically less rich languages (Dromi, Leonard, & Shteiman, 1993; Gillis & Ravid, 2006).

Ongoing, constant sociolinguistic and demographic pressures from segments of the population speaking languages other than Hebrew further enhance and promote the natural process of Hebrew departing from its historical roots. The impact of two large Israeli-born minority groups, rapidly increasing in size in the younger generation of Israelis, should be taken into consideration in the second decade of the new millennium. One of them is the group of Arabs who live in Israel, currently constituting about a fifth of Israel’s total population, actively participating in Israel’s public life. Many of them use Hebrew as a major language in addition to their mother tongue, Arabic, in academics, medicine, industry, and white-collar professions. The next section of this article is devoted to issues and challenges of Palestinian Arabic.

Palestinian Arabic

Arabic is a member of the Semitic languages group (along with other living languages such as Modern Hebrew and Amharic), which has a long history with attested written forms traced back to the middle of the third millennium BCE in Mesopotamia and the northern Levant. Semitic languages share structural similarities in phonology (e.g., gutturals and pharyngeals), morphology (non-linear root and pattern structures), and syntax (verbless present-tense clauses) (Hetzron, 1997). Classical Arabic originates in the Arabian Peninsula, with its oldest inscription dating back to 328 CE and the earliest textual evidence to the first-century CE. With the advent and spread of Islam, Classical Arabic reached vast areas in the Middle East, Africa, and Europe as the language of the Quran, religious devotion, and scientific scholarship (Holes, 2004). In the seventh-century CE,
Arabic reached Palestine and became the dominant language there for many centuries. After the establishment of the state of Israel in 1948, Hebrew became the dominant language in the country whereas Arabic remained an important language for the Palestinian community, not playing a role in the national public sphere (Amara & Mar'i, 2002). Palestinian Arabic (a member of the Levantine Arabic group) is the generic name of the various spoken dialects of Palestinians in the West Bank, Gaza Strip, and of the Palestinian citizens of Israel. In fact, it varies across a small geographical area and consists of three main dialects: urban, rural, and Bedouin (Ammon, 2006).

The spoken and written varieties of Arabic are more marked than spoken and written varieties of Israeli Hebrew. The former constitute the canonical case of diglossia and has drawn the attention of sociolinguists to language variations and demographic factors, linguistic and ethnic identities (Suleiman, 2003). Like other dialects of spoken Arabic, Palestinian Arabic exists side by side with MSA, the written variety of the language common to all literate Arabic speakers, used in literature, in the media, at school, and for all literate activities (Ferguson, 1959). Modern Standard Arabic represents a unified, codified pan-Arabic, modern descendant of Classical Arabic. It is not, however, the native spoken language learned by children. Young children who are Arab acquire the local dialect at home and learn MSA at school (Ayari, 1996). There, they are formally exposed to MSA as the language of reading and writing, whereas the spoken variety of Arabic remains the language of informal speech (Al-Batal, 1992).

Although Arabic script is considered a transparent orthography, it does not map the spoken language structures that native speakers of Arabic naturally use and master. Rather, this written system maps phonological units that may be unfamiliar to readers (Saiegh-Haddad, Levin, Hende, & Ziv, 2011). A clear gap between spoken and written Arabic is thus found at the phonological level (Saiegh-Haddad, 2011). Although MSA contains 28 consonants, three short vowels, and three long vowels, no spoken dialect is identical in its phonemic repertoire to that of MSA (Maamouri, 1998). Hence, this grapheme-to-phoneme mapping, which is considered linguistically transparent at some abstract level, may be perceived as opaque from a psycholinguistic standpoint. In the last decade, several studies showed that this phonological distance has a negative impact on the acquisition of basic literacy skills in young Arab children, including phonological awareness, lexical processing, retrieval of standard Arabic words, the awareness of the linguistic relatedness between the written and spoken varieties at the word level, auditory perception, and the accuracy and fluency of word decoding in reading (Saiegh-Haddad, 2005, 2007).

Written Arabic poses a different kind of problem. The reader of Arabic has to deal with a complex writing system in which short vowels are not represented (except in religious texts or in children’s literature), letters are joined to each other even in typescript, and the shape of the letter changes according to its location within the word, resulting in allographic variation (Holes, 2004). Arabic orthography is a representation of Classical-Literary-Standard Arabic, mapping Standard Arabic phonology, morphology, syntax, and lexicon (Saiegh-Haddad & Henkin-Roiffarb, in press). In fact, Arabic script is used for writing many other languages such as Kurdish, Persian, and Urdu.

Despite the high importance of Arabic as a language of literacy for many people, it has been relatively underresearched compared with other major languages. The rich morphological system and the special orthographic characteristics of Arabic make it an interesting subject of research for fields such as theoretical linguistics, psycholinguistics, and natural language processing; however, these features, alongside the diglossic nature of Arabic, impose a serious barrier for young children in their journey of literacy acquisition and development (Saiegh-Haddad, 2003).
One obstacle to the scientific study of Palestinian Arabic is sociolinguistic. Modern Standard Arabic, due to its high status and important role in the media and literate activities, constitutes an important linguistic and cultural underpinning and source of information to speakers of Palestinian Arabic like other indigenous vernaculars. In fact, the perceived inferior social status of spoken dialects of Arabic in general, may, in part, account for the paucity of systematic investigation of spoken Palestinian Arabic and other spoken dialects.

In Israel, speech-language practitioners, as well as teachers of Arabic, still find it difficult both to relate to Palestinian Arabic as a rule-governed linguistic entity and to introspect on its components as a necessary underpinning of developmental research. As a result, there is a tendency to confound spoken Palestinian Arabic and written MSA usage both in test construction and in experimental elicitations. The virtual absence of studies describing the grammar of Palestinian Arabic dialects is a further factor hindering the construction of a baseline of adult standards for comparison with children’s productions.

This lacuna is a grave challenge facing SLPs in Israel, who rely, in many cases, on Hebrew psycholinguistic research as a point of departure for treatment of language and communication disorders in Arabic. This is not always felicitous. Although Hebrew is Semitic as well, the two languages are very different (Berman & Ravid, 2000). For example, bound possessive and accusative forms, which are optional morphological structures in Hebrew, are obligatory in Palestinian Arabic, with the result that they form part of literate Hebrew, a very late acquisition, whereas in Arabic they are acquired in the third year of life (Cahana-Amitay & Ravid, 2000; Saif, 2009; Schiff et al., 2011). The plural systems of the two languages and their tense-aspect paradigms also differ significantly (Levin, 1994). For example, Hebrew pluralization is formed by the linear attachment of a number-gender suffix to the singular stem whereas Arabic pluralization takes two distinct forms—linear attachment of a number-gender suffix (sound plurals), side by side with changing the pattern of consonants and vowels inside the singular form to get the plural (broken plurals) (Ravid & Farah, 2009; Ravid & Hayek, 2003; Ravid & Schiff, 2012).

A second challenge for Palestinian Arabic in the Israeli context is to the Bedouin population. Bedouin-Arab is a general name for all nomadic tribes in the Middle East and North Africa (Ben-David, 2004; Goering, 1979). In Israel, the Bedouin community is a distinctive social group within the Arab community (Finkelstein & Perevolotsky, 1990). At the end of 2009, the Bedouin population in Israel numbered around 260,000, with the majority (75%) living in the Negev, the arid southern region of Israel that contains almost 60% of Israel’s land mass. The Negev Bedouin constitute more than 27% of the total population of the Negev and 13% of the total Arab population of Israel. Among Israel’s population, the Bedouin population from the Negev is the poorest and the weakest, with a higher incidence of impoverishment than in any other segment of the population (Al-Kreneawi, 2004). The poverty among the Bedouins is more profound than that in the Arab society in Israel as a whole and in Israel’s ultra-Orthodox sector, which is the poorest segment of the Jewish population.

Recent statistical data indicate that half of the Bedouin population lives in villages that are not recognized by the state of Israel. The availability of the various public services provided by the Israeli government in these unrecognized villages is problematic. This includes severe lack of medical and educational services (Statistical Year Book of the Negev Bedouin, 2010). One example of the severe literacy conditions in the unrecognized villages in the Negev shows that more than 43% of those 34 years and older living in the villages never attended a formalized school (Galilee Society Survey, 2007). As for the special education system in the Bedouin Negev, the situation is challenging (Manor-Binyamini, 2007), as this population has a large number of children with special needs and an
extremely high percentage of children with severe disabilities (mainly due to interrelation marriage and due to the acute socioeconomic situation of Bedouin families) who do not receive proper treatment (Lithwick, 2002; Raz, Atar, Rodnay, Shoham-Vardi, & Carmi, 2003). The Margalit (2000) governmental committee report states that only 30% of all Bedouin special needs children in the Negev receive disability benefits and enjoy paramedical services.

In addition, there is a significant shortage of professionals, mainly in paramedical professions, such as speech–language pathology and physical and occupational therapy (Mazawi, 1997), creating significant inequality in the availability of services and curricula adapted to the Bedouin sector. Abu-Ajaj (2005) counted only three SLPs who are available in the education system in the Bedouin sector in the Negev. The problem is exacerbated by the fact that the Negev Bedouins speak a distinct dialect, which is not spoken by the overwhelming majority of Arab SLPs (Blanc, 1970; Henkin, 2010). Thus, despite the recent increase in Palestinian Arab SLPs in Israel, accessibility to intervention and treatment in language and communication disorders in the Bedouins remains a challenge.

Studies on the adaptation of medical and paramedical (allied health professions) services to ethnic minorities emphasize the importance of recognizing and relating to the language(s) and culture of minority groups and using minority languages by service providers, in particular for diagnosis and treatment, especially in the field of communication disorders for which language is central (Devi, 2008; Gerrish, Husband, & Mackenzie, 1996; Law & Wallfish 1991; Shuster & Shlesinger, 2007; Stapleford & Todd, 1998; Szczepura et al., 2005; Weinick, Zuvekas, & Cohen, 2000). Thus, against the characterization of Hebrew and Palestinian Arabic in Israel, we come to the next major part of our review—an empirical overview of speech–language pathology services provided to those populations.

**SPEECH–LANGUAGE PATHOLOGY SERVICES IN ISRAEL**

This section of the article is based on a large-scale mapping study not yet reported elsewhere (Uziel-Karl, Yifat, & Meir, 2013), which was funded by the Israel National Institute for Health Policy Research.* The study examined the needs of the Arab population as compared with the Jewish population in Israel in the field of communication disorders from the perspective of the service providers—the SLPs in both sectors.

The National Health Insurance Law (1994) states that every Israeli resident is entitled to health care. Health services, including speech–language pathology services, must be equally provided to all insured residents at a reasonable quality and within a reasonable time and distance from their place of residence. Records of the CBS show that, in 2009, the total number of visits to SLP clinics per year was 842,700 (CBS, 2009). The mean number of visits to SLPs that year was 0.12 per person per year. In 2010, the ratio of SLPs up to 65 years of age to every 1,000 individuals was 0.32, that is, 1 SLP per 3,200 individuals. The CBS report further points to an increase in the total number of SLPs in Israel over the past decade. According to the 2010 report, the number of SLPs was 2,537, of which 621 were new licensees, as compared with 915 SLPs in 1995 (CBS, 2010). These statistics relate to Jewish and Arabic SLPs combined. Yet, it is well known that minority populations often have more restricted access to health services than the general population (Daoud, Soskolne, & Manor 2009a, 2009b; Marshall, Atkinson, Thacker, & Woll, 2003; Mennen & Stansfield 2006; Stapleford & Todd, 1998) so that the aforementioned figures may not accurately reflect the actual situation of different sectors in Israel.

However, exact information is currently unavailable; to date, there are no official records...

*See note on title page.
of the number of Arab SLPs or of the demand and use of speech–language pathology services by the Arab population in Israel. On the basis of estimates from various sources (Ministry of Health, public health care services, Israeli Speech, Hearing, and Language Association [ISHLA], speech–language pathology group Web pages), the number of Arab SLPs is currently estimated at around 600. Newspaper articles and protocols of parliamentary committees suggest that the number of SLPs who are Arab is dramatically lower than those who are Jewish. Rivlin-Tzur and Zoabi (2005) reported that Arab schools for special education suffer from severe shortage in SLPs, especially among the Bedouin population in the Negev. A more recent review of health services in the Negev (Avni, 2011) points to large gaps between the health care services in northern and central Israel and the Negev for both the Jewish and the Arab populations, including a shortage in Arab SLPs in the Negev.

The relatively small number of SLPs who are Arab creates an additional problem—a shortage in qualified professionals who can develop and adapt diagnostic and treatment tools to the Arabic language and culture (Weisel, Talhami, & Kabaha, 2000). The shortage of Arab SLPs in Israel may be attributed to several factors. Up to the early 2000s, there was only one academic department of communication disorders in the country, which resulted in a severe shortage of SLPs in the country in general. This shortage was even more pronounced in the Arab population because of the relatively high proportion of children with congenital disabilities (e.g., chromosomal abnormalities, eyes-, face-, and neck-related malformations, open neural tube defect) in this sector (Publication No. 333, Ministry of Health, 2011; Sandler-Loeff & Shahak, 2006).

In recent years, measures have been taken to reduce the general shortage of SLPs and in particular of Arab SLPs. For example, in the past decade, four new departments of communication disorders were opened in academic institutions and three additional departments in ultra-Orthodox colleges as compared with a previously single department at Tel Aviv University until the late 1990s, resulting in eight programs in academic institutions around the country.

The quality of health care services is determined not only by the number of health care providers, vis-à-vis the size of the population, but also by the quality of the treatment and whether it is culturally and linguistically appropriate (Padilla & Medina, 1996). In Israel, the training programs and assessment and treatment tools are mainly geared toward the Hebrew-speaking population. As for assessment and treatment tools, most tools currently used by Arab SLPs are not adapted to the Arabic language and culture and are not standardized. This results, primarily, from lack of research-based knowledge on Arabic, as the number of studies on the acquisition and typical development of Arabic is relatively small (Berman & Ravid, 2000).

Another problem inherent to Arabic is the multiple dialects and the diglossic situation (Al-Batal, 1992; Saiegh-Haddad, 2003, 2005). Multiple dialects make assessment tools hard to adapt to all speakers, as dialects differ from each other in vocabulary, in the pronunciation of some of the sounds, and in morphology, syntax, and pragmatic conventions. Arabic speakers acquire reading differently from speakers of nondiglossic languages and face the challenges of the Arabic script (i.e., most letters have three allographic forms depending on their position within the word). Therefore, to develop diagnostic and treatment tools adapted to Arabic, it is necessary to understand the processes and characteristics of this complex linguistic situation, which, in turn, requires academic research and the availability of professional personnel.

However, in recent years, the need for multilingual and multicultural training of SLPs is increasingly acknowledged. This is reflected in efforts by institutions of higher education to address issues related to Arabic in undergraduate courses, to encourage research on the acquisition of Arabic as an L1, and to offer more courses and seminars on Arabic in...
continuing education programs and advanced degrees. As part of this increasing awareness regarding the needs of the Arab population and Arab professionals in the areas related to communication disorders, a large-scale mapping study was conducted regarding the needs of Arab as compared with Jewish SLPs in Israel, which we report in the next section.

The ISHLA is a professional association whose members include most of the audiologists and SLPs in Israel. Currently, 1,100 SLPs are registered as ISHLA members (Arabs and Jews; audiologists constitute about 10%). The way for Arab SLPs who studied abroad (mainly in Jordan) to become ISHLA members was paved in 2009 with the approval of the Health Professions Act (2009) that requires all SLPs to get accreditation. In 2012, Arab SLPs were elected as ISHLA board members.

METHODS

Participants in speech–language pathology needs analysis

A total of 193 SLPs participated in the mapping study: 133 Arab and 59 Jewish SLPs. The Arab SLPs were further divided into two groups—those who studied in Israeli universities (N = 75; 58%), and those who studied abroad (N = 55; 42%). Most of the clinicians of the latter group (“Arab-Abroad”) studied in Jordan, where the language of instruction is Arabic. In contrast, the studies of the clinicians who graduated from Israeli universities (“Arab-Israel”) were conducted in Hebrew and were focused on Hebrew, as discussed earlier. The participating SLPs were recruited nationwide, with the ones who studied in Israel representing all departments of communication disorders in academic institutions across the country. We were interested to find out whether the difference in the language of instruction and studies affected the SLPs’ views regarding their ability to provide services that comply with the needs of the population in the field of communication disorders. As Table 1 shows, the mean age of Arab SLPs is lower than that of Jewish SLPs; on average, they are less experienced; and the percentage of Arab males employed as SLPs is higher than that of the Jewish sector.

Survey instrument and procedures

The research tool was a survey questionnaire that consisted of closed questions, open-ended questions, and demographic information. Closed questions were on an interval scale of 1 (completely disagree) to 5 (completely agree). The questions related to the following topics: (1) academic studies and professional training; (2) adaptation of assessment and treatment tools to the Arabic language and culture; and (3) means for information dissemination about communication disorders. The SLPs from both sectors completed the questionnaire either face to face or via e-mail.

Where relevant, SLPs who were Arab were requested to relate to their work with the Arab population, whereas SLPs who were Jewish were requested to relate to their work with the Jewish population. Two versions of the questionnaire were used: (1) a version in Hebrew for Jewish SLPs, and (2) a version

<table>
<thead>
<tr>
<th>Speech–Language Pathology Group</th>
<th>No. of Participants</th>
<th>Mean Age in Years</th>
<th>Mean Seniority in Years</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arab-Abroad</td>
<td>55</td>
<td>26.6</td>
<td>3.9</td>
<td>62%</td>
</tr>
<tr>
<td>Arab-Israel</td>
<td>75</td>
<td>28.9</td>
<td>6.1</td>
<td>86%</td>
</tr>
<tr>
<td>Jewish</td>
<td>59</td>
<td>37</td>
<td>11.6</td>
<td>97%</td>
</tr>
</tbody>
</table>
in Hebrew or MSA for Arab SLPs. The Arab SLPs could decide whether they preferred to answer their questionnaire in Arabic or Hebrew. Statistical analyses included absolute frequencies and percentages, averages, mean differences, standard deviations, and t tests. In addition, basic content analyses were performed on the answers to the open questions. The major findings of the study are presented in the following sections. Only statistically significant results are listed in the tables.

RESULTS

Academic studies and professional training

Table 2 displays the mean scores and standard deviations for items relating to academic studies in communication disorders. The higher the mean, the greater the responder’s agreement.

Table 2. Suitability of Academic Studies to the Needs of Arab and Jewish Speech Language Pathologists

<table>
<thead>
<tr>
<th>Academic Studies</th>
<th>Arab-Abroad</th>
<th>Arab-Israel</th>
<th>Jewish</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course material made reference to the properties of Arabic/Hebrew</td>
<td>3.1</td>
<td>1.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Some courses dealt uniquely with Arabic/Hebrew</td>
<td>2.7</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Studies focused on assessment tools adapted to Arabic/Hebrew</td>
<td>3.1</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Courses related to the Arabic/Jewish culture</td>
<td>3.3</td>
<td>1.0</td>
<td>1.7</td>
</tr>
<tr>
<td>The courses made specific reference to the needs of the Arabic/Jewish population</td>
<td>3.0</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Faculty members were proficient in the Arabic/Hebrew language and culture</td>
<td>3.5</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Studies prepared you to working with the Arabic/Hebrew population</td>
<td>3.4</td>
<td>1.1</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Note. Boldface values are items for which a significance of \( p < .05 \) was found between two or more groups.
that most professional courses offered in continuing education programs in academic institutions and by the ISHLA do not address issues related to Arabic.

**Assessment and treatment tools**

Table 3 displays the mean scores and standard deviations for items relating to the adaptation of assessment and treatment tools to Arabic/Hebrew, respectively. The higher the mean, the less adapted the assessment or treatment tool to the population and the more difficulties are experienced.

Arab SLPs who graduated in Israel reported more difficulties than Jewish SLPs and Arab SLPs who graduated abroad in adapting the existing assessment tools to the Arab population and in using existing tools with Arab patients. The difference between the two Arab groups is interesting, as the existing tools are available to both groups. Yet, the group that studied in Israel showed higher levels of dissatisfaction with the available tools and their appropriateness to the Arab population.

Another interesting finding that emerged from the study is that the two types of assessment tools most frequently used by SLPs in both sectors (>80%) are evaluation and observation, both informal, subjective diagnostic measures with no internal validity or standardization. This may be due, in part, to the need

<table>
<thead>
<tr>
<th>Type of Difficulty</th>
<th>Arab-Abrad</th>
<th>Arab-Israel</th>
<th>Jewish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment tools are unsuitable due to differences between their original language and Arabic/Hebrew</td>
<td>3.7</td>
<td>4.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Assessment tools do not include measures for evaluating Arabic/Hebrew</td>
<td>3.6</td>
<td>4.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Parts of the assessment tools are irrelevant for Arabic/Hebrew</td>
<td>3.6</td>
<td>4.1</td>
<td>3.5</td>
</tr>
<tr>
<td>The pictures and objects used in the assessment tools are not adapted to the Arabic/Israeli culture</td>
<td>3.0</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Assessment tools are not adapted to the diglossia in Arabic</td>
<td>3.4</td>
<td>4.0</td>
<td>3.7</td>
</tr>
<tr>
<td>Assessment tools are not standardized</td>
<td>3.5</td>
<td>4.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Treatment tools are inappropriate due to differences between Arabic/Hebrew and the original language of the tool</td>
<td>3.4</td>
<td>3.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Treatment tools are not adapted to the Arab/Israeli culture</td>
<td>3.1</td>
<td>3.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Treatment tools for certain types of language impairments are unavailable/do not exist</td>
<td>3.7</td>
<td>4.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*Note. **Boldface values are items for which a significance of p < .05 was found between two or more groups.*
to compensate for the lack of suitable diagnostic tools, but it may be partly based on the overall perception that relying on the experience and intuition of the SLP is preferable to relying on structured research-based methodology and tools. The latter assumption needs to be addressed in the academic and professional frameworks used for training SLPs.

When examining the responses regarding treatment tools, a slightly different picture emerges. The findings reveal significant differences between Arab SLPs and Jewish SLPs in the extent to which the treatment tools are suited to meet the patients’ needs. Arab SLPs of both groups (graduates of Israeli universities and universities abroad) reported that the treatment tools are less adapted to the Arabic language and culture and are more difficult to use with the Arab population.

**Difficulties in providing speech–language pathology services**

The third part of the questionnaire addressed difficulties pertaining to the work routine and contact with the patients. Results revealed that SLPs in both sectors often work in more than two areas (including language, speech, hearing, stuttering, swallowing), work in more than one clinic, and serve diverse age-group populations (including infants, toddlers, children, teenagers, adults, and seniors).

Table 4 presents means and standard deviations of items relating to additional difficulties in providing speech–language pathology services to the Arab as compared with the Jewish population. The higher the means, the more difficulties are experienced.

**Table 4.** Difficulties Encountered by Arab and Jewish Speech Language Pathologists in Providing Speech Language Pathology Services

<table>
<thead>
<tr>
<th>Difficulties</th>
<th>Arab-Abroad</th>
<th>Arab-Israel</th>
<th>Jewish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>The need to use more than one language per session (e.g., Hebrew and Arabic)</td>
<td>3.2</td>
<td>1.1</td>
<td>2.7</td>
</tr>
<tr>
<td>The need to use a different dialect than your own</td>
<td>3.2</td>
<td>1.1</td>
<td>2.7</td>
</tr>
<tr>
<td>The patient’s L1 is different from the language spoken in his living environment</td>
<td>2.2</td>
<td>1.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Budget shortages</td>
<td>3.9</td>
<td>0.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Lack of essential equipment</td>
<td>3.9</td>
<td>0.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Report writing</td>
<td>3.2</td>
<td>0.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Objection of employer to particular treatment methods</td>
<td>2.4</td>
<td>1.2</td>
<td>1.8</td>
</tr>
<tr>
<td>No colleagues with whom to consult</td>
<td>3.1</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Patients’ parents or patients who cannot read and write</td>
<td>2.9</td>
<td>1.0</td>
<td>2.4</td>
</tr>
<tr>
<td>The difficulties I experience are due specifically to dealing with the Arab/Jewish population</td>
<td>2.9</td>
<td>0.9</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*Note. L1 = first language. Boldface values are items for which a significance of p < .05 was found between two or more groups.*
Results for Arab SLPs showed that they encounter more difficulties than Jewish SLPs in the workplace. Such difficulties include lack of resources, less favorable physical conditions, few training options, often no colleagues or seniors to consult with, no satisfactory discussions of Arabic in staff meetings, and difficulties relating to the Arab population itself. Another difficulty that emerged from the findings, and is not specific to Israel, is the need to simplify bureaucratic procedures associated with the work both of Arab SLPs who studied abroad and of Jewish SLPs. The SLPs in both sectors considered raising public awareness of the importance of early assessment and treatment of communication disorders; however, compared with Jewish SLPs, Arab SLPs who graduated from Israeli universities judged Web sites and discussion groups less suitable for the Arab population than written information or face-to-face communication.

Finally, Table 5 summarizes participants’ responses to the open-ended questions concerning their overall needs. The information is organized by topic and sector (Arab, Jewish).

Responses to the open-ended questions corroborate the quantitative findings of the mapping study, which suggest that much needs to be done in all areas of communication disorders in both sectors (Arab and Jewish) to improve the services provided to the Arab and Jewish populations in Israel. We also observed that the responses of Arab SLPs often referred to more preliminary and elementary aspects of these needs than those of their Jewish counterparts.

**DISCUSSION**

**Mapping overview: Summary and policy recommendations**

The study points to notable gaps between the two major sectors in Israeli society. Overall, Arab SLPs report more difficulties than Jewish SLPs in all areas—curriculum and training programs, availability of assessment and treatment tools for Arabic, workplace—routine, resources, and conditions, and dissemination of information to the Arab population. Arab SLPs see adapting academic curriculum to the Arabic language and culture, training of Arabic-speaking researchers in the field, developing diagnostic and assessment tools adapted to the Arab population, and simplifying bureaucratic procedures as important factors that can lead to real improvement in the services provided to the population of the Arab sector. Although these findings may seem unsurprising and typical of minority groups worldwide, they have been empirically established for Jewish and Arab SLPs in Israel for the first time in the mapping study described earlier.

The overview justifies the following recommendations to policy makers:

- Construction of a computerized database of Arab SLPs to be monitored and updated occasionally, including the construction of a professional body to deal with the unique problems of Arab SLPs who studied in Jordan.
- Allocation of resources to improve infrastructure and treatment facilities and work conditions (equipment, smaller number of patients per day, time for staff meeting, training in the workplace) and employing Arabic-speaking administrative staff in mixed clinics.
- Adaptation of information dissemination means to the Arab sector.
- Allocation of resources to encourage research on Arabic, increase in the number of academic faculty members, and adjust the curriculum and training programs to the Arabic language and culture.
- Development and standardization of assessment and intervention tools to the Arabic language and culture.
- Raising awareness to the field of communication disorders and increasing the prestige of the field in the Arab sector.

**Additional challenges: Yiddish in the ultra-Orthodox community**

Before we turn to the conclusions, we wish to outline another major challenge facing the SLP community in Israel—the treatment of a
Table 5. Overall Needs of Arab and Jewish SLPs

<table>
<thead>
<tr>
<th>Topic</th>
<th>Arab SLPs</th>
<th>Jewish SLPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics</td>
<td>Add courses designated specifically to treating speech–language disorders in Arabic</td>
<td>Expand the practice to additional populations and diverse cultures—immigrants, ultra-Orthodox, bilingual, low SES</td>
</tr>
<tr>
<td></td>
<td>Increase the number of researchers and academics from the Arab sector who are experts in the Arabic language and culture</td>
<td></td>
</tr>
<tr>
<td>Assessment and treatment tools</td>
<td>Develop standardized tools designated for Arabic</td>
<td>Develop designated assessments and scoring scales for Hebrew</td>
</tr>
<tr>
<td></td>
<td>Encourage research on the acquisition of Arabic</td>
<td>Add to the existing knowledge in different areas of the Hebrew language—syntax, pragmatics, verbs, later language acquisition</td>
</tr>
<tr>
<td></td>
<td>Develop assessment and treatment tools adapted to Arabic</td>
<td>Enrich the inventory of assessment tools adapted and standardized for Hebrew and in particular, for school-age children</td>
</tr>
<tr>
<td>Professional considerations</td>
<td>Increase the duration of treatment sessions; decrease the preparation time required before each treatment; increase the number of treatment sessions</td>
<td>Develop materials for work in the education system and for group work</td>
</tr>
<tr>
<td></td>
<td>Parents are not aware of the importance of treatments, lack of practice at home</td>
<td>More budgets should be allocated for purchasing equipment</td>
</tr>
<tr>
<td></td>
<td>Increase the number of training hours, experienced and trained mentors/training personnel</td>
<td>More understanding and cooperation is required on the part of parents</td>
</tr>
<tr>
<td></td>
<td>Eliminate the need to pay out of one’s own pocket for clinical training</td>
<td>Additional training to SLPs in the periphery</td>
</tr>
<tr>
<td></td>
<td>Create a forum or association to address the problems of SLPs in the Arab sector and the unique problems of the Arabic language</td>
<td>Reduce the costs of training and conferences</td>
</tr>
<tr>
<td></td>
<td>Address the problem of diglossia</td>
<td>More organized training plans at the workplace</td>
</tr>
<tr>
<td></td>
<td>Relate to the Arabic language in workshops and conferences</td>
<td>Improve the quality of training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase salaries and provide appropriate rewards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decrease the amount of time spent on writing reports after work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce the amount of bureaucratic procedures that are time consuming and cause delays</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have colleagues to consult with</td>
</tr>
</tbody>
</table>

Note. SES = socioeconomic status; SLP = speech–language pathologist.

growing Jewish minority group—the Yiddish (and Hebrew)-speaking ultra-Orthodox community. The needs of this community in the realm of communication disorders services deserve more attention. The Jewish ultra-Orthodox population is a religious sector constituting about 10% (slightly over 700,000 individuals) of the Israeli population (Friedman et al., 2011; Gurovich & Cohen-Castro, 2004). It is
generally characterized by differing levels of isolationism and segregation from secular population. The ultra-Orthodox population in Israel has life-long learning practices of scriptures and conservative dress codes—all of which act as visible and invisible barriers to external influences (Baumel, 2006; Hason, 2001; Heilman & Friedman, 1991). Ultra-Orthodox communities have separate school systems for boys and girls, mostly under different Ministry of Education supervision than the public schools, some voluntarily unrecognized or unsupervised by Israeli authorities. Although some ultra-Orthodox subgroups speak only Hebrew, almost half are members of the Hasidic community and thus live in a unique linguistic situation that includes three main languages: Yiddish and Modern Hebrew, two living languages competing as mother tongues in a bilingual sociolinguistic setting, and Loshn Koydesh (historical varieties of Hebrew restricted to praying and scriptural learning).

Yiddish is a Germanic Jewish language that is currently gaining native speakers after a generation in which it almost disappeared as a living language. Although formerly a language with millions of speakers, annihilation of the Jewish population during World War II has restricted its native usage to segregated Hasidic communities in Israel and worldwide. Hasidic Israeli Yiddish is mostly a spoken language, and conservative schools for girls use it in writing. Although linguistic research on the historical standardized variety of Yiddish has yielded numerous dictionaries and grammar books (Weinreich, 1977), naive native speakers tend to treat spoken Yiddish as a home dialect, devoid of structure and grammar (Goshen-Gottstein, 1984; Isaacs, 1998a, 1998b, 1999a, 1999b; Tannenbaum & Abugov, 2010).

Scholars’ knowledge of the development of native Hasidic Yiddish is currently restricted, as the field does not yet hold an independent scientific status, and has attracted little attention in the way of empirical research and evidence-based description and analysis (Barriere, 2010). Even in Israel, which is home to large Hasidic communities, empirical, psycholinguistic perspectives on Yiddish in general and Israeli Yiddish in particular are currently rather wanting (Abugov, 2011). Moreover, the highly segregated nature of the Hasidic community, which isolates its members from any outside non-Orthodox contact, poses a problem to researchers investigating linguistic practices in this community, who need to adapt research methods so as to respect ultra-Orthodox privacy, behavioral norms, and dressing codes.

Two pioneering studies that have analyzed contemporary Israeli Hasidic Yiddish (Abugov & Ravid, 2014b; Berman, 2007) showed that it exhibits much variation in lexicon and grammar and is undergoing linguistic change under the pressure of modern life and Israeli Hebrew. A single psycholinguistic study (Abugov & Ravid, 2013) provided a developmental analysis of noun plurals in the Yiddish spoken by children and adults in an Israeli Hasidic community. More studies on other linguistic systems and other Hasidic communities are required to understand the way Hasidic Yiddish is used and acquired today alongside secular Hebrew and scriptural Loshn Koydesh.

Given the multilingual situation in which Israeli Hasidic children acquire Yiddish, SLPs face many challenges when dealing with a Hasidic patient. In most cases, the SLP is a secular woman who does not speak Yiddish and is not familiar with the sociocultural Hasidic context. Even in the few cases in which the SLP is a Yiddish speaker, she does not have the tools or measures to assess the development of Yiddish. In addition, there is a need for SLPs to adapt their materials, which exclude, for example, pictures of pigs, television sets, or computers, to the conservative culture and norms of their ultra-Orthodox patients (both Hebrew and Yiddish speakers). The SLPs most suitable to treat this population would be ultra-Orthodox, as they are aware and respectful of its cultural practices.

Thus, in addition to the academic programs in communication disorders that already exist for ultra-Orthodox students (which are identical to all other programs in their curriculum
but differ in catering to the religious practices of the ultra-Orthodox students, e.g., separate classes for women), there is a need for more research on Yiddish as an L1 in a multilingual setting as well as on the unique linguistic and cultural difficulties encountered by Yiddish speakers with language impairment. The need to develop culturally and linguistically standardized tools for assessment and treatment of this population should be addressed, as well as the development of adapted reaching-out projects to increase awareness in ultra-Orthodox communities to the early diagnosis and treatment of communication disorders.

GENERAL CONCLUSIONS

This article is the result of cooperation between Israeli Jewish and Arab psycholinguists and speech–language disorders specialists. Our two-pronged goal was to present two facets of the Israeli communication disorders scene. The first concerned linguistic, psycholinguistic, and sociolinguistic facets of Hebrew and Palestinian Arabic, two Semitic languages whose speakers live, work, and study together in Israel. Against the linguistic background, a second goal of this article was to review the state of the speech–language pathology services provided to Arab and Jewish residents of Israel.

Although the picture yielded from the overview is far from satisfactory, we hope that the goodwill and deep research commitment of Israeli and Arab scholars in the field of language development and disorders will contribute to the amelioration of this situation. In addition, we hope that any development in the field will be of value to SLPs serving Jewish and Arab clients and their families around the world. Our view is that the concepts and issues raised here apply to these groups as well, with the caveat that they are complicated further by the bi- and multilingual environments of these other communities.

REFERENCES


Central Bureau of Statistics. (2010). Statistical abstract of Israel (No. 61). Table 2.1, Figure 2.6 [in Hebrew].


Hebrew and Palestinian Arabic in Israel


Saif, M. (2009). *Acquisition of bound morphology in early child Arabic*. Unpublished MA thesis, Department of Communications Disorders, Tel Aviv University, Tel Aviv, Israel.


O. Kagan & B. Rifkin (Eds.), *The learning and teaching of Slavic languages and cultures: Toward the 21st century* (pp. 375–403). Bloomington, IN: Slavica.

