



„Wychowanie w Rodzinie” t. XXX (1/2023)

Submitted: March 28, 2023 – Accepted: July 5, 2023

Karina BARECKA*
Anna WOJCZYŃSKA**
Renata WAWRZYŃIAK-BESZTERDA***

Electronic Media and the Development of Speech and Communication of the Child

Media elektroniczne a rozwój mowy i komunikacji dziecka

* **e-mail: karina.barecka@amu.edu.pl**

Wydział Studiów Edukacyjnych, Uniwersytet im. Adama Mickiewicza w Poznaniu,
Szamarzewskiego 89, 60-568 Poznań, Polska
Faculty of Educational Studies, Adam Mickiewicz University, Szamarzewskiego 89,
60-568 Poznan, Poland

ORCID: 0000-0003-2270-8205

** **e-mail: anna.wojczynska@amu.edu.pl**

Wydział Studiów Edukacyjnych, Uniwersytet im. Adama Mickiewicza w Poznaniu,
Szamarzewskiego 89, 60-568 Poznań, Polska
Faculty of Educational Studies, Adam Mickiewicz University, Szamarzewskiego 89,
60-568 Poznan, Poland

ORCID: 0000-0002-9966-1110

*** **e-mail: renata.wawrzyniak-beszterda@amu.edu.pl**

Wydział Studiów Edukacyjnych, Uniwersytet im. Adama Mickiewicza w Poznaniu,
Szamarzewskiego 89, 60-568 Poznań, Polska
Faculty of Educational Studies, Adam Mickiewicz University, Szamarzewskiego 89,
60-568 Poznan, Poland

ORCID: 0000-0001-5640-1784

Abstract

Introduction. This article deals with the issue of the presence of electronic media in the development of speech and communication of a small child. The discussion pays special attention to the role of the social environment while modeling a child's first digital experiences. Among other things, the article refers to the assumptions of Albert Bandura's social learning theory. The article also describes tips and practical measures worth taking to stimulate the child's cognitive development and, as a result, speech and communication development. The benefits and threats to the child's cognitive development resulting from the presence of electronic media in this process were also analyzed.

Aim. The aim of the article was a theoretical analysis of the child's speech and communication development in the context of the media's presence in this process.

Methods. The authors carry out a theoretical review based on the literature on the subject.

Conclusions. A critical look at the presence of media in family life makes it possible to identify both the threats and benefits resulting from this factor in the development of the child's speech and communication. Therefore, the role of parents and guardians becomes important as models who will moderate and indicate the ways and forms of media use by the child, adapting them to the child's current stage of development.

Keywords: electronic media, ICT, speech development, child, role of parents.

Abstrakt

Wprowadzenie. Niniejszy artykuł podejmuje zagadnienie związku mediów elektronicznych na rozwój mowy i komunikacji u małego dziecka. W rozważaniach zwrócono szczególną uwagę na rolę środowiska społecznego podczas modelowania pierwszych cyfrowych doświadczeń dziecka. W artykule odwołano się m.in. do założeń teorii społecznego uczenia się Alberta Bandury. Opisano wskazówki i praktyczne działania, które mogą podejmować rodzice w zakresie stymulowania rozwoju poznawczego dziecka, a więc również rozwijania mowy i komunikacji. Przeanalizowano także korzyści i zagrożenia dla rozwoju poznawczego dziecka wynikające z obecności mediów elektronicznych w tym procesie.

Cel. Celem artykułu jest teoretyczna analiza rozwoju mowy i komunikacji małego dziecka w kontekście obecności mediów elektronicznych w jego rozwoju.

Metody. Autorki dokonują przeglądu teoretycznego na podstawie literatury przedmiotu.

Wnioski. Krytyczne spojrzenie na obecność mediów w życiu rodziny umożliwia zidentyfikowanie zarówno zagrożeń, jak i korzyści dla rozwoju mowy i komunikacji dziecka wynikających z tego faktu. Istotną staje się zatem rola rodziców i opiekunów, którzy będą moderowali, a także wskazywali sposoby i formy korzystania przez dziecko z mediów, stosownie do aktualnego etapu jego rozwoju.

Słowa kluczowe: media elektroniczne, TIK, rozwój mowy, małe dziecko, rola rodziców.

Introduction

The development of a child's speech consists of two main factors, i.e., the child's psychosomatic condition and social development. It is assumed that it is "genetically determined [...], but is only possible in contact with the social environment, with other people" (Kaczmarek, 1977, p. 119). Regardless of where a child was born or the language it was exposed to in the prenatal period, speech development follows specific phases. The task of periodisation is to characterise and identify the changes that occur in a specific sequence of events (Porayski-Pomsta, 2011, pp. 173–198).

This paper aims to analyse the speech and communication development of the young child, taking into account the presence of electronic media in this process. This is because nowadays young children "experience visual-tactile-auditory contact with these devices very quickly" (Jędrzejko, 2013, p. 36). The main considerations on the determinants of speech development will oscillate around the environmental aspect of the assumptions of Albert Bandura's Social Learning Theory, in which a significant role is attributed to observation and modelling.

Environmental determinants of children's speech development

Among the series of components on which the proper development of a child's speech depends are a child's social-cognitive abilities. Prominent among these are the common field of attention, engagement, and understanding of intention or imitation (Kelly, 2001; Pluta-Wojciechowska, 2019, p. 41). These capacities can be developed by the child's parents by "using diverse and natural everyday situations to intensify and direct broad educational influences" (Pluta-Wojciechowska, 2014, p. 66). An important point in the speech development process, however, is that "understanding is always one step ahead of speaking" (Wasilewska, Szafran, 2012, pp. 129–130). Already in the prenatal period, parents can take a range of measures to support their child's speech development, including reading aloud, listening to classical music, telling stories or turning their speech towards the mother's belly. This is important because during this time "the speech apparatus is developed and the child acquires the suprasegmental elements of language (accent, rhythm, melody, and tone)" (Wasilewska, Szafran, 2012, p. 131). This is also the period when the neural pathways and the brain begin to develop (Wołoskiuk, 2015, p. 5).

The protoconversations that follow after birth usually occur between mother and infant and are expressed in facial expressions, voice modulation, smiling, and head and body movements (Kwiatkowska, 2014, p. 138). They are "the prototype of all interactions" (Kwiatkowska, 2014, p. 138). They are mainly based on emotions and

give the child a sense of security from parents or caregivers. During this time, maintaining eye contact with the child, touching, smiling, appropriate modulation and tone of voice play an important role in the child's speech development. Such actions aim at developing the field of joint attention and the child's ability to notice communicative intentions (Cieszyńska, Korendo, 2020, pp. 167–168). In this area, the role of parents is also to address the child frequently, to read stories together combined with parents pointing to elements in the book with their fingers, singing songs and lullabies, saying rhyming poems, and playing fingerplays (Cieszyńska, Korendo, 2020, pp. 174–175; Pluta-Wojciechowska, 2014, pp. 69–70). The importance of high-quality parental speech, adapted to the child's level of understanding and age, is also emphasised (Eliot, 2010, pp. 528–529).

All the activities described above involve maintaining interaction between the adult and the child, who develops speech and communication by observing family members and modelling from them. This is a direct reference to the assumptions of the Social Learning Theory by A. Bandura, which emphasises the importance of observation and modelling in the child's acquisition of new experiences. The mechanism for learning new behaviour involves not only observing other people's actions and reactions but also experiencing the consequences of these reactions (Bandura, 2007, pp. 29–30). For example, finger-pointing at items in a book and asking questions of the parents can contribute to building a field of joint attention with the child, resulting in the development of the ability to direct the other person's attention to an object of interest to the child. Thus, this activity will prepare the child for naming objects in the immediate environment. The use of the finger-pointing gesture (as well as other gestures that are, as it were, representations of previously observed objects/activities) allows the young child to communicate what he or she needs, such as the desire to receive an object (Esteve-Gibert, Prieto, 2014; Kelly, 2001). The Social Learning Theory of A. Bandura's theory of social learning is that the child learns that the behaviour (in this case the finger-pointing gesture) will elicit a specific (previously observed) response from the other person (in this case, for example, an adult handing over an object of interest). The young child therefore relies on observations of other people's behaviour and in this way – initially with gestures and later also with the first words – can communicate with the environment.

Social Learning Theory ascribes particular value to modelling and role models, without which it would not be possible to develop a child's language skills (Bandura, 2007, p. 29). This may be difficult for children in foster care. The low frequency of interaction with adults may cause limitations in, among other things, vocabulary, grammar, length, and complexity of children's speech (Weir, 2014, p. 36). However, the effectiveness of the influence of models (parents and, at a later stage, teachers) depends on several factors, including the individual characteristics of the model, the characteristics

of the observer and the consequences perceived by the observer of replicating noticed behaviour (Bandura, 2007, pp. 94–95). For the child’s speech development to proceed properly, models should pay attention to the quality of their language competence as well as their actions. It should also be emphasised that it is not only people from the child’s immediate environment, i.e., parents, grandparents, teachers and peers, who can act as role models. Also, characters from fairy tales, films, and TV programmes provide examples of both positive and negative behaviour. Because children in the first years of life have difficulty distinguishing between the fictional and real worlds, their expressions may reflect the abnormal patterns they have observed during their contact with the media (Kosicka, 2018, p. 71). Exemplifications of fairy tale characters with speech disorders include Donald Duck, Sid from *Ice Age*, and Brainy Smurf from *Smurfs* (Kosicka, 2018).

Children, as participants in the digital world, “learn by sensory experiences and actions” (Iwanicka, 2020, p. 27). They can not only imitate the behaviour and speech of fictional characters but also look for them behind the television or touch the screen to move the characters to the place of their choice (Iwanicka, 2020, p. 27). Children’s first experiences with the media – identified as “various kinds of objects and devices conveying specific information (messages) to the recipients through words, images and sounds, and enabling them to perform specific intellectual and manual activities” (Strykowski, 1997, p. 12) – therefore should be regulated by adults.

Presence of electronic media in the child’s family environment

In the literature, it is emphasised that the modern world is becoming technicised and even points to the occurrence of so-called “cyborgisation” in family life, child-rearing and education (Klichowski, Przybyła, 2013; Bednarska, 2020). However, as in the case of the formation of a child’s communication skills, it is “dependent on the family, the relations in it, its ethical and moral principles, value system, internal norms and controls, how – to a large extent – the child will adapt to the digital world and what – overtime – competences it will acquire” (Iwanicka, 2020, p. 21).

Because of the pace of technological development, it is important to distinguish the term “media” from the terms “new media”, and “new new media”. The former refers to “a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. These technologies include, but are not limited to, computers, the Internet and mobile devices (Walter et al., 2020, p. 235). In contrast, the purpose of Paul Levinson’s introduction of the term “new new media” was to distinguish social technologies from legacy media and new media, which include Facebook, YouTube, blogs etc. (Levinson, 2010, cited in: Laskowska, 2012, p. 125).

The use of traditional media when parents spend time together with their child, in particular reading books together, has a positive impact on the child's language development and attitude towards reading and writing at earlier school age (Wirth, Ehmig, & Niklas, 2022, pp. 372–387). However, what is becoming undeniable is the fact that traditional media are being displaced from family life, as indicated by the results of studies on the amount of time children spend using electronic media. It was found that American children under the age of eight spend almost three hours a day with electronic media when as recently as 2011 it was 2 hours 16 minutes a day (Rideout, Robb, 2020, pp. 3–7). The organisation Common Sense also highlighted that in 2020, for the first time since the research idea was conceived, online video viewing dominates the time children spend in front of a screen. According to the organisation's research, the youngest children spend 39 minutes a day watching videos on platforms such as YouTube and TikTok. This compares to just 19 minutes a day in 2017 (Rideout, Robb, 2020, p. 4).

A reminder here is that the child from birth to two years of age is in the first stage of cognitive development, “[he or she] understands the world in terms of the senses and its motor activities; what it is like to grasp, what it looks like and what it tastes like” (Iwanicka, 2020, p. 48). Thus, for a child under the age of two, the content on the screen of a mobile device will not be comprehensible. They will respond based on an orientation reflex relating only to what catches their attention, i.e., movement, sound, and colour (Iwanicka, 2020, p. 27). Contact with media in the first months of life may be associated with difficulties in cognitive development, language development or listening comprehension (Tomopoulos et al., 2010, pp. 1105–1111).

Child-adult-media interaction in the context of Social Learning Theory

Exposure to electronic media in infancy may also result in reduced verbal interactions between parent/carer and child, an important factor in speech and communication development. During media use, verbal interactions are most often undertaken about the appearance of educational programmes during shared viewing (Mendelsohn et al., 2008, pp. 411–417). In the cited research, half of the exposures were to programmes that were unsuitable for young children's viewing, which negatively affected mother-child interactions, even during shared use of media (Medelsohn et al., 2008, pp. 411–417).

In attempting to confront the assumptions of Social Learning Theory with the presence of media, new media, and new new media in the early years of a child's life, the importance of modelling as an effective method of influence should be emphasised. A child in the final stage of early childhood learns by observing the behaviour of others in order, among other things, to imitate their use of given objects and thus learn their

purpose (Huk, 2018, p. 53). Therefore, the child can quickly learn how to carry out selected operations when using modern media, for example, to switch the TV on and off with the remote control or to increase and decrease the size of a photo displayed on a smartphone screen (Huk, 2018, p. 60). In such situations, she/he uses the previously observed tactile combinations of the selected media. However, it is important to consider whether, for example, a child who often observes a parent's handiwork when using a smartphone will also try to replicate the parent's movement (here: moving the screen with the thumb) in other situations, i.e., not only when using electronic media, but also, for example, when browsing (here: moving) pictures in a book.

Media use habits can also be analysed in the context of parents' level of attentiveness to children's interaction attempts. It is pointed out that they are now competing with the media for adult attention (Bednarska, 2020, p. 11). They directly experience the influence of the media on their parents' behaviour – through observation, they learn that “the ringing of a telephone or the signal of an incoming message can interrupt a conversation, shared play or other daily activities” (Bednarska, 2020, p. 11). When family members' attentiveness oscillates around media use, “the frequency of contact and communication between household members decreases” (Korzeniowska, 2014, p. 112). Based on the Social Learning Theory provided by A. Bandura, it can be said that the child will learn that the reduced frequency of interaction with others can be replaced to some extent by contact with electronic media. The parent's behaviour (here: substituting spending time together with the child in favour of independent media use) models the child's later course (or rather lack of desire to maintain) interaction with the parents themselves. Children may imitate previously observed adult behaviour, and it is then that parents begin to compete with media for their attention (Patzlaff, 2008, p. 81, cited in: Bednarska, 2020, p. 11).

However, selected parental practices can effectively regulate children's use of electronic media. These include controlling children's time with media, not using media while eating or going to sleep, and monitoring one's time spent using media (Tang, Darlington, Ma, & Haines, 2018, pp. 1–10). To enhance the benefits of media use, such as fostering creativity or levelling educational opportunities, parents of older children can comment on and explain to them what is happening on the screen, explain difficult and unintelligible words or establish a limit to the time spent watching together (Iwanicka, 2020, p. 35). Parental awareness of the possible risks of young children's use of electronic media is also important. Technology can contribute, among other things, to concentration and attention disorders, reduce cognitive abilities (memory or logical thinking), negatively affect writing and reading, and impoverish abstract thinking, inference, analysis or abstraction (Iwanicka, 2020, p. 25).

Studies indicating the negative impact of the media on human development are particularly relevant for the youngest children. These include the impoverishment of

reading in households and restrictions on parent-child interaction (Mendelsohn et al., 2008, pp. 411–417). In contrast, non-significant associations between electronic media use and the development of language, reading and writing skills have been observed in research on students in the early grades of primary school (Dore, Logan, Lin, Pur-tell, & Justice, 2020).

Conclusion

A critical view of the presence of the media in family life makes it possible to identify the risks to the child's development that arise from this. Indeed, the reduced frequency of the child's direct interactions with adults, while at the same time being highly exposed to the media, can "conduct linguistic impoverishment, which is often evident not only in the child's interactions with parents but also in play with peers" (Patzlaff, 2008, cited in: Korzeniowska, 2014, p. 112). However, it is also important to not forget the positive functions of media that are beneficial for development, which the present article has tried to point out. In this case, it seems essential, however, for parents to be aware of their role in the youngest children's first experiences with media.

Analysing the speech and communication development of the young child with the presence of electronic media in this process thus makes it possible to emphasise the possibility of parents modelling their children's first experiences with the world of electronic media. Based on the Social Learning Theory developed by A. Bandura, it should be noted that observation of parents' behaviour teaches children how they can use media. Excessive use of new media combined with a lack of reflection on the media may lead to weakened family relationships or impoverished contacts with significant people in the child's life (Walter et al., 2020, pp. 219–220). Crucial, therefore, as demonstrated in this article, is the role of parents, carers and the educational environment as models indicating appropriate ways and forms of interacting with new media, adapted to the developmental stage of the child.

References

- Bandura, A. (2007). *Teoria społecznego uczenia się* [Social Learning Theory]. Warszawa: Wydawnictwo Naukowe PWN.
- Bednarska, N. (2020). *Zamiast wprowadzenia – wychowanie dziecka w otoczeniu mediów* [Instead of an introduction - bringing up a child in a media environment]. In: N. Bednarska (Ed.), *Dziecko – media – rozwój: O konsekwencjach obecności mediów w życiu dziecka* [Child – media – development: On the consequences of

- the presence of media in children's lives] (pp. 9–15). Warszawa: Wydawnictwo Akademii Pedagogiki Specjalnej.
- Cieszynska, J., Korendo, M. (2020). *Wczesna interwencja terapeutyczna: Stymulacja rozwoju dziecka od noworodka do 6 roku życia* [Early therapeutic intervention: Stimulation of child development from newborn to 6 years of age]. Kraków: Wydawnictwo Edukacyjne.
- Dore, R. A., Logan, J., Lin, T. J., Purtell, K. M., & Justice, L. M. (2020). Associations between children's media use and language and literacy skills. *Frontiers in Psychology, 11*, 1734. DOI: 10.3389/fpsyg.2020.01734.
- Eliot, L. (2010). *Co tam się dzieje? Jak rozwija się mózg i umysł w pierwszych pięciu latach życia* [What's going on in there?: How the brain and mind develop in the first five years of life]. Poznań: Wydawnictwo Media Rodzina.
- Esteve-Gibert, N., Prieto, P. (2014). Infants temporally coordinate gesture-speech combinations before they produce their first words. *Speech Communication, 57*, 301–316. DOI: 10.1016/j.specom.2013.06.006.
- Huk, T. (2018). Wychowanie pokolenia ekranów dotykowych na przykładzie matczynego opisu aktywności dziecka dwuletniego [The upbringing of the touch screen generation based on the example of a mother's description of a two-year-old child's activity]. *Chowanna, 1(50)*, 51–63.
- Iwanicka, A. (2020). *Cyfrowy świat dzieci we wczesnym wieku szkolnym* [The digital world of children in early school age]. Poznań: Wydawnictwo Naukowe UAM.
- Jędrzejko, M. (2013). *Dzieci i nowe multimedia (szanse – wyzwania – zagrożenia)* [Children and new media (opportunities – challenges – risks)]. Dąbrowa Górnicza: Wyższa Szkoła Biznesu w Dąbrowie Górniczej.
- Kaczmarek, L. (1977). *Nasze dziecko uczy się mowy* [Our child learns speech]. Lublin: Wydawnictwo Lubelskie.
- Kelly, B. F. (2001). The development of gesture, speech, and action as communicative strategies. *Annual Meeting of the Berkeley Linguistics Society, 27(1)*, 371–380. DOI: 10.3765/bls.v27i1.1112.
- Klichowski, M., Przybyła, M. (2013). Cyborgizacja edukacji – próba konceptualizacji [Cyborgization of education – an attempt of conceptualization]. *Studia Edukacyjne, 24*, 143–153.
- Korzeniowska, M. (2014). Ulubieni bohaterowie bajek animowanych dzieci w wieku przedszkolnym [Favorite heroes of fairy tales animated in pre-school century]. *Roczniki Pedagogiczne, 6(42)/2*, 109–125.
- Kosicka, M. (2018). Zaburzenia mowy postaci z bajek i ich wpływ na rozwój mowy dzieci [Speech disorders of fairy-tale characters and their impact on the development of children's speech]. *Logopaedica Lodziensia, 2*, 63–76. DOI: 10.18778/2544-7238.02.05.

- Kwiatkowska, E. (2014). Rola rodziny w przygotowaniu małego dziecka do życia społecznego [The role of the family in preparing the young child for social life]. In: A. Odrowąż-Coates, M. Kwiatkowski (Ed.), *Przyszłość edukacji społeczeństwa oczami badaczy społecznych* [The future of public education through the eyes of social scientists] (pp. 134–143). Warszawa: Wydawnictwo Akademii Pedagogiki Specjalnej.
- Laskowska, M. (2012). Nowe media w służbie człowieka: Zarys problematyki w kontekście etyki i aksjologii mediów [New media in the service of man. Outline of the issue in the context of media ethics and axiology]. *Teologia Praktyczna*, 13, 123–137. DOI: 10.14746/tp.2012.13.09.
- Mendelsohn, A. L., Berkule, S. B., Tomopoulos, S., Tamis-LeMonda, C. S., Huberman, H. S., Alvir, J., & Dreyer, B. P. (2008). Infant television and video exposure associated with limited parent-child verbal interactions in low socioeconomic status households. *Archives of Pediatrics & Adolescent Medicine*, 162(5), 411–417. DOI: 10.1001/archpedi.162.5.411.
- Pluta-Wojciechowska, D. (2014). Wspieranie rozwoju mowy dziecka w rodzinie [Supporting the child's speech development in the family]. In: J. Skibska (Ed.), *Wspieranie rozwoju małego dziecka* [Supporting the development of the young child] (pp. 63–75). Bielsko-Biała: Wydawnictwo Naukowe ATH, Wydawnictwo LIBRON.
- Pluta-Wojciechowska, D. (2019). *Dyslalia obwodowa: Diagnoza i terapia logopedyczna wybranych form zaburzeń* [Peripheral dyslalia: Diagnosis and speech therapy of selected forms of the disorder]. Bytom: Wydawnictwo Ergo-Sum.
- Porayski-Pomsta, J. (2011). Zagadnienia periodyzacji rozwoju mowy dziecka [Categorization of children's speech development]. *Studia Pedagogiczne. Problemy Społeczne, Edukacyjne i Artystyczne*, 20, 173–198.
- Rideout, V., Robb, M. (2020). *The Common Sense census: Media use by kids age zero to eight*. San Francisco: Common Sense Media.
- Strykowski, W. (1997). Media w edukacji: Od nowych technik nauczania do pedagogiki i edukacji medialnej [Media in education: From new teaching techniques to media pedagogy and education]. In: W. Strykowski (Ed.), *Media a edukacja* [Media and education] (pp. 11–19). Poznań: Wydawnictwo eMPi.
- Tang, L., Darlington, G., Ma, D. W., & Haines, J. (2018). Mothers' and fathers' media parenting practices associated with young children's screen-time: A cross-sectional study. *BMC obesity*, 5(1), 1–10. DOI:10.1186/s40608-018-0214-4.
- Tomopoulos, S., Dreyer, B. P., Berkule, S., Fierman, A. H., Brockmeyer, C., Mendelsohn, A. L. (2010). Infant media exposure and toddler development. *Archives of Pediatrics & Adolescent Medicine*, 164(12), 1105–1111. DOI: 10.1001/archpediatrics.2010.235.

- Walter, N., Pyżalski, J., Iwanicka, A., Kąkolewicz, M., Michniuk, A., Barwicka, A. M., Sikorska, J. (2020). Media cyfrowe a edukacja dziecka [Digital media and children's education]. In: H. Krauze-Sikorska, M. Klichowski (Eds.), *Pedagogika dziecka: Podręcznik akademicki* [Pedagogy of the child: An academic handbook] (pp. 216–243). Poznań: Wydawnictwo Naukowe UAM. DOI: 10.14746/amup.9788323236948.
- Wasilewska, M., Szafran, J. (2012). Rozwój mowy dzieci 3–5 letnich: Podstawy psychospołeczne – analiza przypadków [Speech development of 3–5 year old children: Psychosocial foundations – a case study]. *Dodatek psychologiczny. Wiadomości Psychiatryczne*, 15(3), 129–135.
- Weir, K. (2014). The lasting impact of neglect. *Monitor on Psychology*, 45(6), 36.
- Wirth, A., Ehmig, S. C., Niklas, F. (2022). The role of the home literacy environment for children's linguistic and socioemotional competencies development in the early years. *Social Development*, 31(2), 372–387. DOI: 10.1111/sode.12550.
- Wołosiuk, B. (2015). Rola rodziców w profilaktyce logopedycznej [The role of parents in speech therapy prevention]. *Rozprawy Społeczne*, 9(1), 5–11.