

Maleika Krüger

Media-Related Out-of-School Contact with English in Germany and Switzerland

Frequency, Forms and the Effect on
Language Learning

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Maleika Krüger
Berlin, Germany



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This book is a revised and corrected version of my dissertation, which was defended and accepted at the Institute for Educational Research at the University of Basel in 2021.

With my dissertation project, I aimed to close a critical research gap in understanding how frequently German-speaking adolescents come into contact with the English language through various media channels, such as television, books, or the internet. In addition, I was interested in how family background and gender might shape this contact and how this contact influences and is influenced by the learners' English competences.

This project would not have been possible without the continuing support of colleagues, supervisors, friends, and family. I, therefore, wish to thank my dissertation committee at the FHNW School of Education and the University of Basel. I would like to thank Prof. Dr. Stefan Keller, without whom this project would not have come about. I would also like to thank my supervisor Prof. Dr. Regula Leemann for her guidance through each stage of the process. My thanks also go to Prof. Dr. Ina Habermann, who was kind enough to offer her support and insight into the project.

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At the end of any dissertation, there is the difficult task of actually coming to an end. No matter how meticulous the work, one could have included more aspects, edited the text one more time, and found that last mistake. Perhaps, for this reason, it seems to be as challenging to come to an end, as it was to find a beginning. Before publication, I took the opportunity to revise the manuscript, expand on some theoretical and methodological points, correct minor errors, and address the constructive feedback of my supervisors. These revisions did not change the overall results of the present study. With this book, I now do officially end my dissertation project. I hope that the results will yield important insight and inspire other researchers to further expand our understanding of media-related out-of-school English contact for people in German-speaking countries.

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Introduction

1

The rise of globalization, the widespread use of technical devices, such as computers and smartphones, and the emergence of the internet have undoubtedly changed the media landscape and transformed our way of communication in all sectors of life. Today, the internet serves as a source for information and allows people to communicate on various platforms. In addition, it not only allows easy access to written material, but has also made it possible to access audio and audio-visual media content such as music, movies, or TV series. As a result, the internet not only connects us to people from all over the world, but also brings international media content into our everyday life. By doing so, the internet has opened new ways to get into contact with other languages, particularly with the English language.

Since World War II, the English language has played a dominant role in the entertainment and media industry. The majority of the most famous music pieces, movies, TV productions, and books have been produced in the United States (and the United Kingdom) (Berns et al., 2007). In addition, the English language has also dominated the internet from the start: in 2001, it was estimated that 50% of the content online was in English (Berns et al., 2007). While other languages have since increased in frequency and importance, English still serves as the lingua franca for people from different corners of the world to communicate online (Web Technology Survey, 2020).

Despite this domination, authentic English-language media content was only sparsely accessible in some of the bigger European countries until the turn of the millennium: While music sung in English was already common on the radio, most foreign media content, such as movies or books, was usually translated before being released in countries such as Germany, France and Italy. As a

result, most people in these countries only came into contact with the English language through music or while traveling abroad (Hasebrink et al., 1997; Hasebrink, 2001).

In recent years, however, modern technological equipment and the internet have increasingly allowed people easy access to a wide range of authentic international media content. In addition, people worldwide post, upload, interact and communicate in English on websites, blogs, message boards, and social media platforms (R. Ellis, 2008; Medrano, 2014; OECD 2001-01-01, 2001; Thorne & Black, 2007). All that is needed is internet access and a smartphone/computer. This creates new opportunities for contact with the English language for non-English speaking countries, such as Germany and Switzerland.

Such a voluntary and informal form of contact can be distinguished from language contact motivated or initiated by the educational system (e.g., in-class instructions, homework) and is most likely strongly defined by an appreciation for the media content or a desire to communicate with others, rather than by the goal to learn the language (Sundqvist, 2009a, 2009b, 2011). The Swedish researcher Pia Sundqvist calls this *extramural contact* (Sundqvist, 2009a).

Media Studies from Germany and Switzerland could already show that young people have regular contact with the internet and a variety of media channels (Medienpädagogischer Forschungsbund Südwest [MPFS], 2017; Waller et al., 2016), yet there has been only limited empirical evidence on if and how much young people might engage in media-related extramural English contact through these channels. The first research question for the present study was, therefore:

- 1) *Which forms and frequencies of media-related extramural English contacts do German and Swiss adolescents have?*

Even though the use of technological devices has become more widespread in society and international media content more accessible, research has also repeatedly shown the existence of social disparities in technology use and media preferences. Drawing on Bourdieu's theory of class distinction and social habitus, it can be argued that the socio-economic background shapes the cultural and monetary conditions under which people are socialized. These conditions, in turn, influence people's aesthetic taste and preferences, creating a system of long-lasting dispositions, including their taste for aesthetic products, such as music, art, and movies. Thus, media preferences might be shaped by a person's class-specific *media habitus* (Biermann, 2009, 2013; Bourdieu, 1979, 1983, 1987, 2001 [1966]). At the same time, media habits and preferences most likely also serve as a way of producing and reproducing one's gender identity (*doing gender*) (Straub, 2006;

West & Zimmerman, 1987). As a result, media use should not be investigated outside of the social norms and patterns it is embedded in.

While there is a growing body of research concerning the effect of socio-economic background and gender on the use of media content in general, there is little empirical research concerning the use of media-related extramural English contact in Germany and Switzerland and these two social factors. The present study aims to help close this research gap. The second research question is, therefore:

- 2) *How do socio-economic background and gender influence the pattern and frequency of media-related extramural English contacts?*

The lack of research concerning the frequency of media-related extramural English contacts in German-speaking countries is surprising, given the importance of the English language as a lingua franca in politics, economics, and science. As a result, English competences are an important form of transnational human capital in a modern globalized world (Carlson et al., 2014, 2016; Medrano, 2014). For most residents in Germany and Switzerland, English is a foreign language, i.e., a language that is not the official language in their country of residence, nor a mother tongue. As such, the first contact with English as a foreign language in both Germany and Switzerland is usually through formal classroom instruction within the educational system (Hasebrink et al., 1997; Olsson, 2016; Sundqvist, 2009a). Given the importance of the English language in today's world, increased attention has been paid to *English as a foreign language* (EFL) in the educational system in both countries.

In Germany, students are expected to reach B2 in English by the end of upper secondary education. More advanced students are even expected to reach level C1 (Standing Conference of the Ministers of Education and Cultural Affairs in the Federal Republic of Germany [KMK], 2014). While Switzerland currently has no official standards for all cantons, students are usually expected to attain B2 in English in most cantons (Educational Department of Basel-Stadt [EDBS], 2017; Educational Department of Berne [EDB], 2017). To achieve these standards, both countries place great emphasis on a rich and compulsory English education, often starting in primary school. Thereby, most students in Germany and Switzerland have regular contact with English as a foreign language within the educational setting and continue their language studies until they graduate.

However, apart from these in-school learning opportunities, media-related contact with English as a foreign language might offer important additional language

learning opportunities. Multiple empirical studies have found evidence for a positive relationship between media-related extramural English contacts and learners' language competences in countries like Sweden and the Netherlands (e.g., Black, 2005; e.g., Black, 2009; Kuppens, 2010; Olsson, 2011, 2016; Olsson & Sylvén, 2015; Piirainen-Marsh & Tainio, 2009; Sundqvist, 2008, 2009a, 2009b, 2011, 2012, 2013; Sundqvist & Sylvén, 2012a, 2012b, 2014; Sylvén, 2006, 2007, 2019; Sylvén & Sundqvist, 2012a, 2012b, 2015, 2017; Thorne, 2008; Thorne & Black, 2007; Thorne et al., 2009; Verspoor et al., 2011). According to these findings, a high level of authentic media input and the opportunity to interact with members of a language community in a natural setting can lead to informal, unplanned, and unprompted *incidental learning processes*. Learning benefits could be demonstrated for traditional media forms, such as reading books or watching movies, as well as for newer or online-based forms such as playing computer games or reading online content on blogs or fan fiction boards.

The third research question for the present dissertation is, therefore:

- 1) *How do media-related extramural English contacts influence students' English competences?*

Of course, results from international studies, regarding the positive relationship of extramural English contacts and language learning, do not negate the importance and effectiveness of in-classroom instructions, which have long been proven to have a positive effect on language learning (e.g., d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; R. Ellis, 1999). However, as there already is a substantial body of research dedicated to formal in-classroom instruction, the present study will not focus on this factor. For the same reason the study will therefore also not investigate educational media use, such as educational games or media content that teachers might introduce as homework or additional reading material. The study will also not focus on any other form of media content developed or adapted with the foreign language learner in mind. Instead, the study will focus on authentic media content in natural media settings.

At the same time, the results of this study might in turn have implications for the educational system and in-classroom instructions. As learners might engage in frequent out-of-school English contacts, the classroom might no longer be the only contact with EFL for young learners in Germany and Switzerland. This might lead to increasingly heterogeneous language backgrounds, as some students might have been exposed to highly specialized and advanced vocabulary and topics, while others might not. Understanding the challenges as well as the educational benefits from media-related extramural English contacts can therefore

help teachers, and parents, to better navigate an increasingly heterogenous student body, as well as to integrate students' individual interest in the curriculum and find ways to motivate students to engage in out-of-school language practice.

The present study is based on a sample of 2,847 upper secondary students in their penultimate year of baccalaureate school (Gymnasium) from Germany and the German-speaking part of Switzerland (hereinafter referred to as Switzerland). The study thus investigates the media-related extramural English contacts for German-speaking adolescents in two of the largest German-speaking populations. Differences between the two countries will be discussed where they are relevant.

It should be noted, however, that the sample is not representative of all adolescents in the two countries, since upper secondary education has traditionally been a highly selective educational track in both Germany and Switzerland, with the entrance being even more restrictive in Switzerland than in Germany (Keller et al., 2020).

The data was gathered as part of the project *Measuring English Writing at Secondary Level* (MEWS). The project was co-founded by the *Swiss National Science Foundation* (SNF) and the *German Research Foundation* (DFG). Data collection took place in 2016/2017. Students were tested on their reading, listening, and writing skills in a longitudinal design with two measurement points. In addition to the language assessment, students were given an extensive background questionnaire, including questions concerning their media-related extramural English contacts. Media categories ranged from more traditional media categories, such as books and television, to newer online-based activities, such as social media or gaming.

This book is organized in the following way: Chapter 2 will discuss the role of English as a dominant language within the entertainment industry and show how the media landscape in Germany and Switzerland has changed over the last few years and how this might lead to increased extramural contact with EFL. Chapter 3 will then discuss gender and socio-economic background as two important social factors, which might influence media-related extramural English contacts. Chapter 4 will introduce the concept of incidental language learning from extramural language contacts. Chapter 5 will give an overview of the dataset and the operationalization of key variables. The empirical findings are presented in Chapter 6. In the interest of readability, the empirical results have been divided into three parts, one for each research question. Section 6.1 will discuss findings related to the overall frequency of media-related extramural English contact among students and highlight differences between the countries. Section 6.2 will

discuss the influence of gender and socio-economic background on those contacts. Section 6.3 will discuss the effect of these extramural contacts on students' language competences and integrate them with the influence of gender and socio-economic background by employing structural equation modeling. Chapter 7 will summarize and discuss the results. Again, the discussion for the three research questions has been organized into separate subchapters. In addition, limitations of the present study and suggestions for future research will be discussed. Chapter 8 will conclude and summarize the present study.

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The Media Landscape in Germany and Switzerland

2

The word *media* (singular: medium) is used to describe ways of communication within a society. The media includes any technical tool and channel through which information, opinions, or cultural properties can be transported, stored, and delivered to people. These tools or channels can be analog (such as books, newspapers, radio, television), or digital (i.e., tools for digital data storage and distribution, like computers and smartphones). This also includes the internet itself as a medium of mass communication and any digital form of former analog media channels, such as e-books or online newspapers (Bonfadelli, 2002).

Furthermore, the word media also refers to the actual content of these media channels or tools, i.e., any form of online or offline information, opinions, or cultural properties stored and shared. This content conveys meaning and messages to members of a particular community, for whom specific codes and symbols hold specific meanings. As a result, codes and symbols enable communication between the communicator (here: creator of the media content) and the recipient (here: consumer) (Bonfadelli, 2002).

Often, a distinction is made between *new* media forms, i.e., the internet and any tool used to interact with online content, and *old/traditional* media forms, such as books and television. However, given that these new media forms have been available for over two decades, the present study will simply use the term *media* to describe any form of analog and digital media content, as well as all forms of web-based entertainment and information, and any form of technology used to access and consume information or communicate with each other. The terms *media channel* or *media category* will be used to refer to different tools or channels, such as movies and books.

2.1 Contact with English Media Content in Europe

Since World War II, the United States has dominated the entertainment industry. As a result, many of the most popular movies, TV productions, and books are produced or written in the United States. In addition, many of the most popular musicians and artists in recent years have been from the United States, and musicians from outside the United States often choose to produce their music with English lyrics as well, establishing a music industry strongly dominated by the English language (Berns et al., 2007). Since music is usually not translated, songs sung in English have been widely accessible for the European audience for several decades.

By contrast, contact opportunities with other forms of authentic English-language media content have not been evenly distributed throughout Europe until recently. This can best be seen for three of the most popular leisure time categories: movies, TV series (i.e., multi-episode narratives, organized in seasons), and TV shows (i.e., non-narrative television programs, such as game shows, sports programming, or news broadcasts).

Smaller language communities in smaller countries like Sweden or the Netherlands have long had the tradition of subtitling foreign television programs and movies since their small populations make dubbing inefficient and expensive. In subtitled content, the original audio track (most often English) is still broadcasted, while subtitles in the local language are displayed at the bottom of the screen. As a result, regular and intense contact with authentic audio-visual English input has been a normal part of everyday life in these countries (Kuppens, 2010).

By contrast, countries with a larger population usually dub international movies, TV series, and TV shows. With dubbing, the original audio track is replaced with voiceovers in the local language of the audience. In addition, these countries usually have a large number of national media productions. International broadcasting programs, like MTV, might even decide to produce additional local content for these regions with local hosts to moderate TV shows in the country's own language, even though the music broadcasted is still predominantly sung in English. As a result, contact opportunities with the English language have been limited for audiences in bigger countries such as Germany in the past (Berns et al., 2007). This also applies to Switzerland, even though the country has a relatively small population in comparison, as the country shares three of its four national languages with Germany, Italy, and France. As a result, the Swiss audience traditionally has also had access to German, Italian, and French media content.

However, in recent decades, the rise of globalization and the emergence of the internet has transformed our way of consuming media content. For music, movies, TV series, and TV shows, the creation of online streaming platforms changed the way we listen to and watch audio-visual content. *Streaming* refers to “the activity of listening to or watching sound or video directly from the internet” (Cambridge dictionary).

While music sung in English has been widely accessible even before the advent of the internet, platforms like *Spotify*, *Deezer*, and *iTunes* now provide listeners with the opportunity to listen to a broader range of international music online and offline. Some platforms even offer the opportunity to display the lyrics on-screen while listening to a song.

For movies, TV series, and TV shows, subscriptions to online-based streaming services, like *Netflix* or *Amazon Video* usually offer multiple language audio tracks for their content. Viewers can thus choose between different dubbed versions or watch with the original soundtrack (which is often English). The platforms usually also offer a broad selection of subtitles. For example, Netflix usually offers dubbed audio tracks and subtitles in the original language of production, majority languages, as well as several other popular languages for a specific area. Therefore, viewers can choose the combination that best fits their needs and language competences.

In addition to these streaming services, the internet offers a wide range of free options to stream or download TV series, TV shows, and movies. Through these *free online streaming* websites, users can also get access to the original versions of movies, series, or shows. The legal status of these websites has been a matter of debate from the beginning. For Germany, a ruling by the *European Court of Justice* (ECJ) in 2017 made them de facto illegal (Focus online, 2020; Heckel, 2019; Wietlisbach, 2017). However, despite the ruling, an article in the German newspaper *Die Zeit* from 2019 reported the continuous popularity of these free streaming websites (Heckel, 2019). In Switzerland, free online streaming is still legal to this day, as long as the content is not downloaded (Wietlisbach, 2017). Therefore, free streaming websites and download servers might be a well-known option among adolescents in both countries. However, reliable empirical evidence has been sparse.

Apart from these online versions of more traditional media forms, the internet itself offers a vast amount of information, spanning a wide range of topics and themes. Among other things, websites can serve as sources for information or entertainment or can be used to sell and buy goods and services. In 2001 it was

estimated that at least 50% of the content online was in English (Berns et al., 2007). This high proportion can again be explained by the status of English as a lingua franca and the dominance of the American entertainment and technology industry. While other languages have increased in frequency and importance in the last few years, English still serves an essential role in distributing online content to people from different corners of the world (Web Technology Survey, 2020).

The internet has also created the possibility to actively communicate and interact with other people through posting, uploading, and interacting via websites, blogs, message boards, and social media platforms (R. Ellis, 2008; Medrano, 2014; OECD 2001-01-01, 2001; Thorne & Black, 2007). While many websites might offer the possibility to communicate with other users, social media platforms have increasingly become the driving force behind online communities. Social media platforms can be defined as websites that allow people to construct and maintain a public profile, upload content, pictures, and videos, and connect and communicate online. Users can usually choose which information they wish to share with other users in their network. As such, social media platforms are egocentric-driven networks (boyd & Ellison, 2007; Götz & Prommer, 2020). Networks are usually comprised of people users already know. Connections are thus often bi-directional. However, networks also allow users to follow others without the other person having to follow the user back to see their content (boyd & Ellison, 2007). Users can leave comments and messages on each other's profile sides, and most social media sides also offer private messages. Apart from allowing users to connect and communicate, social media sides usually also allow users to upload and share pictures and videos (boyd & Ellison, 2007). There are a small number of platforms, which dominate the market.

Facebook has established itself as the most important social media company over the last few years. The network offers users extensive possibilities to create and maintain an online profile and chronicle their lives. The platform also allows the sharing of pictures and videos. In addition to their network of friends, users can also follow and like profiles from, for example, brands or celebrities (Götz & Prommer, 2020).

In contrast, the platform *Instagram* is mainly focused on sharing pictures and (short) videos. The platform offers filters and other technological solutions to create high-end, aesthetically pleasing images. Users can comment on and like pictures and videos of other users, and follow each other.

Lately, the platform *TikTok* has gained widespread popularity, especially among the younger audience. The platform allows users to produce and upload short video clips, which are then presented to others through an endless video

reel. Like Instagram, users can follow each other, like each other's content, and leave comments (Götz & Prommer, 2020). For the present study, TikTok does not play a role as a possible source for contact with English for adolescents in Germany and Switzerland, as the app launched a year after data collection took place.

Video sharing is also the focus of *YouTube*. In contrast to Twitter and Instagram, users usually create and upload longer videos to the platform, covering a wide variety of topics, ranging from tutorials to music and dance videos or intimate insights into their private lives. The platform is the most popular platform for video content worldwide (Götz & Prommer, 2020). On YouTube, users can create their own channel and like and comment on each other's videos but not send private messages. Therefore, it could be argued that YouTube might not function as a social media platform in the strictest sense, since users do not necessarily chronicle their lives or communicate with others directly. However, users on YouTube still share content, and in fact many use the platform to share information about their lives. In addition, users can use the comment section to interact with each other (Götz & Prommer, 2020), and video makers can address their audience through their videos or start a live stream and answer questions. For this reason, Götz and Prommer (2020) define YouTube as a social media platform as well.

Like YouTube, the platform *Twitch* allows users to upload videos or start a live stream; however, the focus here is gaming. Users record themselves playing computer or video games and comment on their progress (Götz & Prommer, 2020).

The platform *Twitter* is sometimes described as a microblogging platform. The platform allows users to post short messages, so-called tweets. Videos and images can be attached, and users can like, forward, or comment on these tweets. Users can also send each other private messages. The platform has become increasingly important in the political realm (Götz & Prommer, 2020).

Instant messengers, such as *WhatsApp*, are usually not defined as social media platforms. They focus on individual private communications and usually do not include creating a visible profile and sharing pictures or videos with a larger network of people. However, these online-based messenger services also offer the possibility of communicating with others regardless of geographic location, without the high costs of a long-distance phone call (Götz & Prommer, 2020). *Snapchat* falls somewhere between these categories. The messenger offers the opportunity to communicate with friends and send each other video messages or pictures. However, the messenger also offers the possibility to follow others (Götz & Prommer, 2020).

Studies show that the individual platforms differ in terms of their popularity in different age groups and that the popularity changes over time: In 2020, Facebook was still the most popular social media platform, yet its importance was significantly lower for younger people. By contrast, TikTok seemed to be only relevant for people under 30. YouTube's popularity could also be shown to decrease by age. On the other hand, Twitter was mainly used by middle-aged people with high political interest (Götz & Prommer, 2020).

Social media has also become an important way to connect to audiences. As a result, many actors, musicians, athletes, and many broadcasting agencies and publishing houses (e.g., CNN, BBC) have begun publishing content on video platforms like YouTube and other social media sides. Again, American and British celebrities and production companies tend to be the most significant on the market.

With the rise of social media, a new type of celebrity, so-called *influencers* or *content creators*, emerged. They can be defined as

“[...] people who have built a reputation for their knowledge and expertise on a specific topic [e.g., food, sports, fashion, music, and gaming]. They make regular posts about that topic on their preferred social media channels and generate large followings of enthusiastic, engaged people who pay close attention to their views.” (Influencer Marketing Hub, 2020).

Many influencers allow intimate insight into their private lives by *vlogging* (video blogging) and photographing their everyday activities. Others prefer to focus on a specific topic and only sparsely share private information. Instead, they create videos on specific topics, prefer to produce as a group, or work for bigger production companies that host their content on corporate channels.

English once again plays a vital role as the language of communication here. Some of the most famous influencers come from the US and the UK, and other influencers use English as their language of communication, although they are not native speakers, most likely because it increases their accessibility for a larger audience.

People follow, like, comment, and share the videos, posts, and pictures produced and uploaded by influencers. Successful influencers can have up to 100 million followers. Because of their influence, especially with younger audiences, companies often pay them to endorse specific products that fit with their content. In addition, successful influencers often establish their own product lines (e.g., clothes, cosmetics), write books, monetize on their number of views, and act in movies and TV series (Döring, 2019; Influencer Marketing Hub, 2018). This is

also reflected in the definition of the term influencer used by the Cambridge dictionary. Here an influencer is defined as “a person who is paid by a company to show and describe its products and services on social media, encouraging other people to buy them.” (Cambridge dictionary). For influencers, social media is their profession.

YouTube is one of the most important platforms for influencers and content creators, as it offers the possibility of uploading long videos and provides the opportunity to directly monetize on the number of views a video gets (Bishop, 2018; Götz & Prommer, 2020). However, most influencers are also active on various platforms and usually have an account on Instagram, TikTok, and—to an increasingly lesser degree—Facebook. For the gaming community, the interactive video platform Twitch has also become important (Götz & Prommer, 2020). In addition, some influencers also produce other formats, such as podcasts.

As this overview shows, the technical developments in the last few years have made it possible for people to enjoy a wide array of authentic English-language media content and get in contact with people from all over the world (Medrano, 2014; Thorne & Black, 2007). All that is needed is internet access and a smartphone or a computer.

Nevertheless, there has been only limited empirical evidence for Germany and Switzerland on how much people use these contact opportunities to get into contact with the English language. The present study aims to close this gap by providing an in-depth overview of the frequency and forms of media-related contact to English as a foreign language by adolescents attending upper secondary education. In order to refer to this type of voluntary out-of-school contact with English as a foreign language, the study will employ the term *extramural contact* (Latin *extra—outside, and mural—wall*; Sylvén, 2019) as defined by the Swedish researcher Sundqvist (2009a, 2009b, 2011). Such contact is most likely strongly driven by an appreciation for the media content or a desire to communicate with others and not motivated or initiated by the educational system (e.g., in-class instructions, homework) (Sundqvist, 2009a, 2009b, 2011). The present study will thus not include any form of media-related English contact initiated by the school. Nevertheless, individual reasons for this contact may vary and might also include the possibility that learners might wish to practice their language skills outside of the classroom.

While empirical evidence for media-related extramural English contacts in Germany and Switzerland is scarce, several studies have investigated the general media use of adolescents in both countries. National media studies have repeatedly shown that adolescents in both countries use and engage with online

and offline media content almost daily. The data also suggest that the usage of online media is steadily increasing. The remainder of this chapter will therefore summarize empirical findings for adolescents' media use in Germany and Switzerland in general before providing an overview of the few studies concerned with possible media-related extramural English contact in both countries. This will be followed by a summary of results from international studies about extramural contact through media channels in young learners of English as a foreign language.

2.2 Empirical Evidence

In 2000, analysis from the Swiss sample of the *Program for International Student Assessment* (PISA) found that 43% of Swiss students spent time online regularly, and 37% used the internet to communicate. These numbers were significantly lower than in other countries participating in the PISA study but revealed an upward trend compared to former cohorts. Newer empirical data indicates that the numbers have increased dramatically over the past few years.

For Switzerland, the JAMES study (*Youth, Activities, Media—Survey Switzerland*) regularly investigates the media use and media habits of Swiss teenagers aged 12 to 19. Reports are published every two years. The data from 2016 is the most comparable to the dataset used in the present study. The data reveals that in 2016 almost all Swiss households had at least one smartphone and that 99% of adolescents even had a personal smartphone and used it every day. In addition, 97% of households had access to the internet, 99% had at least one laptop or computer, and 76% of adolescents owned a personal computer. A television was also present in most households (96%), although only one-third of the adolescents had one of their own (30%). The use of subscription-based streaming services had also already become more prevalent in Switzerland in 2016, with 38% of the households having a subscription (Waller et al., 2016, p. 13 ff).

Regarding media activities, almost a third of all participants in 2016 indicated that they read multiple times per week, yet digital media content was more popular. Almost all Swiss adolescents listened to music (93%), surfed the internet (95%), watched videos, and used social media platforms and the internet almost every day (Waller et al., 2016, p. 22). Thirty-two percent of the adolescents in Switzerland watched television daily and 41% at least multiple times a week (Waller et al., 2016, p. 13 ff). Popular movies included *Harry Potter*, *Fast & Furious*, *The Hunger Games*, and *Star Wars*. *The Big Bang Theory*, *The Simpsons*,

Navy CIS, and *Pretty Little Liars* were the most popular TV series (Waller et al., 2016, p. 26 & 28). These results show that all of the most popular movies and TV series in 2016 were produced in the United States and the United Kingdom. Consequently, the language of production for all of them is English.

Data from the 2018 cohort confirmed the continued trend for digital media activities, and ownership of technical equipment still reached almost 100%. In addition, adolescents spent a considerable amount of time engaged in online media activities (Suter et al., 2018). One of the most noticeable differences to the cohort in 2016 was the increased percentage of subscriptions for streaming services for Swiss households (from 38% to 56%). Half of all participants in 2018 also reported having a subscription to a music streaming service (Suter et al., 2018, p. 21).

For Germany, the JIM study (*Youth, Information, Media*) investigates adolescents' media use. The study is carried out annually and interviews teenagers between the ages of 12 and 19. The cohort closest to the last JAMES cohort and the data of this study is from 2017. The results reveal the widespread access to technological devices in Germany. Almost all adolescents in 2017 had a personal smartphone (97%) and access to a computer with internet at home (98%). Sixty-nine percent had a personal computer. Streaming services were also available for half of the German households (54%), and 28% had a subscription for pay-television (MPFS, 2017, p. 7 f).

These technical devices were already a daily routine for German adolescents in 2017: almost all adolescent used their smartphones (93%), surfed online (89%), and listened to music (83%) every day. Almost half of the students watched television (45%) every day. Sixty-two percent watched online videos daily. Watching via streaming services or free online streaming websites was not as widespread in 2017, as only 16% engaged in this activity every day (MPFS, 2017, p. 13). *The Big Bang Theory*, *How I met your mother*, and *The Simpsons*, were the most popular TV series in Germany (MPFS, 2017, p. 41). All of them are produced in the United States.

Apart from these online-based media activities, 40% of the adolescents also reported reading at least multiple times per week. However, 18% of the adolescents in the study stated that they never read books (MPFS, 2017, p. 19 f).

The newest JIM cohort from 2019 confirmed the upward trend for technical equipment and online media content. As for Switzerland, streaming services for music, movies, TV series, and TV shows had become more widespread in Germany, too. In 2017, the smartphone had already become an essential technical

device for adolescents in terms of online media (MPFS, 2019). Despite the popularity of online activities, reading remained a popular leisure time activity for at least a third of German adolescents (MPFS, 2019, p. 13).

The *International Computer and Information Literacy Study* (ICIL) also confirmed the increasing importance of online media content among young people in Germany and Switzerland. The study investigated computer-related leisure time activities for 8th grade students in multiple countries. For Germany and Switzerland, the study could show that even younger adolescents regularly engaged in online communication via social networks or messaging apps (Germany [G]: 80%; Switzerland [CH]: 77%), listened to music (G: 78%; CH: 76%), researched things that interest them online (G: 62%; CH: 56%), watched movies, TV series, and TV shows (G: 54%, CH: 58%), sent voice chats (G: 48%; CH: 50%), played games (G: 48%; CH: 41%) and posted comments online (G: 46%; CH: 45%). Actively uploading or writing their own content online was slightly less popular (Fraillon et al., 2014, p. 138 ff).

As discussed before, there is little empirical data for media-related extramural English contact for Germany and Switzerland. An older study from Hasebrink et al. (1997) presented results for the English media habits of German adolescents before the turn of the millennium. Participants reported regular contact with English mainly through music (radio or records) (Hasebrink et al., 1997, 163 ff).

In a follow-up study, Hasebrink (2001) indicated that contact with English at the beginning of the new millennium for most people in Germany was still mostly limited to interaction during holidays. For younger people (9th grade), music and the computer provided additional sources for contact. One of the few broadcasting stations providing English input on television was the music channel MTV. English movies were less popular and not as easily accessible.

A few years later, Grau (2009) could show an increased out-of-school contact with English among 9th graders in Germany through music. In addition, her data also documented the widespread popularity of English TV series and TV shows on the music channel MTV. While MTV does produce localized content (see above), most of their original non-music-centered TV series and reality TV shows are from the United States and the United Kingdom. While German and Swiss broadcasting stations usually dub their international content, MTV adopted the tradition of airing these series and shows with the original English audio track and German subtitles early on. By doing so, the network provided one of the earliest contact opportunities with authentic English media content in Germany and Switzerland.

In 2017, the JIM study also included some questions about participants' use of English media content. Overall, 23% of the participating adolescents said they watch English TV series, and 19% said they watch English movies at least once a week via platforms like Netflix, Amazon, and YouTube. Older adolescents had slightly more contact, with 31% of the 16- to 17-year-old and 28% of the 18- to 19-year-old saying they watch English TV shows regularly, while 21% and 27%, respectively, say they watch English movies (MPFS, 2017, p. 42 f). At the time of this dissertation, the JAMES study had not included any questions about media-related extramural English contact for Switzerland.

Data from international studies have shown a high level of extramural English contact for adolescents in smaller countries, such as Sweden or the Netherlands.

Sundqvist found that almost all of the $n = 80$ Swedish students in her sample came into regular contact with English outside of school. Listening to music was the most popular activity (Sundqvist, 2009a). Sixty-six percent of the students also watched English TV series with Swedish subtitles almost every day, and 30% watched them at least once per week. Thirty-four percent of students reported watching English movies daily, and 41% watched English movies at least once per week. Fewer students watched TV series and movies without subtitles, and even fewer students chose to read newspapers or magazines in their leisure time (Sundqvist, 2009a, p. 125 f).

Nevertheless, Sundqvist's sample also showed a high level of intra-individual variation: while eight students (mostly male) spent up to 40 hours per week with English media content, some students hardly reported any extramural English contact at all. The high-frequency users in her study were all frequent gamers, most of them involved in highly interactive online gaming, which brought them into intensive contact with other players throughout the week. They were also engaged in listening to English music and watching English TV series, but seldom read English books (Sundqvist, 2009a).

Olsson (2011) found similar results for her sample of Swedish students ($n = 37$). Almost all students listened to English music daily (86%). TV series with subtitles came in second (Olsson, 2011, p. 34 f). Olsson also attributes these high numbers to the dominance of the anglophone media in Scandinavia and the tradition for subtitled rather than dubbed TV programs. She concludes that "all [Swedish] pupils watch English-speaking programmes or films on TV, which is difficult to avoid if you watch TV at all" (Olsson, 2011, p. 44). In addition, 41% of the participants in her study said they speak English regularly outside of school (Olsson, 2011, p. 34 f).

Peters (2018) reported frequent exposure to English outside the classroom for his sample of seventy-nine 16 and 19-year-old Flemish students. The students came into contact with English via songs, movies, and TV series with and without subtitles. They also browsed on English-language websites and played games in English; however, these activities were less popular than the audio-visual input. Input through traditional written material, such as books or magazines, was the rarest form of contact with the English language (similar to the findings from Sundqvist and Olsson). The younger age group was more engaged in computer games than the 19-year-old first-year university students. By contrast, university students were more active in watching non-subtitled TV series and movies. These findings show that while the overall amount of exposure might not differ between adolescents of different age groups, the focus of activities might shift over time (Black, 2009; Peters, 2018).

Toffoli and Sockett (2010) investigated the extramural English contacts of $n = 222$ university students from Strasbourg. While their sample is slightly older than the rest of the studies reported here, the results offer an interesting insight into the media habits of French learners. In France, like in Germany and Switzerland, international movies, TV series, and TV shows are traditionally dubbed. In addition, France also has a rich and unique national media landscape with a high number of national productions. It is, therefore, interesting to see which role authentic English media content plays in such a media landscape. The results show that almost all students (90%) listened to English content at least once a month. Half the students even engaged in online listening activities at least once per week. Reading English content online was less popular among the respondents. Most students preferred a mix of English music, movies, and TV series. Fewer than 10% of students listened to English music only. Students also engaged in English online reading and communication activities, especially on social media. However, communication was most often short and personal (i.e., commenting or writing on friends' walls) and took place between non-native speakers. However, students also indicated that their messages tend to get longer and more sophisticated over time. The results show very little oral communication online, for example, via video calls (Toffoli & Sockett, 2010, p. 6).

Toffoli and Sockett (2012) also conducted an in-depth qualitative study of five students from the original sample to further investigate the actual time spent on English content, the persistence over time, and how learning might have taken place. Results showed that learners spent up to 20 hours with English online content per month. They communicated with others regularly, both synchronously and asynchronously, via social media sites and chatrooms. All students watched English movies and TV series online on free streaming websites. One reason for

watching the English version online was that students did not want to wait until the dubbed version was available. Once they had started watching the original, they did not want to switch back to the dubbed version. The students not only listened to music passively but also looked up song lyrics online. Websites visited by the students were often related to their field of study, and the same sites were visited multiple times (Toffoli & Sockett, 2012).

Similar to Toffoli and Sockett, Kusyik and Sockett (2012) asked 45 French students how often they engaged in media-related extramural English contact. Results showed that almost half of the students watched English TV series regularly (i.e., more than once a week). The most popular series were all productions from the United States. Most students watched with French subtitles, with fewer choosing to watch with English subtitles, while only 10% watched without subtitles. Most students obtained the episodes they watched by downloading or streaming them from then still legal free streaming websites.

Most learners were convinced that watching movies and TV series would help their vocabulary knowledge, thus pointing to the fact that learners might be aware of possible learning benefits of extramural English contacts. This is also evident by the fact that ‘improving one’s English skills’ was listed among the three most important reasons for watching English TV series. However, it is unknown if learners took active steps to foster their learning processes (Kusyik & Sockett, 2012).

2.3 Conclusion

Overall, the empirical evidence shows a strong trend for regular media-related extramural English contact for children, adolescents, and young adults in smaller European countries. Music has been shown to be the most popular media category, which is not surprising given the high amount of music sung in English. However, the data also shows the increasing popularity of watching TV series, TV shows, and movies in English. Here students often choose to watch with the original English audio track and subtitles. In addition, students also like to surf on English-language websites or engage in social media activities.

The data from France also shows that extramural contacts are popular even in countries with larger populations and a tradition of dubbing audio-visual content. These results show that contact with English-language media content nowadays is not solely dependent on national broadcasting traditions.

For Germany and Switzerland, reliable data on media-related extramural English contacts is still scarce. Nevertheless, data from German and Swiss media

studies show that American and British TV series and movies are widely popular among adolescents and that adolescents have the necessary technical equipment to access authentic English-language online media content.

The results allow some conclusions to be drawn concerning possible extramural contacts in the two countries: First, adolescents in Germany and Switzerland traditionally have already had a high level of extramural English contacts via music.

Second, it can be assumed that the growing prevalence of legal and illegal streaming options is increasingly tempting young people to consume the original versions of TV series and movies. This development is most likely driven by the prestige of these original versions and their earlier release date. As studies from Scandinavia have shown, this can lead to a culture in which dubbing is seen as a distortion of the original work (Berns et al., 2007), and watching original versions becomes a lifestyle.

Third, the dominance of the English language on the internet and the fact that most adolescents use the internet daily will most likely result in a high rate of exposure to English content online.

Fourth, the increasing importance and popularity of social influencers, with the most popular one being situated in the US and the UK and others choosing English as their language of production, will probably lead to increased extramural contact via social media platforms among German and Swiss adolescents.

Although not the focus of the present study, it should be noted that teachers can also play a vital role in the frequency and intensity of students' media-related extramural English contacts. They might make young learners aware of the opportunity for informal language contact through media content or introduce specific media channels and topics in the classroom, thus familiarizing students with them. They might also play a vital part in motivating students. However, teachers' involvement will only lead to voluntary extramural contact if their involvement is limited to motivational advice. Any homework assignment or supplement material would mean the resulting contact would not fall under the definition of extramural contact used in the present study.

Following these considerations, it can be assumed that media-related extramural English contacts have a steady presence in students' lives and that students engage in them at least multiple times per week. The first hypothesis for the present study is, therefore:

H1: The majority of adolescents in upper secondary education in Germany and Switzerland engage in daily or almost daily media-related extramural English contacts via various online and offline media channels.

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The Digital Divide

3

The empirical evidence provided in Section 2.2 showed widespread ownership and use of modern technological equipment in Germany and Switzerland. While it might be tempting to think of the resulting media preferences and media use as a personal preference and an individual choice, data from media studies have repeatedly shown the influence of two social factors: gender and socio-economic background. The following chapter will introduce the theory of social (media) habitus and the concept of doing gender to explain how social disparity lines create a digital divide and influence media preferences and media habits.

The term *digital divide* is defined as a difference in access, frequency, and patterns of usage, as well as the knowledge about and the motivation for using technology (Eickelmann et al., 2014; Wendt et al., 2014). Similarly, the OECD (*Organization for Economic Co-operation and Development*) defines the digital divide as

“the gap between individuals, households, businesses and geographic areas at different socioeconomic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities” (OECD 2001-01-01, 2001, p. 5).

The present chapter will outline how these differences most likely also result in different opportunities and frequencies for media-related extramural English contact for adolescents in Germany and Switzerland.

3.1 Socio-economic Background and Media-related Extramural English Contacts

As has been shown in Chapter 2, the internet has created new and informal opportunities for out-of-school contacts with English. Subsequently, the classroom, traveling, or exchange programs abroad are no longer the only way to get into intensive and prolonged contact with EFL. Data from national media studies also showed that most adolescents in Germany and Switzerland have the necessary technical equipment to engage in these media contacts. Nevertheless, the empirical data shows that general media use is not evenly distributed throughout society. For example, results from both the JIM and the JAMES study show that adolescents from higher socio-economic backgrounds on average read more often and spent less time surfing online or playing computer games (MPFS, 2017; Waller et al., 2016; for a detailed summary see Section 3.1.2). This chapter will draw on Bourdieu's theory of class distinction and social habitus to explain persisting differences in media use between people from different socio-economic backgrounds.

3.1.1 Socio-economic Background and Media Habitus

According to Bourdieu, every form of contact with art, music, and media products should be understood as rooted in social practice and influenced by the specific disposition of one's social class and origin (Bourdieu, 1983, 1987). Bourdieu categorizes social classes by their possession of three forms of capital: First, *economic capital*, which is comprised of money or any form of resources that can be transformed into money (e.g., stocks, land, or property). Second, *social capital*, which can be understood as a person's social network and can be utilized to one's own advantage. It is thus also linked to the aggregated capital within one's personal network. Third, *cultural capital*, which is comprised of resources that enable a person to participate in the cultural practices of society. Cultural capital can be further divided into three dimensions: (1) *Objectified cultural capital*, i.e., all forms of cultural belongings, such as books and paintings. (2) *Institutionalized cultural capital*, i.e., educational titles and diplomas. (3) *Incorporated cultural capital*, i.e., the physical embodiment of cultural habits, skills, and dispositions (Bourdieu, 1983, 1987).

Economic, social, and cultural capital are interlinked, with economic capital being the prerequisite for the production and reproduction of social and cultural capital within families. Economic capital frees families from monetary obligations

and the requirements of the everyday life of the working class. As a result, families with a higher economic capital can not only accumulate institutionalized and objectified cultural capital over time, but also develop a specific set of behaviors, tastes, and aesthetics representing this freedom (Bourdieu, 1987). This set, this *social habitus*, is “a system of durable, transposable dispositions which functions as the generative basis of structured, objectively unified practices” (Bourdieu, 1979, p. vii).

The social habitus is internalized by children during their primary socialization, with parents and other adult family members serving as role models who have incorporated the cultural capital from their parents. In this way, social habitus is reproducing itself in each generation. A person’s social habitus is thus the result of a specific set of circumstances of life which is both the result and the prerequisite for its own reproduction (Bourdieu, 1983, 1987).

Learned in early childhood and ingrained in our very persona, the social habitus influences people’s pattern of behavior and (aesthetic) taste. As a result, children from different social origins will learn to appreciate different forms of aesthetic products, such as music, art, and movies. This influence is strongest for those forms of aesthetic taste that are not explicitly taught by the educational system. Thus, all children learn to recognize the most popular forms of art deemed legitimate and important within a given society, while the taste for aesthetic forms, behaviors, preferences, and attitudes not taught in school is the most influenced by a person’s social upbringing. This also includes the taste for art, media, and technology (Bourdieu, 1987).

The social habitus is thus *structuring* and *structured* structure: the circumstances of life and the available resources are incorporated and influence a person’s perception and disposition (structuring structure). By structuring the way people see and experience the world, the habitus also influences and restricts behavior, thus creating a specific lifestyle and taste (structured structure) (Straub, 2006).

According to this theory, groups of higher social status will prefer cultural products associated with higher cultural status – although it is in fact they who mark specific types of aesthetic taste as legitimate, to begin with, because of the power they hold within society. By contrast, social groups of lower cultural status prefer products associated with lower culture status. Consequently, the social habitus marks one as a member of a specific social group and makes taste in music, art, and other aesthetic forms a powerful status symbol and social marker for distinction. This is also the reason why people often resent or look down on specific forms of art or music associated with social groups of lower status (Bourdieu, 1987).

According to this theoretical framework, a person's frequency of media use, preferred media content, and affinity towards technology should therefore be understood as a form of learned social behavior. In order to define this social nature of media behavior, Biermann (2009, 2013) proposed the term *media habitus*. This media habitus is not a separate form of habitus but rather a part of the overall class specific habitus. As such, the media habitus is also a product of socialization and represents long-lasting and unconscious dispositions passed down from parents to children. This mechanism is usually unconscious. Parents function as role models and mentors simply by exhibiting a specific pattern of media and technology habits, a preference for particular media content, and a certain level of media competency (Biermann, 2009, 2013). However, parents might also shape their children's media behavior through direct rules and parenting guidelines, as well as their level of involvement in their children's media consumption habits (Graham, n.d.).

It should be mentioned that Bourdieu himself emphasized that this effect of socio-economic background should not be understood as a deterministic relationship for two reasons: First, the relationship between socio-economic background and the production and reproduction of the social habitus is a statistical one, not a deterministic one, i.e., people can be outliers. Therefore, socio-economic background most likely influences media habitus, but the effect is not absolute (Bourdieu, 1987).

Second, the structure of the individual dispositions of a given person is not determined by one single factor, not even one as important as the social class. Instead, specific individual dispositions result from many factors, such as social class, age, gender, place of residence, which each influence the specific circumstances of life. Thus, even within a given social class, smaller class fractions will have their own specific structures. This is also true for predicting the trajectory and development a person will go through in life (Bourdieu, 1987). However, even a system of factors would not be differentiated enough for a thorough analysis, for although all these factors have explanatory power in all fields, the weight of the factors varies from field to field (Bourdieu, 1987). Thus, the relationship between socio-economic backgrounds will be complex. In order to understand this complex structure for each field, much more complex analyses would be necessary, as are employed by most studies. Therefore, empirical results might find substantial variation in the (media) habitus of people within a given social class (Bourdieu, 1987).

In addition, children and adolescents often develop interests independent of their parents, undergo self-socialization processes, search for information and answers, or play with interests and identities (Henrichwark, 2009; Kommer, 2008;

Senkbeil & Wittwer, 2009; Straub, 2006). Peer networks will also play a crucial role in this process (Straub, 2006). Here adolescents talk about their interests, share stories and opinions, and talk about the media content that is important to them. Peer networks, therefore, often share similar interests in specific media topics and genres. These groups are also often where children and adolescents come into first contact with computers and the internet (Straub, 2006). While most friendships transcend the shared interest in media topics and genres, some communities might be specifically linked to a shared interest, e.g., fan clubs (Straub, 2006). Unfortunately, the influence of peer networks and self-socialization processes could not be investigated in the present study.

Nevertheless, despite their influence, these facts do not necessarily undermine the importance and influence of the socio-economic background. As Kommer (2008) points out, it can be assumed that the effect and development of self-socialization processes and peer networks strongly depend on the specific history of the individual child. Reactions are most likely dependent on the individual conditions under which childhood socialization took place and will probably be similar among children from similar contexts. Simply put, for the individual reading habits to develop, it does matter whether a child grew up in a family where reading is a frequent pastime or in which the television is the only source of entertainment (Kommer, 2008, p. 22).

Overall, Bourdieu's concept of the social habitus – and by extension of the media habitus – certainly retains its relevance. The habitus concept still allows for a systematic and theory-based analysis of inequalities and milieu-specific differences in the socialization process (Kommer, 2008). Their importance has also been continuously confirmed in empirical studies. The following section will summarize critical findings for this continued importance for adolescents' media use in Germany and Switzerland. In addition, findings from national and international studies concerning the relationship between media-related extramural English contact and socio-economic background will be discussed.

3.1.2 Empirical Evidence

Bourdieu himself underlined his theoretical framework with extensive empirical evidence from his research in France (Bourdieu, 1987, p. 22). However, in recent years, scientists have critiqued Bourdieu's one-to-one mapping of social status and cultural consumption as being too narrow and proposed a more complex system of relationships between socio-economic status and aesthetic taste. For

example, Alderson et al. (2007) were able to show empirical evidence for members of higher social status groups to be more like *omnivores*, enjoying a wider diversity of cultural products and engaging in a number of different activities. By contrast, *paucivores* prefer a more neutral taste. These groups tend to favor the most popular cultural products and do not show a taste for anything radical or liberal. Last, *inactives* were shown to have no particular interest in any evaluated cultural products, not even the most popular (Alderson et al., 2007).

Katz-Gerro (1999) also found widespread acceptance for some cultural products and activities among members of all social classes. The study also found certain social classes being open to a broad range of tastes, showing a decreased importance of social habitus for specific media and entertainment behavior.

Similarly, Thomas (2012) argued that while in former years media consumption was strongly linked to social class, with middle-class parents restricting their children's use of games in favor of more educational activities, recent research suggests that this is changing. Pop culture is no longer seen as an antithesis to serious learning (Thomas, 2012).

However, despite these changes, the results still showed the continued influence of the social habitus for people's choice of leisure time activities and cultural consumption. Kommer (2013) also underlines the importance of the media habitus for understanding people's media habits and preferences. According to him, the idea of decreasing social disparities in media behavior is little supported by empirical data and overemphasizes the idea of free choice while ignoring the social embeddedness of media activities.

For Germany and Switzerland, various empirical studies have also underlined the continued importance of socio-economic background factors for media and technology habitus over the last decades. However, the results have also supported the notion that patterns of media habitus might have shifted.

At the beginning of the new millennium, Korupp and Szydlík (2005) showed a significant effect of the educational and economic family background, as well as household composition on ownership of computers and internet use at home in Germany between the years of 1997 and 2003. Households with a higher educational level and a higher income level were associated with a higher probability of owning a computer and going online. Using a computer at work also increased the probability of using the computer at home, as did living with adolescent children in the house.

Results from the JIM study from 2017 showed German adolescents from lower educational backgrounds to be still more likely to have access to personal televisions and stationary gaming consoles. By contrast, children from higher educational backgrounds were more likely to possess their own laptop, radio, MP3-Player and E-Book reader (MPFS, 2017).

Results for Switzerland were similar. In 2016, the JAMES study reported adolescents from lower socio-economic backgrounds to be still less likely to own much technical equipment (Waller et al., 2016). However, the data also revealed that ownership of smartphones and computers, as well as internet access among adolescents, was almost at a 100% level in both countries, with only small differences remaining (MPFS, 2017; Waller et al., 2016).

In terms of actual media habits, the JIM study in 2017 showed a continued difference between social groups. According to the results, children from higher socio-economic backgrounds on average own more books and read significantly more often in their free time. They also listen to the radio significantly more. In contrast, children from lower educational backgrounds display far more restraint when it comes to reading for pleasure. They also tend to spend more time with computer games, as well as surfing and communicating with others online, or watching videos on platforms such as YouTube. When surfing online, they are also more interested in topics such as vocational training, gaming, and nutrition. Children from higher educational backgrounds spent significantly less time surfing. When they do, they tend to use the internet in a more versatile way, as they more often search for information or explore topics such as politics, world affairs, and personal problems (MPFS, 2017).

Despite these identified differences, the study also found entertainment-centered media to be important for all adolescents, independent of their educational background (MPFS, 2017). This is in line with findings from Katz-Gerro (1999) and Thomas (2012), as it supports the idea that some forms of media content have become widespread among members of all social classes. It also supports the idea that adolescents from higher educational backgrounds are more likely to be *omnivores*, who enjoy a wide array of media content. However, the data from the JIM study underscores the notion of children from lower socio-economic backgrounds being more limited in their media habits.

For Switzerland, the JAMES study found adolescents from lower socio-economic backgrounds to chat less frequently online, post on message boards, or write mails. In addition, adolescents from lower socio-economic backgrounds were also shown to be less likely to download movies and watch them on a smartphone. Similar to Germany, adolescents from higher educational backgrounds tended to own more books and read more frequently than adolescents from lower educational backgrounds (Waller et al., 2016). Surprisingly, however, the study did not find a significant difference in the frequency in which adolescents surfed online or played computer games. Adolescents from different backgrounds also did not differ in the content they engage with and post on these platforms (Waller et al., 2016).

Henrichwark (2009) also yields interesting insight into the media habitus in Germany, although her sample of 3rd grade primary school students was slightly younger than the targeted sample for the present study, and her investigation was focused on educational media use and media literacy, not leisure time activities. Her results are however interesting, as she was able to show that young children already differ in the way they categorize digital media content. While young children from higher educational backgrounds are aware of the educational purpose of various media categories, children from lower educational backgrounds tend to see media as pure entertainment and do not see the potential educational benefits.

In addition, in families with lower educational backgrounds, computers, gaming consoles, DVD-players, and other electronics are mostly bought for their function as status symbols and used for their entertainment purpose. Listening to music, downloading content, chatting, and violent action-based games are the main focus of media activities in these families. Educational functions for this equipment are mostly not seen. Families from lower socio-economic backgrounds were also shown to invest less in books and other cultural objects, as they have no daily relevance for them (Henrichwark, 2009).

Her results also emphasize the role of parents in the reproduction of the class-specific media habitus in the next generation. Her results show that parents from lower educational backgrounds are less proficient in using the internet and computers themselves (Henrichwark, 2009). They often rely on the help of their children for their own online communication. They also tend to regulate their children's internet and media use with strict rules to protect them from harm. These rules are not always effective, as the children find creative workarounds. By contrast, parents from higher educational backgrounds prefer a more participative parenting style concerning their children's digital media use (Henrichwark, 2009).

This is in line with findings from Graham (n.d.), who showed middle-class parents in the United States to be more involved in their children's media activities and leisure time activities while still allowing their children to have some autonomy. On the other hand, working-class parents tend to set clear boundaries for their children (e.g., restrictions on gaming time), which they expect to be obeyed, yet do not take as much interest in the details of their children's activities. As a result, children from working-class backgrounds tend to play a larger variety of computer games, while middle-class children are often more restricted in their choice of games but have more room for negotiation. These results underline the notion that parents from higher educational backgrounds not only participate in their children's media behavior and serve as role models rather than setting strict rules; but they are also more proficient with digital media themselves, thus serving as guides for their children.

Stecher (2005) could also show that children and adolescents from different backgrounds differ in the degree to which they saw different media content as potential sources for informal learning opportunities. Students from higher educational backgrounds tend to attest less learning potential to watching movies, TV series, TV shows, and surfing and chatting online (in comparison to watching the news, reading books or newspapers).

Data from the PISA study in 2006 also showed that students from households with higher educational backgrounds and a higher degree of internal communication tend to use digital media sources in a more educational way. They are also better equipped to filter information from the media and use it efficiently for their own purposes (Senkbeil & Wittwer, 2009). Similar to Henrichwark, the results also showed that families with a lower educational background emphasize the entertainment aspect of media and avoid reading or using the computer for educational purposes (Senkbeil & Wittwer, 2009).

The study also found a group of students who almost never engages in media behavior. They were characterized by low levels of investment in technical and cultural resources and little communication within the family (Senkbeil & Wittwer, 2009).

On the other hand, the PISA results underline the fact that while media behavior is influenced by socio-economic background, the effect is not absolute. In fact, the effect sizes for family background were small in comparison, and the results showed that media behavior is also strongly influenced by the independent development of interests by the students and the influence of the peer group (see above). Thus, while media is still rooted in the media habitus, other factors also shape the development of the individual media behavior (Senkbeil & Wittwer, 2009).

To the best of this author's knowledge, the JIM study 2017 is the only empirical study investigating a possible effect of socio-economic background on media-related extramural English contacts in Germany. The study reported that older adolescents from higher education backgrounds tend to have a higher frequency of watching English movies and TV series online (MPFS, 2017). Further empirical evidence is lacking for both countries.

International empirical evidence is also scarce. Olsson and Sylvén (2015) did not find a significant correlation between students' educational background and their frequency of extramural contacts, but they do not elaborate on this finding further. Similarly, Sundqvist (2009a) did not find a significant effect for students' educational background or cultural capital (measured in books at home)

on extramural contact overall. However, she found children from higher educational backgrounds to indicate a significantly higher rate of extramural contact via reading English newspapers and magazines. Cultural capital again did not show any significant effects. The author concluded that social background seems to play a marginal role for media-related extramural contacts in Sweden. She explained these findings with the fact that the standard of living and technical equipment, in addition to the traditionally high level of authentic media content available in Sweden, probably make media-related extramural English contacts evenly distributed throughout almost all social groups, rather than for them to be a marker of social disparities (Sundqvist, 2009a).

Apart from these findings, there is little international empirical evidence on the influence of socio-economic background on media-related extramural English contacts. Nevertheless, it can be assumed that these media habits follow similar patterns as media use in general.

Further evidence for the possible patterns of media-related extramural English contacts can be drawn from Rolff et al. (2008). In their study, the authors showed that socio-economic background also affects the language practices within a family and, as a result, students' attitudes toward the English language and motivation to engage in English contacts outside of school. In the study, the use of English within the family, as well as parents' English competences and language use at work, had a significant positive influence on students' English competences. Similarly, parents' perceived importance of English for their children's future and their interest in their children's English lessons also showed a significant effect on students' language competences. The results also showed that when introducing these so-called process factors into the statistical model, the effect of the two structural factors for educational, monetary, and cultural resources became non-significant. This finding pointed towards a mediating model in which the institutionalized and objectified cultural capital and the monetary resources do not have a direct effect on learners' language competences. Instead, these structural factors influence the nature and form of a family's incorporated cultural habitus—in the form of language attitudes and language competences—which in turn has a direct effect on children's language development. The results thus support the importance of parental behavior and attitudes for children's language development (Rolff et al., 2008).

Lindgren and Muñoz (2013) support these findings. In their study, the authors showed evidence for the importance of parents' language competences and attitudes towards a foreign language on children's language competences. As the authors conclude, if parents speak English well and use it frequently at work, English becomes a natural part of a child's everyday life from an early age. Parents might also be more inclined to get involved in their children's English education and try to introduce forms of out-of-school contact to their children. As a result, children will develop a positive attitude towards EFL and a higher motivation to learn the language (Lindgren & Muñoz, 2013; Rolff et al., 2008).

3.1.3 Conclusion

The empirical results discussed in this chapter point towards the continuing importance of the socio-economic background for media behavior and media preference, as parents will, unconsciously, pass down their media habitus to their children. However, the literature review has also displayed some tendencies towards equalization in technology ownership in both countries. Most adolescents have access to the internet, smartphones, and computers. Nevertheless, students from higher socio-economic backgrounds are more likely to have their own technical equipment, except for gaming consoles.

Empirical results have also shown that the widespread ownership of technology does not translate into uniformity of user habits and preferences. Some media channels and activities, such as surfing, have become widely popular among members of all social classes. However, students from higher socio-economic backgrounds use the internet for educational as well as entertainment purposes, while students from lower socio-economic backgrounds tend to focus on the latter only. In addition, students from higher socio-economic backgrounds are still more likely to engage in reading activities during their leisure time.

In addition, empirical evidence suggests that a conducive home environment and parental influence will most likely also influence media-related extramural English contacts. This conducive home environment is more likely found in families with higher socio-economic status: Parents with a higher educational background are more likely to have higher English competences themselves and engage in English media activities at home or work. They are also more likely to value English as an important investment in a child's future. These parents will function as positive role models for their children in terms of attitudes and appreciation of the English language in general and extramural English contact and media behavior in particular.

Together, the empirical results presented in this chapter suggest that the nature of disparities has shifted from ownership to modes of usage in recent decades. The question, therefore, should not be *who owns what?* but rather *who does what and why?* This development most likely resulted in new forms of digital inequalities, sometimes referred to as a *second-level digital divide* (Graham, 2009; Henrichwark, 2009). Hence, investigating media behavior while ignoring the social structures in which the behavior is embedded would fail to capture the unique social conditions under which such patterns emerge. The fact that some media channels seem to have become widespread in society does not mean that adolescents are entirely free of the influence of their social upbringing. Instead, like all forms of aesthetic taste, media behavior will stay rooted in the specific factors of each person's social upbringing. These preferences are subject to inter-generational reproduction. By being role models to their children, parents actively and passively shape their children's media taste and behavior. The process tends to be mostly unconscious and informal.

Drawing on these findings, it can be expected that these socio-economic factors will also influence students' frequency of media-related extramural English contacts in the present study. A higher level of educational and cultural resources and a positive English environment at home can be expected to positively affect students' attitudes towards English and increase their likelihood to engage in extramural English contacts. Thereby, the second research hypothesis is:

H2.1: Students from higher socio-economic backgrounds will show a higher overall frequency of media-related extramural English contact.

In addition, it can be assumed that media preferences will run along known lines of social disparities. Differences in economic, educational, and cultural capital result in different media habitus for adolescents from different socio-economic backgrounds. Adolescents from different socio-economic backgrounds should thus differ in their preference for specific media channels and media content (*content divide*): students from higher socio-economic backgrounds can be expected to engage more frequently in literacy-based extramural media behavior and information search. Students from lower socio-economic backgrounds can be expected to spend considerably more time playing English-language computer games. However, given the high popularity of listening to music, surfing, and watching online videos, movies, and TV series, it can be expected that these activities are most likely popular among adolescents from all social backgrounds.

H2.2: Students' socio-economic background will influence their preference for media channels and media content.

As Rolff et al. (2008) could show, the effect of the socio-economic background on language competences is often not directly influenced by structural factors of educational and cultural capital. Instead, these structural factors influence the language habitus, which can be operationalized by process factors, such as parents' English competence and language use within the family. In Rolff et al. (2008), the introduction of these process factors in the regression model rendered the effect of the structural factors non-significant, thus suggesting a mediation effect.

A similar indirect effect for the structural factors can be expected for the present analysis. In addition, it can be expected that the process factors not only influence the language habit within a family, but also the media habitus for English-speaking media content.

H2.3: The effect of structural socio-economic background factors for cultural and educational capital will partly be mediated by the process factors for language and media habits within the family.

3.2 Gender and Media-related Extramural English Contacts

In addition to socio-economic background, studies have also continuously shown the persistence of gender differences in media use. While former disparities in ownership of technical equipment seem to have diminished, male and female media users on average can still be shown to engage in different media content and prefer different media channels (see Section 3.2.2 for an overview of relevant studies).

While some studies seem to merely report on the existence of these differences, but do not discuss the mechanisms that might lead to them, investigating gender as an important factor both in media production and media reception has a long tradition in the field of media and communication science. This interest in gender within the media landscape began with the emergence of women's studies and has developed considerably over the years (Drüeke, 2016; Hipfl, 2008; Klaus, 2002; Röser & Wischermann, 2004). Unfortunately, an exhaustive discussion of the history and development of gender related media and communication theories is beyond the scope of this thesis (for an overview of the historical development of the field see, for example, Klaus (2002), Hipfl (2008), or Drüeke (2016)). However, the following chapter will try to establish a theoretical framework that can help to understand how gender as a social category can influence (young) people's media habits and preferences.

3.2.1 Gender Socialization and Media Habitus

Inspired by feministic studies in the 1960s and 1970s, early gender related media studies focused on issues such as the stereotypical portrayal of women in the media, the underrepresentation of women in the media industry and the sometimes dismissive reception of so-called women's genres (e.g., soap operas) (Klaus, 2002, 2006; Röser & Wischermann, 2004). Later, the focus also shifted to differences in media preferences between men and women. In these approaches, consumers were primarily seen as passive recipients who were affected and influenced by the media content. As a result, these approaches often failed to explain why women voluntarily consumed certain genres, especially since they portrayed traditional gender roles, which were increasingly out of step with the modern realities of many women's lives (Klaus, 2002, 2006; Röser & Wischermann, 2004).

In recent years, and with the increasing influence of gender studies in the field of media and communication science, the focus has shifted towards a deconstructive understanding of gender, which lead to a changed understanding of the relationship between gender and media. In this approach, gender is no longer understood as a fixed biological category, but rather as a social, cultural, and discursive construct, which is embedded in a specific historical, cultural, and political context and part of a specific hierarchy and power structure (Drüeke, 2016; Klaus, 2002; Röser & Wischermann, 2004). According to this theory, there is no inherent or natural masculine or feminine behavior or attitude; there are only cultural and social constructs of what society understands as the masculine or the feminine, and what behaviors, attitudes, and preferences are associated with each (Schneider, 2002). People refer to these constructions in their actions and make them their own. Three dimensions can be distinguished in relation to gender. *Gender definitions* refer to what is considered feminine and masculine in a given society. *Gender positions* assign different roles, tasks, activities, and opportunities to gender groups in an existing power structure. Finally, *gender identifications* refer to how individuals relate to these definitions and positions, and which of them they reject and adopt. In this process, the construction of gender emerges in a dynamic coexistence in which all three dimensions relate to each other but do not determine each other (Klaus, 2002).

In their groundbreaking and often cited essay, West and Zimmerman (1987) define the ongoing and situated social practice of continuously producing and reproducing one's gender identity as *doing gender*. Gender is consequently not a category that exists a priori and outside of people. It emerges only in social interaction. To be perceived as a man or a woman, one has to actively "do"

gender. Children learn to actively embody and do the gender category that they were assigned to at birth and the rules and behaviors that go along with it through socialization.

This doing gender is more than just following a specific set of rules, it is adapting and shaping one's behavior according to the situation and the interaction partner, with the goal to be considered as belonging to the gender that we want to portray. As a result, people do gender in every form of action and social interaction. In doing so they reproduce their gender specific habitus (West & Zimmerman, 1987).

According to West and Zimmerman (1987) this doing of gender is so central in every form of human interaction that there is no situation in which the category of gender does not play a role. West and Zimmerman's focus is thus on the omnirelevance of gender as a social category and on inequalities arising from this hierarchical structure in which gender is embedded. Studies following their theories usually try to find situations where gender might not be as relevant or even irrelevant, which might be a source for change and resistance (Nentwich & Kelan, 2014).

Bourdieu also refers to gender as a discursive and social construction, although he conceptualizes the production and reproduction of gender as more static than is usually found within the field of modern gender studies (Straub, 2006). According to Bourdieu, gender, like other social categories – such as religion, nationality, and social class – determines the specific living and socialization conditions that form a person's social habitus. As such, gender norms also contribute to the specific circumstances of life that are both the result and the prerequisite for their reproduction and therefore forms and influences people's every pattern of behavior and taste (Bourdieu, 1987, see also Section 3.1).

Gender – and the relation between class and gender – is only briefly mentioned in Bourdieu's well known work *Distinction: A Social Critique of the Judgement of Taste*. However, the author elaborates further on his ideas regarding gender in his work *Masculine Domination* (Bourdieu, 2005). Here he argues that biological reproduction is not enough to justify the gendered division of labor and male supremacy in society. Instead, society constructs the natural body as a gendered fact and locates it within the existing system of homologous opposites and within an existing system of power. By linking it to an already existing classification system, the gender categorization is validated and acquires an official character (Bourdieu, 2005). This attribution is supported by emphasizing (visible) anatomical/biological differences and the dismissal of similarities. The seeming correspondence of physiological and psychological characteristics creates a *biologization* of the gender category, which fails to recognize that the attribution itself

is already an arbitrary and social construction that occurs through the naturalization of these very social constructs. Thus, gender differences themselves must already be understood as a socially constructed perceptual scheme (Bourdieu, 2005).

According to the author, these existing gender structures inscribe themselves into every category of perception, behavior, and evaluation through socialization, starting in childhood. As a result, forms of doing gender are deeply inscribed in all areas of individual behavior and permeate all fields of everyday life. Like the class habitus, the gender habitus thus inscribes itself deeply into the body, structuring what people think, do, and experience¹ (Bourdieu, 2005). As a result, members of the gendered categories perceive the world in accordance with the very identities they are ascribed to. People therefore unconsciously produce and reproduce their gendered habitus with, for example, their behavior, their clothing, their choices. By doing so, they in turn confirm the (arbitrary) social categorization that was put on them and distinguish themselves from the opposite gender. Similar to the class habitus, this cycle creates a *circular causality* and makes the gender habitus appear natural. Because the transmission and reproduction occur unconsciously, the mechanisms also escapes conscious control. Changes, therefore, mostly follow old structures and principles of division (Bourdieu, 2005).

In summary, both West & Zimmermann, as well as Bourdieu understand gender not as a fixed category but as a social category constructed in and through human behavior. People perceive the world according to their gender identity and reproduce their gender identity in every form of action and social interaction. By doing so, they seemingly confirm existing gender stereotypes (Bourdieu, 2005; West & Zimmerman, 1987).

Given the omnipresence of gender as a social category, the media itself is also embedded in the prevailing gender system and its associated power structures. Therefore, the connection between gender and media cannot merely be characterized by passive consumption (Klaus, 2002; Peil et al., 2020). To understand how people use and refer to the media, we have to understand how media content participates in reproducing the existing gender system by reproducing gender definitions and gender positions (Dorer, 2002; Drüeke, 2016; Klaus, 2002; Röser & Wischermann, 2004). In addition, we have to understand how some media channels and technologies have been specifically linked to one gender category or the

¹ As one social category alongside others, gender also interacts with the other social categories (e.g., social class, religion, nationality; Bourdieu (2005); Straub (2006)). However, these complex patterns of intersectionality are not the focus of the present study.

other. Only then can we begin to understand how people use these media content and media channels to produce and reproduction their gender identity.

A complete analysis of the German media landscape would be beyond the scope of this study. Instead, the following will highlight some key findings concerning overall gender representation in the media and how even newer media technology has been gendered, often excluding women as key owners of such technology.

Following this overview, Section 3.2.2 will then summarize important empirical findings concerning actual media use by male and female German-speaking adolescents in general, and media-related English contact in particular, and discuss how these findings can be understood as forms of doing gender.

In terms of gender representation, studies have shown that in today's media, women are most often still shown in traditional life contexts and are underrepresented as experts in science and technology. While this underrepresentation corresponds in part with the underrepresentation of women in certain professions, the portrayal simultaneously reproduces stereotypes and the existing system of power (Götz & Prommer, 2020; Peil et al., 2020).

For Germany, a 2017 study could also show that female protagonists are underrepresented on television in general: for every woman, the study found two male protagonists, four in television programs and movies for children. Interestingly, the difference is most extreme in older age groups. While there is an equal ratio among male and female protagonists under 30, the study found two men for every woman between 30 and 50, and three men for every woman older than 50. Furthermore, women are primarily shown in connection with relationships and family and are less likely to occur as an expert, host, or journalist (Prommer & Linke, 2017). Götz and Eckhardt Rodriguez (2019) also showed how national and international music videos still reproduce stereotypical gender roles and power structures and often contribute to the hypersexualization of the female body (Götz & Eckhardt Rodriguez, 2019)

Newer media forms did not overcome these stereotypical gender representations (Götz & Prommer, 2020; Prommer et al., 2019). Computer games, for example, still show a lack of (positive) female character representation and a high amount of violent content. This, in turn, is likely to alienate girls and women from engaging in gaming activities, as it does not provide them with positive representation. The same might be true for technological gadgets, which are often aggressively marketed towards male consumers (Döring, 2020).

In the beginning, feminists hoped the internet would open new spaces for gender identifications outside the mainstream and provide a network where women

could connect and create (safe) spaces for themselves (Kannengießer, 2015). However, studies show a mixed picture. On one side, the virtual space does offer opportunities for anonymous experimentation with gender identities and provides a stage for non-heteronormative expressions (Kannengießer, 2015; Kommer, 2008; Peil et al., 2020; Vogelgesang, 2014). Public criticism has also repeatedly led to initiatives and movements and offered marginalized groups a platform (Peil et al., 2020).

However, studies also showed that the high hopes for a free virtual space were not fulfilled. Instead, the online mainstream tends to reinforce and reproduce existing gender norms (Kannengießer, 2015), and produced clearly marked male “corners” of the internet, to which women have no or difficult access. In these spaces, women are often excluded or received in a derogatory manner (Kommer, 2008; Tillmann, 2014). As a result, women and girls often retreat into virtual spaces where they are more likely to be among themselves and their learned behavioral patterns and communication styles are met and validated (Tillmann, 2014). These are, for example, fan communities, fan fiction sites, or social media networks.

The hope that the internet would help to avoid gender typification through the possibility of disembodied and anonymous communication was also not fulfilled. Instead, studies showed how users incorporated implicit gender signs into their online communication and virtual self-presentation, thus even gendering the anonymous communication (Straub, 2006; Tillmann, 2014).

These trends are also true for the new celebrities of the emerging online space. Influencers or content creators produce and upload videos, pictures, and text to the internet, especially on social media. As such, they contribute to shaping the digital space alongside traditional media companies. While the internet theoretically offers freedom for self-representation, studies have shown that content uploaded by popular influencers also seems to remain entrenched in heteronormative binary gender norms. For example, not only are the most popular national and international YouTubers male, YouTubers also tend to reproduce traditional gender stereotypes in their videos. While male YouTubers can be shown to produce content for a wide variety of topics, female video producers are much more limited. Female creators are more likely to focus on content about everyday life, beauty, and fashion topics, usually appear within the private sphere of their home, and rarely highlight their professional competences. In addition, their content is often emotionally driven and highlights their relationships with their partners and

friends. By contrast, male YouTubers are especially dominant within the gaming community, often highlight their professional competences and produce their videos in the public sphere (e.g., a fitness studio) (Döring, 2019; MaLisa Stiftung, 2019; Prommer et al., 2019).

This choice is not always voluntary. Female YouTubers from Germany stated that their choice for beauty topics is often driven by monetary reasons, as this genre is highly marketable to their audiences and companies pay high sums for product placement. In addition, they also stated that they feel safer within the beauty community, as they experience fewer online attacks and abuse there (Götz & Prommer, 2020; MaLisa Stiftung, 2019; Prommer et al., 2019). Similar depictions of traditional gender representation were also found for other social media platforms, such as Instagram or TikTok. International studies have also shown similar results (Götz & Eckhardt Rodriguez, 2019; Götz & Prommer, 2020; Prommer et al., 2019; Stüwe et al., 2020).

These findings highlight the fact that even user-created online content often stays within the known boundaries of heteronormative gender representations. That does not mean that gender representation outside the heteronormative binary system does not exist, but it seems rare among the most popular influencers and content creators (Döring, 2019; Prommer et al., 2019). This is most likely also a result of the increasingly powerful algorithms on platforms like YouTube. These algorithms promote certain media content and learn from existing data, thus reproducing existing gender norms, as they promote videos showing gender-stereotypical content. This highlights the importance of critical reflection on production and distribution strategies behind media content (Bishop, 2018; Götz & Prommer, 2020; Peil et al., 2020).

In addition to reproducing gender-stereotypical content, certain media content is often explicitly defined as male or female in an existing system. This can be seen, for example, in the attribution of soap operas and magazines to the female sphere (Klaus, 2002; Schneider, 2002), or for reading (fictional) books as a primarily female leisure time activity (Philipp, 2011; Philipp & Garbe, 2007).

Again, newer media forms did not remain outside the heteronormative binary gender system. As already discussed, male YouTubers dominate certain video topics, such as gaming and computers. The same is true for certain distribution channels. In fact, the computer, and the internet, as both media technology and media content, have been read primarily as a male domain. Reasons for this can be found in the traditional categorization of everything technical to the sphere of masculinity and the historical development of the internet within the military and scientific context, both traditionally male domains. When the internet eventually evolved beyond these professions, it was initially used primarily in professional

contexts and mainly by people in higher positions. Thus, the development of the internet and the spread of the computer collided with the existing gender-coded labor market segregation. When the use of the computer and the internet finally penetrated the sphere of domestic private life, it was again first adapted by men, as it was highly compatible with the image of the technophile male (Dorer, 2002; Peil et al., 2020).

Nevertheless, this categorization is not fixed and can shift. In fact, with the increasing integration of new technologies into everyday life and the domestic sphere, the categorization of online media technologies and media content also changed. These days, women also frequently use computers and smartphones, surf online, and consume various forms of online media content. The more media technologies became instruments for activities with female connotations, the less they were framed in the technological realm. This development shows that boundaries and categorization are subject to constant change and reorientation (Peil et al., 2020). However, they rarely leave the heteronormative binary gender system entirely. An example of this is the smartphone: due to its diverse everyday applications, it is not usually perceived as completely technical and thus masculine. This, however, does not lead to a complete erosion of the boundaries within the field, but rather a shift. The technical activities of setting up and repairing, for example, are still primarily attributed to men (Peil et al., 2020). This development supports Bourdieu's thesis that the direction of change is not free. Instead, existing gendered structures determine the direction and form of change in the field of technology and media (Bourdieu, 2005).

In summary, studies have shown that gender definitions and gender positions are continuously produced and reproduced by and through media (Dorer, 2002; Klaus, 2002; Peil et al., 2020). However, as mentioned above, the focus of this study is not the analysis of gender definitions, gender positions and gender representation within the media, but rather how and why German-speaking male and female students might differ in their media preferences and behavior patterns for English-speaking media content. The focus is, therefore, on media reception. According to modern media and communication theories and in line with a deconstructivistic understanding of gender as a social construct, as described above, the media does not simply impose definitions of masculinity or femininity on viewers. Instead, the media enables a performative construction in which people can produce and reproduce themselves as men and women through their media actions and technology use (Drüeke, 2016; Klaus, 2002; Röser & Wischermann, 2004). Hence, taste in media can be understood as one of many ways of doing gender. As a result, media consumption should be seen as an act of taking

on or rejecting specific gender identities, as doing gender. Members of different gender groups claim different media categories and different content as their field of expertise and leisure-time activity and, by doing so, reproduce their membership in said gender group. The media is thus not only a gendered field but also a gendering field (Straub, 2006).

This also demonstrates the dynamic interplay of the three dimensions of gender positions, gender definitions, and gender identities mentioned above. Media preferences do not simply reflect the biological nature of men and women. In fact, categorizing media content into “male” and “female” media genres and media behavior means reinforcing the idea of biological differences between the two genders. This emphasis thus maintains and reproduces the heteronormative binary gender system, while obscuring the true processes of doing gender (Hipfl, 2008; Klaus, 2002; Röser & Wischermann, 2004). Rather, people use media content to position themselves as men and women and to conform to a gender definition. The individual behavior of men and women according to these stereotypes then feeds back into the interpretation and perpetuation of gender categorizations in a given society. This in turn influences the portrayal of gender categories in the media. This creates the circular causality mentioned by Bourdieu (Bourdieu, 2005).

Similar to the influence of socio-economic background, the effect is, of course, not strictly deterministic. Indeed, the emphasis on differences between the gender categories in the research literature neglects the fact that variance within each gender group is often substantial (Straub, 2006). This is due to the fact that for each individual, any given media content encounters a particular set of circumstances of life, resulting in very different patterns of media reception and preferences. However, certain commonalities can be found for the two social gender categories, making certain patterns more likely as a strategy of doing gender (Dorer, 2002; Kommer, 2008). The analysis of the production of media content, as well as the reception, and the use of technologies necessary for the reception, should thus always be contextualized to include existing social power and gender relations (Dorer, 2002; Klaus, 2002).

It should be mentioned, that this complex nature of doing gender through media reception poses a multiple challenges for empirical studies. Nentwich and Kelan (2014) point out that in order to really capture the interactive and discursive nature of gender identities, they should be observed and analyzed in their performative production. In such an analysis, the produced gender identity is the result, not the starting point of the analysis. At the same time, research must consider the fact that there is not *the* one male or female identity, but that there are nuances and varieties even within the two groups (Nentwich & Kelan, 2014).

In addition, the categorization of media technologies and media content do often not correspond with their actual use (Peil et al., 2020). For example, men's reproduction of themselves as computer specialists do not necessarily correspond with their actual level of expertise (Straub, 2006). Therefore, it is important to distinguish between the actual use of media technologies and media content and the social gender construction people attach to certain media categories (Peil et al., 2020).

Unfortunately, empirical studies often employ dichotomous predefined variables to categorize people's gender identity. These categories are then used to draw conclusions about typically female and male media habits. As mentioned above, these studies therefore contribute to maintaining the image of natural differences between genders (Schneider, 2002; Straub, 2006) and fail to capture the interactive and discursive nature of gender identities. This might be especially a problem with quantitative research, which must inevitably reduce social complexity and has difficulty capturing deeper and more detailed behavior and subjective structures of meaning. However, qualitative research might also take a simplistic approach if the investigation only investigates superficial patterns of use and thereby disregards the attributions of meaning and unconscious patterns of reproduction in relation to gender.

The following section will summarize empirical evidence concerning media use in Germany and Switzerland among male and female adolescents, as well as draw on results from international studies to investigate possible differences in media-related extramural English contacts. Unfortunately, most of these studies have been restricted to the aforementioned limited approach and thus fail to investigate the complex nature of the relationship between gender and media habits in more detail. These shortcomings make it all the more important to keep in mind that found differences in most empirical studies in terms of media use should be seen as superficial appearances of a deeper mechanism of gender identification: By claiming certain media content and language practices for themselves, people reproduce their gender identity in a given cultural and social system.

3.2.2 Empirical Evidence

In terms of traditional media, studies have continued to show gender-stereotypical media habits by young people. According to the JIM and JAMES study, female adolescents in Germany and Switzerland tend to be more frequent readers than male adolescents. They also engaged in reading activities for a longer period of time. By contrast, male adolescents tended to be more likely not to engage in

reading at all (MPFS, 2017; Waller et al., 2016). These findings underline the definition of reading as a female pastime activity and are supported by findings from other studies, including the PISA study, in which girls were shown to be more active and enduring readers in their leisure time, especially in regard to fictional books. Findings for newer forms of written content are still scarce, yet some studies could show evidence for a higher preference for comics among male adolescents and children, as well as for some forms of online articles (Philipp, 2011; Philipp & Garbe, 2007).

The JIM and JAMES studies show that watching television and listening to music is a popular activity for both male and female adolescents in Germany and Switzerland (MPFS, 2017; Waller et al., 2016).

In the field of digital media, the categorization of computer and the internet as a male domain was initially reflected primarily in technology ownership and frequency of use. Men used digital media technology far more frequently and intensively than female users. However, these differences became less significant over the last few years (Dorer, 2002; Peil et al., 2020; Tillmann, 2014). This is also evident regarding adolescent technology use in Germany and Switzerland: Data from the JIM study reveals that former disparities in ownership seem to have decreased in Germany, with most technology equipment being equally distributed between genders. In 2017, almost all male and female adolescents owned a smartphone, had access to a television, gaming consoles, DVD-Player, and music devices. In addition, streaming service subscriptions were popular with both male and female adolescents. However, male students were still more likely to own a personal computer, a smart TV, or a stationary gaming console, while females were more likely to own a laptop, an e-book reader, or an mp3-player (MPFS, 2017). The results for Switzerland were similar, with male adolescents on average owning more gaming equipment than female adolescents (Waller et al., 2016).

The ICIL study also found that male students in Germany used the computer significantly more often than female students. There was no significant difference for Switzerland (Lorenz et al., 2014, p. 243). In addition, the study also showed male children to start using the computer earlier than female children in both countries and report higher rates of enjoyment (Fraillon et al., 2014; Lorenz et al., 2014).

Interestingly, male adolescents do not necessarily have a higher media literacy than female adolescents. In fact, the ICIL study revealed that female students in Germany significantly outperformed their male counterparts. The same did not hold for Switzerland (Fraillon et al., 2014; Lorenz et al., 2014). Interestingly,

however, male students in Germany and Switzerland reported higher self-efficacy and self-confidence, even though they did not perform better than females. In-depth analysis showed that females tended to underestimate their competences (Lorenz et al., 2014). These results can be read in support of the notion that in order to ‘do gender’, boys actively reproduce the idea of their technical expertise, especially regarding new technique-based media forms. On the other hand, girls do not tend to claim this place, as it serves no purpose in reproducing their gender identity or may even be detrimental to it.

Even with the disparities in technology ownership between the genders decreasing, gender differences in media behavior were still evident with regard to specific media activities and behavior in the digital space in 2016 and 2017. While the internet was interesting for both male and female adolescents, studies have shown that male and female users claim very different patterns of media preferences. In Germany, female adolescents spent more time surfing online and used their online time mainly to communicate. In terms of the preferred online content, the study found female adolescents to favor information about problems concerning their life, world affairs, vocation, occupation, music, environment, politics, fashion, and celebrities. In terms of social media platforms, they preferred Instagram and Snapchat. Male adolescents, on the other hand, tended to be more interested in sports and gaming topics, as well as (world) politics, yet communication and entertainment were also important. In addition, the video platform YouTube was one of the most favored platforms among male students (MPFS, 2017).

In Switzerland, male adolescents also used video platforms more frequently, and they watched more movies and TV series, while female adolescents in Switzerland were more engaged with their smartphones (Waller et al., 2016). Both groups spent equal time in online communication with others, but they tended to favor different social media sites and different content respectively: while females tended to read and share comments and like pictures and posts from friends, male teenagers were more likely to post and share videos, music, and links (Waller et al., 2016).

Studies also showed how, like professional influencers, normal social media users tend to use media content to produce and reproduce their gender identity. This production is strongly influenced by the heteronormative binary gender system, as young people tend to portray themselves in gender-stereotypical patterns. Girls and women usually strive to portray themselves as attractive, fit, and non-threatening. Men and boys present themselves as powerful, (physically) strong, self-confident, and dominant to fulfill the ideal of hegemonic masculinity (Götz & Prommer, 2020; MaLisa Stiftung, 2019; Straub, 2006). Similar to male

and female protagonists in movies, influencers often serve as role models for (young users) in terms of specific poses and strategies for doing gender through pictures and videos (Götz & Eckhardt Rodriguez, 2019). It is thus perhaps not surprising that Kommer (2008) did not find many young people taking advantage of the opportunity for (anonymous) gender experimentation. On the contrary, the young people in the study expressed that they would find behavior which deviates from the gender norm rather dishonest and irritating.

The most significant difference in 2016 and 2017 in both countries regarding media activities could be found in gaming. While 83% of male adolescents stated that they game regularly, only 41% of the females said the same. Eighteen percent of female students even reported never playing computer games (MPFS, 2017, p. 48). There were also apparent differences when it came to gaming genre preferences. Male adolescents preferred sports and racing games (MPFS, 2017), which follow a narrative and require some background knowledge from the real world (Graham, n.d.). By contrast, female adolescents in Germany could be shown to prefer arcade games and life simulation games, such as *The Sims* (MPFS, 2017). Results for Switzerland were once again similar to Germany. Male Swiss students used their leisure time more frequently for gaming and engaged more often in interactive online games (Waller et al., 2016).

Results from international studies also showed that *narrative games*, such as sport and racing games, that provide a narrative and require some background knowledge from the real world to be more popular among male gamers (Graham, n.d.).

As discussed above, this stark difference in gaming activities is most likely not only due to the fact that engaging in computer game activities does not serve the female strategy of doing gender but also because computer games traditionally do not provide girls and women with positive role models (Döring, 2020). In addition, the gaming scene can be shown as a typical “male” corner of the internet in which female gamers are more likely to be excluded and receive negative comments (Kommer, 2008; MaLisa Stiftung, 2019; Tillmann, 2014).

Results from international studies show similar results for media-related extramural English contacts. Olsson (2011) showed that female students read significantly more English books and engage more often in written online content, such as blogs. Sundqvist and Sylvé (2014) also found girls to be more active online and spend more time communicating and interacting with others in English.

International studies have also repeatedly shown extramural English contact through gaming to be a male domain, with female students playing less frequently. In addition, male students tend to be highly involved in multiplayer online role-playing games (MMORPG), while female students tend to prefer offline single-player games. The male players who play more frequently are, on average, also more interested in English as a foreign language (Olsson & Sylvén, 2015; J. L. Peterson, 2016; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012a).

Similarly, Sundqvist (2009a) also reported a higher frequency of extramural English contact by male students for the media categories gaming and surfing the internet. However, male and female students did not differ in their overall frequency of extramural media contacts. Interestingly, while for male students extramural English contacts showed a significant positive correlation with oral language test results, and an even stronger significant correlation with vocabulary test scores, none was found for female students (Sundqvist, 2009a). The author assumed that this might be due to the higher involvement of boys in gaming and surfing the internet, both of which showed the highest effect on oral and vocabulary proficiency in the regression analysis. By contrast, female students are usually more involved in passive activities, such as reading, which might explain the non-significant results (Sundqvist, 2008, 2009a, 2011). Results from Sylvén (2004, cited in Sylvén & Sundqvist, 2015) support this interpretation, as they also found boys to report significantly more extramural contacts than girls and to perform significantly better than girls on the vocabulary test.

By contrast, Olsson and Sylvén (2015) did not find a significant difference between male and female students for extramural English contact through reading, watching movies, or writing in English. Similarly, Sylvén and Sundqvist (2012a) also did not see a significant difference between male and female students, apart from gaming.

3.2.3 Conclusion

At the beginning of this chapter, it was shown that media production and media use should not be understood independently of the gender-related power structures under which they are created. Following the deconstructivistic view on gender, mostly found in gender studies today, gender was defined as a social and discursive category that does not exist outside and a priori of humans but is produced and reproduced in interaction. As part of a given society and cultural

system, the media actively reproduces the dominant gender definitions and positions of said society. Moreover, specific media channels and content are often traditionally attributed to either the female or the male sphere.

However, consumers are not passive audiences but active agents in this process. They actively use media technologies and media content to produce and reproduce their gender identity. Whereas some media categories might be beneficial for reproducing both male and female gender identity, other categories might not, as they are strongly linked to a specific group. While new forms of online media do theoretically provide opportunities for gender representation and identification outside of the heteronormative binary gender system, empirical research has repeatedly underlined the continuing differences in online media habits and gender representation as well. It can be argued that this will most likely result in different media patterns for men and women.

Nevertheless, these patterns are not entirely deterministic. In addition, the analysis of gender in its performative nature and its entire complexity proves difficult for both qualitative and quantitative research. As a result, studies often employ superficial measurements for gender and refer to the traditional heteronormative and binary gender system. Most of the empirical studies reported above have suffered from this shortcoming. It is thus perhaps not surprising that results have often shown significant similarities between genders, while differences remained small (Philipp, 2011; Philipp & Garbe, 2007). This emphasizes the need for further research and more in-depth studies (Philipp, 2011; Philipp & Garbe, 2007).

Despite these shortcomings, the evidence presented in this section suggests that adolescents overall tend to engage in gender-stereotypical media behavior, with girls being more likely to read or engage in social interaction and males spending more time gaming or with music and sports-related content. Consequently, male students are more likely to be active gamers than female students. However, both genders use the internet regularly, but female students use it significantly more to communicate.

International studies have found similar patterns for media-related extramural English contacts. In addition, male students were found to have a higher overall frequency of extramural contact, which is probably due to the fact that they are more often engaged in time-consuming media activities (e.g., watching online videos and gaming).

Technical equipment, on the other hand, has become equally distributed among male and female students in both Germany and Switzerland. This underlines the fact that the connection between gender and media is not unchangeable and there are always possibilities for reshaping (Dorer, 2002). Ultimately, however the

developments of the last few decades seem more about shifting boundaries than lifting them, as gendering mechanisms continue to make some social practices more likely than others (Dorer, 2002). Thus, in general, the media, the internet, and the computer are still highly gendered and gendering fields. Through the attribution of media content and media technologies to the female or male sphere, engaging in media content also becomes an act of taking on or rejecting a particular gender identity, of doing gender. Following the theoretical framework and the overall empirical findings, the following research hypotheses can be drawn for the present study:

- H3.1: Male and female students will differ in their overall frequency of extramural English contacts.*
- H3.2: Male and female students will differ in their preference for media channels and media content.*

Unfortunately, the specific strategies of usage by adolescents could not be explored in detail in the present study. Instead, the study also has to revert back to a binary gender category. This makes it all the more important to emphasize that any differences found in the present study should not be understood as natural differences but should be seen as a superficial appearance of a deeper mechanism of gender identification by the students.

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Theory of Second Language Acquisition

4

The scientific field of *second language acquisition* (SLA), as it emerged in the 1970s, is concerned with the conditions and circumstances in which second and foreign language learning occurs. Although sometimes used synonymously, the terms *second language* and *foreign language* describe two different aspects: a second language refers to the official language within the country of residence, which is not a person's mother tongue. This is, for example, the case for immigrant children who learn the language of their parents' homeland before or while learning the language of their country of residence as a second language in school or kindergarten. By contrast, the term foreign language describes a language that is not an official language in the country of residence nor a persons' mother tongue. A foreign language is usually learned through formal classroom instruction within the educational system (Hasebrink et al., 1997; Olsson, 2016; Sundqvist, 2009a). English is a foreign language in both Germany and Switzerland. Therefore, the focus of this study is *English as a foreign language* (EFL).

Over the years, SLA has produced a great variety of theoretical frameworks and methodology to cover the broad aspects of the field (Olsson, 2016). It is beyond the scope of this study to provide the reader with a comprehensible overview. In short, the different strands of theory can be subsumed under three main groups: *formal* properties of language learning, *cognitive* processes while learning a language, and *social* aspects of language learning. These three groups are not distinct, as there are various overlaps and interactions. Researchers might draw from one or more theory strands, depending on their research questions (Olsson, 2016). The present study will draw on the cognitive theoretical framework, i.e., the process of learning a foreign language, and the social framework, to investigate unplanned and unprompted language learning through media-related extramural English contacts and the influence of two important social factors on the learning process.

4.1 Incidental Language Learning Through Media-related Extramural English Contacts

As defined above, extramural English contacts are defined as any form of out-of-school contact with English as a foreign language arising from voluntary contact with and the use of authentic English media content. The term does not deny the possibility that learners might be aware of the beneficial effect of these contacts, yet the focus of these contacts lies in the appreciation for the media content or a desire to communicate with others (Sundqvist, 2009a, 2011).

While in contact with authentic media content in such a natural setting, learners will be less concerned with studying underlying rules and principles of a foreign language but will instead be focused on the social nature of the situation, on participation, observation, communication, and understanding (R. Ellis, 2008). As a result, any learning processes that might arise from these situations is most likely characterized by incidental, implicit, or explicit learning processes and will often be an unconscious process, without intent or active learning strategies by the learner (Elley, 1997; R. Ellis, 2008). Such *incidental language learning* processes are defined as the “[...] by-product of any activity not explicitly geared to [...] learning” (Hulstijn, 2001, p. 271). Kekra (2000) also defines it as “unintentional or unplanned learning that results from other activities” (p. 3). Incidental language learning is thus a process “without the conscious intention to commit the element to memory” (Hulstijn, 2013, p. 1). In contrast, intentional learning is defined as “any activity aiming at committing lexical information to memory” (Hulstijn, 2001, p. 271).

These definitions of incidental learning are closely related to the definition of informal learning as provided by Stevens (2010):

“Learning resulting from daily life activities related to work, family or leisure. It is not structured (in terms of learning objectives, learning time or learning support) and typically does not lead to certification. Informal learning may be intentional but in most cases it is non-intentional (or ‘incidental’/random).” (Stevens, 2010, p. 12).

Both definitions emphasize the subconscious nature of the process, which occurs while a person is engaging in everyday activities. Thus, incidental learning could also be referred to as a language *acquisition* process, as the term acquisition is commonly used to refer to the subconscious process in which children acquire their mother tongue. Usually, children are not consciously aware of the language acquisition nor the resulting language competences. Instead, they are focused on meaning as they interact with the people around them. As a result, children cannot

'name the rules' they have acquired, only that something 'feels correct'. By contrast, *learning* usually describes a much more conscious process of committing information to memory (R. Ellis, 2008; Krashen, 1985; Sok, 2014).

Given these definitions, incidental learning could be seen as more closely related to the concept of acquisition, while intentional learning could be seen as being closer related to the definition of learning (R. Ellis, 2008). However, the fact that incidental language learning occurs as a by-product of another activity does not require the complete absence of consciousness (Rieder, 2003). Indeed, even though sometimes used synonymously, the distinction between implicit and explicit learning is not congruent with the distinction between incidental and intentional learning (N. C. Ellis, 1994).

The terms implicit and explicit learning refer to the level of awareness and attention a learner pays towards learning. Implicit learning is defined as "acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply and without conscious operation" (N. C. Ellis, 1994, p. 1). On the other hand, explicit learning is a "more conscious operation where the individual makes and test hypotheses in a search for structure" (N. C. Ellis, 1994, p. 1).

However, unconscious in this sense does not, as is often thought, refer to unintentional behavior, but rather to the fact that something is done without awareness and attention. Explicit learning is thus a conscious process in that learners are aware and pay attention to concept formation and linking. This can occur under instruction (e.g., in a classroom) or by understanding concepts and rules without instruction. On the other hand, implicit learning has a person paying attention to the stimulus but being unaware of the acquisition processes (N. C. Ellis, 1994; R. Ellis, 2008).

The result of explicit and implicit learning is explicit and implicit knowledge, which differ in their degree of awareness of rules and the possibility to verbalize them. Implicit knowledge is procedural and intuitive, while explicit knowledge is declarative and conscious. The former comes with the ability to use the language automatically, while the latter comes with the knowledge of underlying rules and regularities (Olsson, 2016). This is why formal instructions are often seen as crucial for grammar learning in a foreign language, as they explicitly teach grammatical rules and regulations (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999). However, things learned implicitly at some point may be reflected upon explicitly at a later point in one's language learning journey (Olsson, 2016).

In contrast to this distinction, the term consciousness within the framework of incidental and intentional learning usually refers to intentionality. Indeed, the definitions of incidental learning provided above do not exclude awareness of the learning process. The important distinction is that in intentional learning, learners are focused on the linguistic form. In incidental learning, the focus is on the meaning, yet a peripheral focus on form is not denied (R. Ellis, 1999). Incidental learning can therefore include implicit, i.e., unaware, learning processes, as well as explicit learning processes, i.e., processes that take place unintentionally but not without a learners' awareness or (peripheral) attention, and hypothesis forming (Rieder, 2003; Sok, 2014)¹.

For example, learners might engage in reading for pleasure, during which implicit learning processes will occur automatically, but they might also decide to engage in explicit learning processes (i.e., paying attention to form) by looking up an unknown word. In addition, they might actively test new words and phrases in a sentence, thus testing their hypothesis about the meaning (Letchumanan et al., 2015).

While the exact definition of these terms remains a matter of ongoing debate within the research community, and the terms are often used interchangeably (see for an overview for example Hulstijn, 2001, 2002, 2005, 2015; Laufer & Hulstijn, 2001), the present study will stay within the original terminology of the theoretical framework of incidental learning and define it as *an unintentional or unplanned process, resulting as a by-product of another activity. This by-product can result from implicit processes but might also be accompanied by explicit processes, during which a person pays at least peripheral attention to certain language forms and engages in hypothesis forming and testing.*

While often used within the framework of first language acquisition, the concept of incidental learning can also be related to the field of second and foreign language learning and is generally acknowledged in the research field of psychology and language learning (R. Ellis, 2008; Krashen, 1982). For Chomsky (1968, cited in Elley, 1997) learning a native language is in fact so deeply biologically programmed into the brain that children learn their native tongue simply

¹ In terms of how much of this process is implicit and how much is acquired through explicit processes, N. C. Ellis (1994) concludes that acquiring vocabulary (i.e., words, collocations, and grammatical class information) might mostly be an implicit process, while for the acquisition of semantic properties and mapping words from context explicit processes are more relevant, see also Rieder (2003). However there is still some doubt if learning without awareness is even possible (R. Ellis, 2008). Since the focus on this study is on incidental learning and not implicit/explicit learning, the distinction will not be discussed in detail here.

by being exposed to it. In addition, there is little dispute that, except for the first few thousand most common words, which are usually learned intentionally, the vast majority of the vocabulary is acquired incidentally as a by-product of other activities (Hulstijn, 2001, 2003, 2013). Nagy and Anderson (1984) conclude that it would indeed be impossible to explain high school students' knowledge of 25,000—50,000 words in their mother tongue otherwise. Most words, phrases, and grammar rules have to be 'picked up' from the context while engaging in other activities.

While acquiring a first language is not the same as learning a second or foreign language, some research suggests that the two processes are not that different. Moreover, while explicit instructions within the classroom have been proven to be an effective route to foreign language learning, teachers could simply not include enough vocabulary learning in the classroom to explain some learners' language proficiency (Rieder, 2003). In his work, Krashen claims that the process of language acquisition is indeed not limited to children learning their first language, as adults do not lose the mental capacity for acquisition. According to him, language acquisition is an autonomous process outside of one's conscious control, as humans cannot choose not to encode and store the information they encounter (Krashen, 1982). Therefore, his *input hypothesis* claims that as long as learners are presented with a high amount of *comprehensible language input*, incidental language learning will take place, even in the absence of explicit instructions and intentional learning activities (Krashen, 1985, 1989). Comprehensible input ($i + 1$) can derive from spoken words or through media channels (e.g., books, movies) and is input that is just slightly more complex ($+1$) than a person's current level of competences (i). Under such conditions, a person can derive unknown words and grammatical structures from the surrounding context and thus acquire higher language competences (Krashen, 1982, 1985, 1989).

The learning process is mediated by a person's resistance to process the input, i.e., the level of their *affective filter*, which is any kind of internal resistance to process the input. It functions as a mediator between the language input and the acquisition process. Even if sufficient comprehensible input is available, a high filter might lead to a reduced or total lack of acquisition. Under such circumstances, the information might be understood in the moment, but will not be processed for acquisition. Reasons for a high affective filter are often anxiousness, a lack of motivation or self-confidence. A person's affective filter is low if one is not afraid of failure and feels self-confident in their role as a language speaker and member of the language community. Krashen suspects the filter to

be lowest if a person does indeed forget that they are speaking another language and are instead entirely focused on the message at hand (Krashen, 1982, 1985, 1989).

Given a low enough filter, language acquisition will take place in the *language acquisition device* of the brain (LAD). According to this theory, learners will naturally progress to continuously higher levels of language competences, as long as they come into contact with enough comprehensible input (Krashen, 1982, 1985, 1989). Consequently, a lack of comprehensible input will slow down or stop this trajectory. This might then lead to *fossilization*, i.e., the learner will stop short of achieving a native speaker level (Krashen, 1985, p. 43). This can happen in two ways: First, learners might encounter input that is too easy and will not provide learners with new syntax or will only subject them to a limited range of vocabulary. Second, learners might encounter input that is too complex and the input will consequently prove to be too difficult for them to decipher. As a result, students will be unable to understand enough of the content to derive unknown words from the surrounding context. Both situations would result in diminished learning outcomes (Krashen, 1985).

Krashen finds empirical support for his hypothesis not only in children's first language acquisition but also in several studies that show empirical evidence for incidental learning in second and foreign language learners through input from leisure time reading and free reading programs within the classroom, as well as from listening to stories being read out loud (for a summary see, for example, Krashen, 1989). Further empirical evidence for incidental learning processes from language input in natural settings will be discussed in Section 4.2.

Despite his influence in the field, Krashen has been criticized for his strong focus on language input, and for ignoring the social nature of language and the importance of output production and interaction for language learning in general and for incidental language learning processes in particular. Other researchers have stressed the importance of social interaction for (incidental) language learning. These theories and studies have often drawn on Vygotsky's *sociocultural theory*. According to Vygotsky, humans need social interaction and communication in order to levitate their natural biological mental capacities into higher-order mental functions. Only through interaction are these capacities modified and interwoven with cultural values and meaning. Through this process, individuals gain understanding and control over psychological tools, which helps them to moderate interaction with objects in their surroundings. Written and spoken utterances made in a foreign or second language are such objects of interaction (R. Ellis, 2008; Vygotsky, 1978). According to this theory, learners will not be able to

interact directly with a language as the object of their attention at the beginning. Instead, they will rely on external assistance in the form of *other-regulation* via more advanced speakers or *object-regulation* via tools (e.g., dictionaries), which act as moderators for the interaction with the object 'language'. Other-regulation through personal assistance in a verbal interaction can, for example, be provided in the form of waiting (giving the speaker time to think), prompting (repeating words in order to help the speaking person to continue), co-constructing (providing missing words or phrases), and explaining (addressing errors; often in the first language) (R. Ellis, 2008; Vygotsky, 1978). Through this assistance, learners will be able to perform tasks which lie within their *zone of proximal development*. Vygotsky defines this zone as

“[...] the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.” (Vygotsky, 1978, p. 86).

Hence, the zone of proximal development lies between tasks a person can already carry out by themselves (*level of actual development*) and tasks that a person could not perform, even if assistance is available (Vygotsky, 1978).

The interaction with another person or an object frees the novice of some of the cognitive load of the task at hand and allows them to reach their goal. At the same time, the interaction will provide them with behavior to imitate and internalize for future use. In time, learners will become able to perform these tasks or activities on their own and will rely less on outside regulation (Dunn & Lantolf, 1998; Lantolf, 2000, 2005, 2011; Swain, 2005; Vygotsky, 1978).

Eventually, language learners will reach a level of proficiency where they no longer need outside assistance and instead become self-regulating in their use of the language. In this state, a person can facilitate their own language resources through private (inner) speech to achieve and execute control over their mental processes and their interaction with the language. The process from other-regulation or object-regulation towards self-regulation is called *internalization*, and (verbal) communication is the crucial means by which such a process is achieved (R. Ellis, 2008). According to the theory, the highest level of proficiency in any language can thus only be achieved if learners interact with others and produce output as well as take in input (R. Ellis, 2008; Swain, 2000, 2005).

It might be tempting to equate Vygotsky's Zone of Proximal Development with Krashen's $i + 1$. However, as Dunn and Lantolf (1998) have pointed out, the two theories are incommensurable at their core. For Krashen, language learning takes place automatically within a person's language acquisition device (LAD), given a sufficient amount of input within a person's $i + 1$. If the affective filter is low enough and enough comprehensible input is available, language acquisition will be inevitable. As long as enough input is provided, the acquisition curve will be a steady, continuous, and linear process, moving from one stage to the next (Dunn & Lantolf, 1998; Krashen, 1982, 1985, 1989; Lantolf, 2005). Krashen does support a weak interaction hypothesis by acknowledging that dialogue and interaction can help to negotiate meaning and clarification, making input more comprehensible. However, he rejects the idea that output production and interaction are necessary factors for (incidental) language learning. For him, a true interaction hypothesis cannot explain cases in which learners have reached a high level of proficiency without interaction. In fact, he sees the value of interaction not in the amount of language spoken by the learner but in the amount of input provided by the interaction partner (Dunn & Lantolf, 1998; Krashen, 1982, 1985, 1989).

On the other hand, Vygotsky rejects the idea of an autonomous individual acquiring a language through an automatic cognitive process. Instead, he states that language development results from humans constantly developing to a higher state of control over their own mental activities by using the assistance of others or objects. Language development is thus not a linear but rather a historical process, rooted in a social context and acquired through interaction and imitation. As a result, interactional and material circumstances shape the form and outcome of each individual process (Dunn & Lantolf, 1998; Lantolf, 2005).

Dunn and Lantolf (1998) concluded that trying to converge the two theories means reading into Krashen something that is not there and taking the interactive core out of Vygotsky. Instead, they call for an acceptance of this incommensurability and peaceful coexistence, dialogue, and appreciation for their individual contributions to the field (Dunn & Lantolf, 1998). Following this call for dialogue, this study will draw on both theories in order to explain incidental language learning in the context of media-related extramural English contacts. As Section 4.2. will show, there is empirical evidence for incidental learning processes through input only contact, as well as evidence for the (additional) benefit of interaction and output production.

Similar to Vygotsky, Swain also sees language as an inherently social and interactive artifact that humans use to interact with each other and their environment. In her *output hypothesis*, she emphasizes not only the interactive nature but

also the need for active output production in order for learners to reach higher language competences.

While evaluating Canadian immersion programs in 1985, she found higher French test scores for the immersion students than for the non-immersive students. However, while the reading and listening scores of the immersion students were almost similar to native speakers, their performance for writing and speaking stayed behind those of their native counterparts. Since students in immersive classes are presented with a high amount of comprehensible input on a daily basis, her findings raised doubts about Krashen's input hypothesis (Swain, 2000, 2005). Swain and her team argued that the important difference between native French speakers and immersion students was that students in the immersion classes were not pushed to produce a high amount of output. For Swain, the production of comprehensible output, i.e., output that is "grammatically accurate and socio-linguistically appropriate" (Swain, 2005, p. 472) for a given situation, and which allows the interaction partner to understand the speaker, goes far beyond simply providing an opportunity for enhancing fluency through practice (Swain, 2005). Instead, the output serves three functions:

First, producing language output can trigger *noticing* on different levels. Learners may notice a word or form because it is frequent or salient. However, they may also notice gaps and language problems in their own interlanguage, which hinders their ability to express themselves accurately. They might then seek to fill the gap by interacting with an interaction partner or an inanimate tool (e.g., dictionary, grammar book) or make a mental note to pay further attention to the relevant input in the future. In this way, through the recognition of problems, a mental conflict is triggered, and a cognitive process is initiated, leading to generating new or consolidating existing knowledge (Swain, 2000, 2005). Empirical research has shown evidence for such a process in learners after producing written or spoken language output in interaction with another student (for an overview see, for example, Swain, 2005).

Second, empirical findings suggest that output serves as an opportunity for testing one's language hypothesis and provides the learner with an opportunity to alter and modify the output if the hypothesis proves to be incorrect (Swain, 2000, 2005). This becomes possible through feedback from the interaction partner. The feedback can be implicit or explicit. With implicit feedback, learners must infer the inaccuracy of their utterance, while explicit feedback clearly states where the learners' utterance was correct and where it was incorrect (Carroll & Swain, 1993). Both implicit and explicit feedback can be positive or negative. Implicit or explicit positive feedback verbally or nonverbally confirms that an

utterance was indeed correct (Carroll & Swain, 1992). Explicit negative feedback verbally or nonverbally states that a form does not belong to the target language. Implicit negative feedback occurs verbally in the form of error correction, corrective recast, and rephrasing of erroneous sentences or phrases, or through nonverbal communication (Aljaafreh & Lantolf, 1994; Carroll & Swain, 1992, 1993; R. Ellis, 2008; Long et al., 1998). Both forms of feedback are effective and can provide learners with information that input alone cannot provide. Empirical studies have, for example, shown that negative feedback, both implicit and explicit, can induce noticing of forms and phrases which are not as salient through comprehensible input alone or are rare or unlearnable through positive feedback (Aljaafreh & Lantolf, 1994; Carroll & Swain, 1992, 1993; R. Ellis, 2008; Long et al., 1998).

Therefore, feedback helps learners to test their hypothesis about the target language.

Strategies to solve language problems might include testing alternative hypotheses, applying existing knowledge to the context at hand, and internalizing newfound knowledge into one's system. In fact, some errors or turns observed in learners' written or spoken interactions may be seen as evidence for testing different hypotheses about the target language. By doing so, learners are engaged in deeper processing of the target language, ultimately resulting in increased control and automaticity in using the target language. This, in turn, releases cognitive resources for higher-level processes. Therefore, it can be argued that the process of modifying one's own output represents language acquisition (Swain, 2000, 2005).

Third, the production of language output provides an opportunity for metalinguistic reflective functions (Swain, 2005). By putting thoughts into words, they become sharpened and transformed into an artificial form that is accessible to further reflection and response by oneself and others. Thus, speaking or writing represents both cognitive activity and the product of the activity itself.

In addition, output production triggers a deeper understanding and elaboration because it requires the speaker/writer to pay more attention to the elements of a message and their relationships to each other to connect and organize them into a coherent whole. Through this process, a more durable memory trace is established in learners' minds, and language learning is facilitated (Swain, 2000, 2005).

All of these functions and benefits of output production are present in collaborative dialogue, in which speakers work together in order to solve linguistic problems and build linguistic knowledge (Swain, 2000, 2005). It is in output and interaction that learners have the opportunity to actually use the target language

and stretch beyond their present stage of language competence. Swain, therefore, concludes that the production of comprehensible output is necessary for learners to reach the highest levels of proficiency (Swain, 2000, 2005). Language is thus interlinked with and fostered through social interaction, emerging as a result of “meaning-making processes” (Black, 2005, p. 120) within a specific social context (Black, 2005). In interaction with others, learners have the chance to test their hypotheses and to gain more control over their own language production.

Despite the somewhat incommensurability of the way the discussed theories model language learning and the importance language input, output, and interaction play in its process, the discussed theories suggest that regular contact with a foreign language and the chance to use it to interact with others can result in incidental language learning.

In terms of input and media-related extramural English contact, Chapter 2 has shown that technological developments in the last few decades have made regular access to English-language media content highly accessible for learners in Germany and Switzerland. By regularly engaging in English media content, learners are presented with a high amount of input for the most frequent English words and chunks, both written and auditory. In addition, learners can benefit from contact to less frequent and topic-specific vocabulary. Since learners choose the content themselves, it should be highly motivating and engaging, thus lowering the affective filter.

In addition, newer interactive media channels can further increase and deepen the learning process by allowing learners to interact and engage in dialogue. Here, Vygotsky’s theory and Swain’s output hypothesis provide a framework that might explain why a high level of interactive extramural contact with a foreign language might help students to navigate their interaction with the target language. The interaction will provide them with the necessary assistance to make complex input comprehensible, work through their zone of proximal development, and engage in mean-making processes within a given social context. Such interactions can be with a more advanced speaker of the target language (other-regulated), but also with other inanimate objects (object-regulated), such as additional information material, a dictionary, or other forms of technological tools. This might be especially important for less proficient learners. As learners progress in their control over the language, they might be more and more able to self-regulate and process even complex authentic input on their own. In addition, the chance to produce output and engage in dialogue will help learners to notice gaps in their own knowledge, reflect on their language use, and test hypothesis.

However, it should be mentioned that in the very beginning, learners might not be able to navigate authentic English-language media content even with the help of other-regulation and object-regulation. Instead, most learners will rely on in-classroom instructions at this stage. Even Krashen admits that for most learners, the first contact with a target language will most likely be through the educational system. This in-classroom instruction will provide learners with comprehensible learning material geared explicitly towards their competence level (Krashen, 1985). As such, formal instruction within the classroom will have a significant impact on students' language development and will lay the base for any future language learning. Indeed, as Hulstijn (2001) points out, most teachers and scientist are well aware of the fact that even though incidental learning is a useful and powerful tool for language learning, it is important to teach learners the linguistic principles and lexical system of the target language, as well as making them aware of (vocabulary) learning tasks and teach them explicit strategies for doing so. Most teaching materials recognize this by including a vast number of techniques and activities to teach beginners and intermediate learners the necessary core vocabulary. This ensures that learners start their language journey with the study of a base vocabulary, learned to automaticity, while contextual learning does only play a role in later stages (Hulstijn, 2001).

In addition, formal instruction will also help learners to develop what Krashen calls the *monitor*. While a person's ability to produce language derives from their unconscious knowledge and acquired competence, conscious learned knowledge about the target language serves as a monitor. This monitor helps to regulate and check output before it is uttered. For the monitor to work, learners need to be aware of the rules and be concerned with correctness (Krashen, 1985).

With time, learners will become more proficient and, as a result, will find it easier to find comprehensible media content outside of the classroom and engage in more complex interaction and dialogue with advanced learners and native speakers. Chapter 2 could show that newer interactive media channels do provide learners with said opportunity to produce and actively use English in natural settings. In this way, the media has created new assisted and interactive language learning opportunities outside of the educational setting, which provide more than just language input. New forms of interactive online communication tools, such as chatrooms, messaging apps, and message boards, can provide opportunities for extramural English contacts and activities through synchronous or asynchronous interaction with native and non-native speakers. By using these media channels, learners not only receive a high amount of input but can also actively produce output and engage with others in collaborative dialogue and interaction. In these interactive contexts, they will get immediate feedback on

their language production. Here, advanced learners and native speakers can act as sources for other-regulated interaction, similar to a teacher in the classroom. They provide positive and negative feedback and help learners in the form of, for example, co-construction, explanations. Through these contacts, learners may even be provided with the opportunity for a high level of immersion within a language community. In this way, new words and phrases can be used and repeated regularly, which in turn fosters a higher conversion rate into long-term memory (Hulstijn, 2001).

The next chapter will summarize empirical evidence for incidental language learning occurring both from input-only as well as from more interactive media channels.

4.2 Empirical Evidence

Early research into incidental learning processes was often conducted within the field of psychology and concentrated on learning through input by reading or being read to by others. The studies were usually experimental in design and did not focus on language contact through extramural English contacts. In recent years, interest in incidental learning processes through media-related extramural English contacts in natural settings has grown significantly outside of the field of psychology. Extramural language contact in these natural settings might be provided through books or other written online and offline material or through music, podcasts, audiobooks, radio, movies, TV series, TV shows, online communities, and computer games. While the first of these media channels only provide language input, online communities (e.g., social media platforms) and computer games can also provide learners with opportunities for output production and synchronous and asynchronous social interaction. The following chapter will summarize important recent empirical findings for incidental language learning in natural settings among young learners (i.e., children and adolescents) through these channels.

As the media landscape changes rapidly, the summary will focus on newer findings to increase comparability with the present study. In addition, the summary will focus on studies about extramural English contacts in natural settings as this aligns with the focus of the present study. Key findings from experimental studies will be discussed only where they provide important insight otherwise missing (for a more detailed discussion on experimental studies in this area see, for example, Huckin & Coady, 1999; Ramos, 2015).

Studies investigating media exposure within the classroom and homework assignments were excluded as they do not focus on extramural English contacts. This also excludes the use of educational computer games, computer-assisted language learning, online learning platforms, and other forms of material specially developed for language learners.

4.2.1 Incidental Language Learning Through Reading

Books have been one of the traditional ways for extramural contact with English as a foreign language. One advantage of reading is that it provides learners with the possibility of repeatedly encountering unknown words and phrases, thus increasing the knowledge of those words and the chance of committing them to memory (Vidal, 2011). However, research has suggested that reading a book is a demanding activity as learners already need to have advanced language competences (Peters, 2018). According to Huckin and Coady (1999), readers need knowledge of at least 2,000 of the most common words in English to understand and use 84% of the words in most texts (and spoken language). For general text comprehension, readers must even be able to understand 95% of the words used in a given text. In order to be able to do so, people need to know the 3,000 most common words. Complete comprehension will not be reached until one understands 98% of the words in a text, which already requires a vocabulary of the 5,000 most common words. According to Sylvén and Sundqvist (2015), this might be the reason why learners in their study only reported low frequencies of leisure time reading in English. Nevertheless, even though 5,000 sounds like a relatively large number, Huckin and Coady argue that it is well within reach of the average language learner (Huckin & Coady, 1999).

Despite these challenges, empirical research suggests the effectiveness of extensive reading, especially for incidental vocabulary gain. To this author's knowledge, at the time of this study, there seem to be no studies looking exclusively into unprompted extramural reading and language competences in natural settings. Empirical evidence must therefore be drawn from studies investigating incidental language learning in experimental settings. However, it should be kept in mind that these settings do not strictly provide extramural contact as defined in this study.

Elley and Mangubhai (1983) conducted a study to examine the effect of extensive reading programs for children from Fujian primary schools learning English as a foreign language. In the experimental groups, teachers encouraged students

to read as much as possible and provided age-appropriate books within the classroom. In one of the experimental conditions, teachers also discussed and followed up on the material. Compared to the control group, students in both experimental conditions showed increased language competences in the post-tests. Even though the study suffers from a lack of control over what happened in the classrooms (e.g., some teachers in the control groups read aloud to their students on a regular basis, even though they were instructed not to), the results all point towards the existence of incidental learning processes through extensive reading.

Pitts et al. (1989) conducted a study with 74 learners of English as a foreign language, who were asked to read an excerpt from Anthony Burgess' book *A Clockwork Orange*. The book contains the artificial language *nasdat* and is thus ideal for testing, as students most likely did not know these words beforehand and could therefore not derive their meaning from any similar words in their native language. They were told they would be tested on the story's content afterward but were not told about any vocabulary testing. Two experimental groups were tested in addition to one control group. Experimental group 1 was given 60 minutes to read the text. Group 2 was additionally shown a short clip from the film before reading for 60 minutes. This was due to the high complexity of the text and the younger sample in group 2. The control group neither read the text nor watched the movie. Results from the subsequent vocabulary test showed a significant difference between the experimental and control groups, with group 2 scoring significantly higher than group 1.

Similar to these findings, Dupuy and Krashen (1993) found in their experimental study that even exposure to 40 minutes of reading showed significant gains in students' vocabulary knowledge. They showed students of French as a foreign language a short clip of the film *Trois hommes et un couffin*, followed up by a 40-minute reading of an excerpt from the book. Results showed a significant language gain in the experimental group. The group of 3rd year students of French as a foreign language even outperformed the advanced 4th year language students in the second control group.

Both teams concluded that in the light of the significant, yet sometimes minor, gains in vocabulary, incidental language learning from reading can occur with foreign language learners, even in a short timeframe. In addition, subjects were only tested on a fraction of words, meaning that they could have learned other words incidentally as well, without it being represented in their test scores. Furthermore, subjects did not read the entire book, which would have provided them with the opportunity to encounter unknown words multiple times, thus increasing the chance of storing them to memory. Last, the chosen texts were quite difficult for readers in both experiments. Hence, it would be possible that more incidental

learning would have taken place if learners had been able to understand more of the texts and thus infer more meaning of unknown words from the surrounding context (Dupuy & Krashen, 1993; Pitts et al., 1989).

In order to overcome the limitations of these earlier studies, Horst et al. (1998) conducted a pre-post-test experimental study in which subjects were asked to read a whole novel over a period of 14 weeks. Students read along while the text was read aloud in class. After each session, the texts were re-collected and stored in the school to prevent students from reading ahead or looking up unknown words at home. The results showed a significant gain in vocabulary by the subjects. The gain was higher than in Dupuy and Krashen (1993) or in Pitts et al. (1989), which the authors attributed to the longer exposure and the longer text. Prior knowledge seemed to have played a moderating role in students' ability to pick up words, as higher knowledge allows students to infer the meaning of unknown words more easily from the surrounding context. Word frequency in the text also played a moderating role in the chance of words being picked up. In addition, nouns were picked up more often than other word types. In a follow-up interview, students reported being surprised that the words they were tested on in the post-test were actually in the novel. This is a strong indicator of the implicit knowledge built through incidental learning.

Despite the findings, the authors conclude that while reading might be a source for incidental learning, it seems to be a slow process. Learners, on average, picked up one word for every fifth word read. However, this result is much higher than for the previous studies, which found retention rates of around one in twelve (Horst et al., 1998).

Pigada and Schmitt (2006) investigated the influence of incidental vocabulary learning in a qualitative study design. They observed one intermediate learner of French as a foreign language. Even though the study used simplified reading material, not authentic texts, their results are still interesting, especially since they not only tested for increased knowledge about word meaning but also spelling and grammatical characteristics. This aids the understanding of the incidental learning process. As the authors and others have noted, the disadvantage of texts with a rich context is that the meaning of a single unknown word might not be necessary to understand the text as a whole. As a result, learners might not subconsciously try to infer the meaning of each unknown word and thus might not learn the meaning of these words. However, the exposure might still increase their knowledge about other aspects of a word, with spelling being the most affected characteristic. Their results revealed that their test subject was able to recall at least one of the word aspects in two-thirds of the target words. Moreover, while not all words were fully mastered by the subject, he was nevertheless capable of

using them in productive writing. The highest number of exposures within the text was necessary for learning the meaning of nouns, and some words were still unclear after they appeared more than twenty times in the text. However, one exposure was enough for spelling in some instances. Results also suggest that the inference of meaning for some words was hindered by the interference of the subject's native language and similar words in French (Pigada & Schmitt, 2006).

In a more recent study, Vidal (2011) showed significant gains in vocabulary knowledge for language learners through written academic texts. In comparison to auditory input, readers recalled more information overall, especially low proficiency learners. The author concluded that reading provided learners with ideal opportunities to dwell on unknown words and sentences. Repetition of words was an important factor for recollection, with readers needing significantly less repetition than listeners to store words to memory. However, the author also concluded that readers and listeners made more gains in words that were explicitly elaborated beforehand. This shows that explicit elaboration can foster robust connections between form and meaning.

Overall, the empirical findings show that incidental language learning from extensive reading does occur, albeit the process being slow and challenging for readers. In addition, some words (e.g., nouns) seem easier to pick up than others and repetition seems to be an important factor for recollection but does not guarantee a successful learning process.

All of the discussed studies used books or book excerpts for their research. However, the internet has also made new forms of written content available. While social media sites often only provide shorter texts, blogs might provide readers with longer English content from various areas of interest. It can thus be hypothesized that online reading activities will also lead to incidental learning processes. However, to this author's knowledge, there is no empirical data available for reading online in terms of incidental language learning, yet. Studies concerning online communities, including social media platforms, will be discussed separately in Section 4.2.4, as they provide not only input but also enable output production and interaction.

4.2.2 Incidental Language Learning through listening

Music can be a valuable source for language learning, as the lyrics are highly repetitive, conversation-like, and slower-paced than spoken, non-musical discourse. In addition, people tend to listen to the same song multiple times

(Toffoli & Sockett, 2014). It is therefore surprising that there seems to be little empirical evidence for incidental language learning from exposure to music, either in an experimental or in a natural setting. One of the few studies investigating the effect of extramural listening to pop music on students' vocabulary competences is Schwarz (2013). In the study, 74 secondary students were tested on their word recognition for 14 common words from 10 popular songs. In addition to self-reported word recognition, students also had to use some words productively or provide a translation or synonym, thus making the results more reliable. Results showed a significant increase in vocabulary knowledge between the pre- and post-test. In addition, the qualitative analysis of the translation and synonyms also showed that some students already referred to the song lyrics in the pre-test, demonstrating that they already knew the lyrics and the words were processed in the context of the song. However, four students had inferred the wrong meaning of the target word from the song. The author did not investigate the differences between students with a high number of extramural contacts and students with lower extramural contacts. This is probably due to the small variance in the sample, as all students listened to English music every day (Schwarz, 2013).

Even though the sample size was small, and the data relies on students' self-reported knowledge, the results showed a promising trend towards incidental language learning from exposure to English pop songs. However, similar to the findings for reading, the vocabulary gains were small (Schwarz, 2013). This once again supports the notion that incidental learning takes place in small increments and through repeated exposure.

In their experimental study, Pavia et al. (2019) investigated vocabulary gains from listening to music for 300 Taiwanese children ages 11 to 14. Their results showed significant gains in knowledge of spoken-form recognition for both single word items and collocations for the experimental groups between pretest and immediate post-test, but not for the control group. Repeated exposure significantly increased learning gains, starting around seven encounters. Overall, students' learning gains were again small. Results for the delayed post-test could not solely be attributed to the treatment, as the control group also showed a significant increase in vocabulary. The authors attributed this to learning effects from the immediate post-tests or conscious discussions about words and collocations among the students after the test. Experimental and control groups did not differ in regard to their gains in form-meaning connections. This is in line with other empirical findings that showed learners retain spoken-form recognition before form-meaning connection, the latter needing more exposure than the former. As the authors note, this might be even more dominant in exposure to music since

songs do not provide as much context as other forms of media content. Nevertheless, even though participants only listened to two songs and results only show learning gains for spoken-form recognition, the results are promising and show that incidental learning through music can occur even after a short exposure and even in learners at a beginner level.

Additional evidence for incidental language learning through music in older learners comes Toffoli and Sockett (2014). Results from their study with 207 Arts and Humanities students in France showed that French university students listen to a high amount of English music on a daily basis; some even listen exclusively to English music. Furthermore, the music was not just background noise, but students engaged in active listening strategies such as looking up song lyrics online or pausing and rewinding songs to understand the lyrics better. Learners were also asked to translate four excerpts from popular song lyrics in order to measure possible learning effects. Results showed that frequent listeners (at least once a week) outperformed non-frequent listeners for all four excerpts. Unfortunately, the language comprehension test only included four items in the form of four excerpts from song lyrics. What is more, it is not clear if learners had come across any of the words presented in the test before. As the authors noted, preferences for genre, artists, and songs varied considerably in the sample, making it difficult to choose lyrics for the test. In addition, the sample size was relatively small. Still, the results yield important insights in terms of the variety of music styles learners listen to, as well as the listening strategies employed by learners.

Apart from music, another form of auditory input is spoken auditory input, e.g., from reading aloud to learners. R. Ellis (1999) summarized findings for language learning by reading out loud to younger children in multiple experimental studies. The results show an increase in language competences for young learners in classes where students were being read to on a regular basis. Again, repetition was an important factor for learning gains. The author also stressed the significance of the opportunity for learners to ask questions and show their non-comprehension in face-to-face settings. These interactions will probably lead to additional input from the reader, specifically tailored to the individual learners' language skills.

In addition to the reported learning gains from reading, Vidal (2011) also showed significant vocabulary gains for university students listening to academic texts (see also Section 4.2.1). However, listeners recalled less information in direct comparison to readers in the sample. Vidal concluded that listening to a speaker seems to be a rather challenging activity, especially for lower proficiency learners, as real-time language processing makes it harder to segment the spoken text into separate words and recognize unknown words or phrases from

running speech. As a result of these challenges, listeners most likely needed more repetition in order to commit a word to memory than readers do. However, it is likely that, as learners' proficiency increases, so will the ability to identify and process unknown words from listening to audio input (Vidal, 2011).

Furthermore, the results showed that listeners most likely cannot suppress the activation of knowledge from their native language. As a result, they often do not recognize the differences in cognates or false friends. They are also less likely to add new, formerly unknown meanings of polysemous words to memory. Instead, they were shown to stick with the meaning they already knew, even if it made no sense in the given context. Readers in the study suffered less from this problem (Vidal, 2011).

However, despite the challenging nature, Vidal concludes that listening to English audio content can aid learners in their language learning process since words heard auditorily are stored directly into the phonological memory. Words encountered in the written form still need to be recorded, a process that might be partially or entirely unsuccessful in some cases. Listening can thus help to foster more stable and long-lasting memory traces (Vidal, 2011).

Similar to Vidal, van Zeeland and Schmitt (2013) conducted a study with postgraduate students from an English university who learned English as a second language. While it has to be kept in mind that the study tested learners much older than in the context of this study, who also lived in a country where the target language (English) was the native language, the results still yield interesting insight into the complex nature of incidental vocabulary learning.

As opposed to earlier studies, this study did not only assess recognition and recall of meaning, but also form and grammar recognition. Thirty high-intermediate to advanced learners of English were asked to listen to a text passage read to them that contained several made-up words. They were told to concentrate on the meaning of the text as a whole. While 20 learners were tested immediately afterward, ten learners were tested with a delay of two weeks to identify long-term retention without confounding learning effects from the first post-test. Results showed a significant but again small learning gain for all knowledge dimensions. Overall, meaning recall showed the smallest gains. Learners scored highest in form recognition, followed by grammar recognition, for immediate and delayed post-test. The authors conclude that these results show that some vocabulary dimensions are picked-up later than others. Interestingly, what little meaning learners were able to gain incidentally was better recalled after two weeks than gains for form and grammar recognition.

Overall, the empirical evidence suggests the benefit of extramural audio contact to a foreign language. As music is a popular leisure-time activity and people

tend to listen to their favorite songs repeatedly, extramural contacts through songs offer a beneficial way to learn a language.

English-language music has traditionally been easy to access, even before the advent of the internet in both Germany and Switzerland (see Chapter 2). Therefore, music has most likely already been an opportunity for incidental language learning for adolescents in past generations. However, the possibility of modern music streaming on online-based music platforms might provide learners with a greater locus of control over their listening experience. Being able to pause, rewind, and use the lyrics-on-screen function at their own discretion is likely to make input more comprehensible for learners (Toffoli & Sockett, 2014).

In addition, the empirical evidence for spoken language summarized in this chapter also highlights the learning opportunities provided by English audio-books, radio programs, and podcasts. However, research about learning gains from extramural contacts in a natural setting is still scarce.

Similar to reading, learning gains from this kind of input seem to be small (van Zeeland & Schmitt, 2013; Vidal, 2011). This is likely also due to the fact that listening to authentic input is equally if not more challenging for learners. Learners need to know as many as 6,000 to 7,000 of the most common words to follow a spoken discourse (Nation, 2006). In addition, empirical evidence shows that especially low proficiency learners might have problems with the recognition and segmentation of words from running speech (van Zeeland & Schmitt, 2013; Vidal, 2011).

4.2.3 Incidental Language Learning Through Watching

English-language movies, TV series, and TV shows provide viewers with both auditory and visual input. New words are presented within a narrative context and supported by visual aids. If subtitles are added, written content is provided as well. Watching movies, TV series, TV shows with subtitles thus provide auditory, written, and visual information, with the latter providing rich contextual clues for the former two (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; Lindgren & Muñoz, 2013). In addition, Webb and Rodgers (2009) point out the beneficial characteristic of repetition for vocabulary learning, especially in TV series.

Earlier studies about incidental learning through watching audio-visual content usually investigated subtitled movies and TV series, as these were the options most accessible to viewers at the time. In their study, Neuman and Koskinen (1992) investigated the influence of subtitled TV programs on both language and topic knowledge for Asian minority students in the US. They found significantly

higher results for the subtitled TV and the normal TV group in comparison to the two control groups (listen to audio and reading along; reading only). These results strongly support the claim that reading (subtitles) is not the only route for incidental learning processes and that visual content does, indeed, foster learning. In addition, the study also showed evidence that students' prior vocabulary knowledge and a supportive context, in the form of video print, play an important moderating role in the incidental learning process. However, the authors pointed out that since the content is not produced with the language learner in mind, the content might be too complicated for beginners to follow. In addition, the pace of the spoken information in most TV series and movies might be too quick for some learners and subtitles are designed to keep pace with the scene on screen (Neuman & Koskinen, 1992).

d'Ydewalle and his team conducted several experimental studies investigating the effect of watching subtitled television on learners' language competences (an overview can be found in d'Ydewalle, 2002). Results showed evidence for the fact that reading and processing the input provided by subtitles is an automatic process beyond conscious control and that it triggers incidental learning processes (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999).

Incidental learning proved to be even more effective when subtitling was reversed, i.e., when the foreign language was presented in subtitles and the native language in the audio track. The authors attributed this to the fact that processing the subtitles was the main activity for participants and thus, providing the foreign language in written form led to higher learning gains (d'Ydewalle & Pavakanun, 1997).

Furthermore, results from studies with different age groups showed that, in general, younger children pay less attention to subtitles and prefer dubbed movies and TV series. This is most likely due to their lower reading skills. However, a small part might also be influenced by the fact that younger children in the Netherlands (where the studies were carried out) are not as accustomed to watching subtitled television as older children and adults are. As a result, they benefit less from extramural English contact if subtitling is reversed and therefore show lower vocabulary gains (d'Ydewalle & van de Poel, 1999).

Results from the research group also showed that the similarity between a person's native language and the foreign language in question plays a moderating role in the effectiveness of the incidental learning process (d'Ydewalle & van de Poel, 1999).

In addition to vocabulary, d'Ydewalle and colleagues are also one of the few teams to investigate the acquisition of grammar and syntax through incidental learning. While the initial studies failed to detect any effect, they were eventually

able to show slight increases in grammatical competences. However, it should be mentioned that the increases were most significant when explicit rules were presented in advance. Therefore, the authors concluded that grammar might be too complicated to acquire solely from exposure to the target language (d'Ydewalle, 2002). Increases in grammar and syntax competence should thus only be expected after some form of formal instruction has taken place. They confirmed this in a study comparing children before and after they were first introduced to French as a second language within the school context (d'Ydewalle, 2002). In contrast, words, especially nouns, seem to be much easier to acquire incidentally (d'Ydewalle & van de Poel, 1999).

Apart from subtitled content d'Ydewalle and Pavakanun (1997) also found learning gains for experimental groups with only the foreign language in the audio track (without any subtitles) and concluded that watching the rich visual information provided by the movie enabled participants to derive the meaning of the story from the visual context. This was not the case when the foreign language was provided in the subtitles, and no audio track was played, which is probably due to the fact that participants missed important visual clues while concentrating on the subtitles.

In support of these findings, Araújo and da Costa (2013) could also show that advanced learners from the *European Survey on Language Competences* (ESLC) did not significantly benefit from movies with subtitles compared to movies without them. The reverse was true for students at the beginner level. The authors attributed these findings to the fact that learners need to reach a certain level of proficiency before being able to process non-subtitled audio-visual content efficiently. Once they reach that threshold, subtitling no longer contributes significantly to the learning process.

Kusyk and Sockett (2012) tested 43 French university students on their word recognition from audio-visual input. High-frequency watchers demonstrated a significantly higher rate of recognizing and ability to define the most frequent 4-word chunks tested in the vocabulary test than low-frequency watchers. In addition, the results showed a tendency for more frequent and more salient chunks to be recognized more easily. The results underscore the importance of previous knowledge for extramural contacts in natural settings. Most students situated themselves at a B1 level at the beginning of the study. As the authors point out, at this level, learners should be able to understand most of the spoken content in standard dialect on TV or radio. However, the results should be interpreted with caution due to the small sample and the fact that word comprehension was not measured by a comprehension test but by students' self-evaluation.

Last, results from Lindgren and Muñoz (2013) also show that watching television is the second-best predictor for learners' listening and reading comprehension.

Overall, the empirical evidence presented in this section shows the beneficial effect of audio-visual contact in the form of movies and TV series for foreign language learning. In contrast to audio-only input, watching a movie or TV series provides a rich visual context to help learners follow a story, even if they do not understand every word. Similar to music, the technical opportunities of streaming services provide learners with a greater locus of control over their viewing experience. Being able to pause and rewind, switch between native and foreign language audio tracks and use subtitling is likely to make input more comprehensible and help with listening comprehension overall (Toffoli & Sockett, 2014).

As with other forms of language input, learning gains from this kind of input seem to be small, most likely due to the challenge of decoding words and meaning while listening to authentic language input. Similar to audio-only material, learners need an extensive vocabulary in order to follow spoken discourse (Nation, 2006; Webb & Rodgers, 2009), and low proficiency learners will most likely struggle to recognize and segment running speech (van Zeeland & Schmitt, 2013; Vidal, 2011). However, even though the requirements for incidental learning through watching television might be quite high and the medium might therefore not automatically be suited for beginners, Sylvén and Sundqvist (2015) could show that even children as young as 11 or 12 might reach the appropriate level of prior knowledge. Motivation is probably a key factor since the children want to understand their favorite TV series, movies, and TV shows and thus tend to pay close attention to what is shown on screen (Sylvén & Sundqvist, 2015).

Apart from movies, TV shows, and TV series, online videos might be another source for audio-visual input. These videos are usually shared via video-sharing platforms, such as YouTube, and cover various topics, from makeup to gaming to lifestyle and mental health. These platforms have also given rise to a new form of celebrity: social influencers (see Section 2.1 for reference). Social influencers produce and upload videos of varying lengths to video-sharing platforms or social media platforms (e.g., Instagram). They often have millions of followers worldwide and post multiple videos per week or even per day. Most of the most popular influencers come from the US or the UK. In addition, influencers from other countries might also choose to produce their content in English to reach a broader audience. Video platforms, therefore, provide an increasingly rich amount of authentic audio-visual input in English, including different accents and dialects.

These videos also give insight into different cultures. To this author's knowledge, there are no empirical studies for this form of extramural English contact and language learning, yet. This is surprising, given the large amount of input available and the popularity of these platforms among young people (MPFS, 2017; Waller et al., 2016). It is thus very likely that German and Swiss adolescents follow international English-speaking influencers who meet their interests on social media and video-sharing platforms. This will, in turn, provide them with yet another source of extramural English contact.

4.2.4 Incidental Language Learning Through Online Communication

With the rise of interactive online platforms, such as chatrooms, messenger boards, and social media sites, learners not only have the opportunity to take in a rich amount of language input but also to socialize and interact with other native and non-native speakers online (Thorne et al., 2009). The internet thus provides the opportunity for new, participatory forms of learning and interaction (Black, 2005; Thorne & Black, 2007; Thorne et al., 2009). However, empirical evidence in this area is still sparse. Among the various online communities, fan fiction communities have received the most attention for their potential for incidental learning. The following section will thus summarize findings for this form of participatory writing space and its learning potential, but the findings can most likely be generalized beyond the scope of this specific form of online community.

Fan fictions are “original works of fiction based on forms of popular media such as television, movies, books, music, and video games” (Black, 2005, p. 118). Within these communities, “native and non-native English speakers [have the opportunity] to use literacy skills to forge relationships with individuals who share their interests” (Black, 2005, p. 120).

Empirical evidence for incidental language learning from this kind of extramural contact can mostly be drawn from the work of Black (2005, 2009). The author used ethnographic and discourse analytic methods to estimate and understand how English learners interact and communicate on these platforms. Additional theoretical considerations and literature reviews can be found in Thorne (2008), Thorne and Black (2007), and Thorne et al. (2009). The results show that online (fan) communities offer learners the opportunity to use language in a social environment and in a way that is meaningful to a particular purpose. In order to participate in the community, users do more than type grammatically correct

utterances; they use language to create communities and interact with each other (Thorne et al., 2009).

Through engaging in the community, learners get in contact with a rich amount of input of meaningful content, but also actively use language to produce various forms of output and engage in interaction with more experienced members of the community, thus increasing their language competences (Black, 2005; Thorne et al., 2009).

Within fan fiction communities, members can choose multiple levels of participation. First, members can be readers only, i.e., only read stories written by others and benefit from the vast amount of language input through extensive reading and familiarization with techniques and conventions of different genres of writing, without having to produce content themselves (Black, 2005; Thorne et al., 2009). Second, members can choose to contribute by writing reviews for other people's stories, even though a reader might not be proficient enough in English to write their own stories, yet. By giving others (constructive) feedback, users are able to demonstrate their knowledge and expertise within a specific fandom (Black, 2005). Last, members might decide to write and publish their own stories. Writers can decide to publish in their native language or choose another language. For example, non-native writers might choose to publish their stories in English to reach a larger audience. Announcing one's status as a non-native speaker might help those authors, as it tells readers to focus on the content rather than grammatical correctness. At the same time, more advanced readers and native speakers often offer extensive feedback on grammatical errors, spelling mistakes, and style issues (Black, 2005). In doing so, they aid novices on their journey to use language as an internal resource to control their own mental processes (R. Ellis, 2008). As Black shows, this form of support and feedback helps non-native writers increase their awareness for audience-specific composition issues and drastically improve their writing skills (Black, 2005; Thorne et al., 2009). Authors might also choose to find a *beta reader*, i.e., an official proofreader, for their story (Black, 2005; Thorne & Black, 2007).

The actual writing process is further aided by the fact that authors can draw on a rich body of characters and plotlines from the original material. It is also common (as long as it is acknowledged) to incorporate elements and plots from other works of fiction or create crossovers (Black, 2005; Thorne & Black, 2007). By doing so, fan fiction communities not only offer other-regulation in forms of support and help from the community but also object-regulation by artifacts such as existing plotlines, characters, and genre conventions provided by the source material (Thorne et al., 2009). Ultimately, this fosters learners to "move beyond

the mechanical aspects of decoding and encoding in the target language.” (Black, 2005, p. 127).

Overall, the analyses have shown that different levels of involvement offer even novice learners an opportunity to be part of an online community and make fan fictions sites a perfect place for collaborative and participatory writing processes. Within the community, learners get constructive feedback from native or more advanced speakers in a supportive environment and have the opportunity to solve linguistic problems together as proposed by the sociocultural theory (Black, 2005; Thorne et al., 2009). Students can revise, edit, and redesign their texts by drawing on and incorporating input from a broad audience of reviewers, engaging in dialog-based interaction, and drawing on the meta resources available in the community. Fan fiction communities are thus ideal places for English learners to become accepted members of an English-speaking community, practice their language skills with native speakers (both receptive and productive), get constructive feedback, and eventually take on their own identity as an English speaker (Black, 2005).

While fan-fiction communities have drawn particular attention by researchers in the last few years, the findings can be expected to be expandable to other forms of online communications, such as forums or message boards and social media. Unfortunately, however, to this author’s knowledge, there is no empirical research on incidental language learning in that area. Nevertheless, it seems that online communities present users with an environment rich in authentic content as well as the opportunity to try out and develop one’s own identity as an English user within an international community. With these characteristics, online communities have long surpassed the simple input mode offered by traditional printed media.

4.2.5 Incidental Language Learning Through Gaming

Computer games have often been frowned upon as leisure time activities and have been suspected of causing violent and addictive behavior in adolescents and children (Graham, n.d.). However, research has shown that computer and video games can also have a positive effect on language learning, especially if they provide gamers with a complex narrative and offer the opportunity to interact with other gamers during the game.

Computer and video games differ in the degree to which they provide such a rich and interactive gaming environment. Following Graham (n.d.), games can be categorized into three levels of narrative complexity. *Low narrative games* – e.g., puzzles, rhythm, or simulation games – do not follow a narrative and often

have no endpoint or final goal. By comparison, *narrative games* – e.g., sport and racing games – provide a narrative and require some background knowledge from the real world. *High narrative games* provide an even richer and more complex narrative story, in which the gamer has to perform a set of tasks and quests to win the game (Graham, n.d.). It can be expected that more complex narratives might provide a higher level of authentic and comprehensible input to gamers.

Narrative and high narrative games are designed to engulf the player within the inherent logic of the gaming world. While playing, gamers are presented with situations and decisions to choose from. As a result, the course of the story depends on the player's preceding decisions. Players can thus be seen as co-creators of the game, not just mere users. By playing the game, they shape the game's environment as much as it shapes them (Gee, 2005). However, similar to the real world, not all actions are available in all situations and to all players alike. Instead, players have to follow a specific set of rules and regulations, which they have to learn and master to succeed in the game (Gee, 2005).

Players get to know the world by wandering through it and solving tasks (i.e., quests) (Gee, 2005; Zheng et al., 2015). Depending on the game, quests can be solved alone or in collaboration with other players. By completing these quests, players build up their character's abilities, skills, and equipment (Gee, 2005; Zheng et al., 2015). In order to solve quests, players will have to take risks and try out new ways or creative solutions. After successfully finishing a quest, a player moves on to new, slightly more challenging adventures. This forces the player to develop new solutions and communication strategies since the ones used in the level before might not be sufficient anymore. By continuously presenting the player with new and slightly more complicated, yet still solvable, tasks, game designers make sure that the games stay interesting yet rewarding enough for people to keep playing (Gee, 2005).

In such an environment, new information, words, and phrases are introduced at the exact time necessary and are embedded within a situated and communicative context. They are easy to process and do not overwhelm players at the beginning of the game. New words and phrases are also strongly linked to a gamer's immediate purpose and goals, as the new information is needed immediately to solve the subsequent quest in the game (Gee, 2005). This makes computer and video games ideal for contextualized and situated language learning. By contrast, schools often introduce topics detached from people's goals and purposes, causing them to be more difficult to remember (Gee, 2003).

“People are quite poor at understanding and remembering information they have received out of context or too long before they can make use if it [...]. Good games

never do this to players, but find ways to put information inside the worlds the players move through, and make clear the meaning of such information and how it applies to that world.” (Gee, 2003, p. 2)

Due to these characteristics, Gee identifies 25 out of 36 learning principles related to language learning in modern gaming (Gee, 2005, 2007). These advantages of gaming for incidental language learning led some researchers to predict the rise of digital games as a game-changer in modern language teaching methodology. However, in recent years, the discussion has shifted somewhat away from how to convert digital games for educational purposes to the notion that digital games already come equipped with the ability to teach cognitive skills and promote problem-solving (Thomas, 2012).

In addition to these general advantages, some games also provide the opportunity to interact not only with the gaming engine but also with other players via written or audio chats. According to the *Scale of Social Interaction* (SSI) model, games can be categorized according to the level of interaction they allow for, i.e., how many players can play simultaneously. These differ in the way they allow language input and output from the gamers. The model distinguishes between single-player, multiplayer, and massive multiplayer online role-playing games. *Single-player games* are played alone and do not allow interaction with other gamers. As a result, they only offer language input and few to no opportunities for output production. *Multiplayer games* allow for the interaction of multiple players simultaneously. These players might be in the same room or might be connected online. These games provide the opportunity for authentic interaction with other players. As a result, they can provide more opportunities for incidental learning within the natural game setting. *Massive multiplayer online role-playing games* (MMORPG) can be seen as the most advanced form of interactive gaming. Here a large number of gamers can be logged in to the games’ online servers and can play and interact with each other simultaneously (Sundqvist, 2013).

Within MMORPGs, players are usually encouraged to work together to solve quests. In doing so, players fall back on their social competences from the real world, building social connections, cooperating with each other, and even building communities (Gee, 2005; Piirainen-Marsh & Tainio, 2009; Zheng et al., 2015). Depending on the abilities and experiences of the player’s characters, these communities often form rather complex hierarchies and rules of interacting with each other, making sure that each player’s abilities and skills are utilized the best way possible. Novices are integrated into the group and can learn from other, more experienced players (Gee, 2005; Piirainen-Marsh & Tainio, 2009; Sylvén & Sundqvist, 2012b).

Gaming communities in these MMORPGs can consist of people from the same geographical region, who might know each other in real life, but there are many communities in which members do not live close to each other. In these communities, English is often the language of communication among group members (Pirainen-Marsh & Tainio, 2009; Sylvén & Sundqvist, 2015). Just as with the skills necessary for successfully participating in the quests, more experienced language users within these communities serve as role models and catalysts for the language socialization of novice English speakers (Thorne et al., 2009). As suggested by the sociocultural theory, social interaction and other-regulated activities help novice learners move towards a self-regulating state in their language and gaming trajectory. In this way, multiplayer games and MMORPGs offer an immersive environment with repeated exposure to the target language in an authentic communicative context and meaningful interaction. Gamers have to communicate, negotiate meaning, and get real-time feedback from their gaming partners. In addition, MMORPGs usually involve a high level of engagement, motivation, and commitment to the task and the people involved. According to Gee, these characteristics make MMORPGs a *silver bullet* for language learning in natural settings (Gee, 2003, 2005, 2007; M. Peterson, 2010; Sylvén & Sundqvist, 2015).

Sylvén and Sundqvist even argue that MMORPGs might be similar to *content and language integrated learning (CLIL)*² in school, as it forces learners to use their language skills to solve tasks, meet the given requirements in order to be successful gamers, as well as communicate and get immediate feedback from other gamers. Similar to learners in a CLIL classroom, gamers thus have a high motivation to understand new vocabulary and grammar in order to solve quests successfully and communicate with other players. Moreover, since the game is a voluntary, leisure time activity rather than a school requirement, gamers will probably be more motivated to put in endless hours to perfect their gaming and language skills than learners within a classroom (Sundqvist, 2011; Sylvén & Sundqvist, 2012b).

The two authors also investigated Gee's statements about learning principles in relation to the MMORPG *World of Warcraft*. They conclude that the game does, in fact, provide eight of Gee's 36 criteria, i.e., active and critical learning, psychosocial moratorium, identity, practice, regime of competence, subset, transfer,

² Content and language integrated learning can be defined as any form of classroom based instruction in which a foreign/minority or another state language is used as the language of instruction in a non-language related school subject, e.g., biology (Olsson (2016)).

and affinity group (Sylvén & Sundqvist, 2012b). They also confirm Gee's proposed similarities between MMORPGs and the CLIL classroom in terms of the authenticity of the materials, the integration within a language community, and learners' motivation. They conclude that the advantages of playing MMORPGs might be responsible for the repeated empirical finding that boys outperform girls in vocabulary tests, even though girls tend to hold more positive attitudes towards languages and attend CLIL classes more often (Sylvén & Sundqvist, 2012b).

In a similar vein, Zheng et al. (2015) could show that MMORPGs provide learners with a rich input of social, historical, and cultural material to use as tools for their interactions with each other. Similar to Gee, the authors see these characteristics of games as highly beneficial, as they provide players a sense of embodiment by giving them a specific role, a goal, and the opportunity to experience the consequences of their actions. In addition, they found that gaming encourages learner agency and allows learners to transcend from the here and now of the situation to more general knowledge and use of the language (Zheng et al., 2015).

Further empirical support comes from Thorne (2008). In her qualitative study, she could show the fruitful way gamers communicate with each other and how language learning may occur. In her study, an American and a Ukrainian gamer began to communicate and chat within the MMORPG *World of Warcraft*. Their interaction showed forms of collaboration, negotiation of meaning, feedback, as well as other- and self-correction. In addition, the American gamer reported that the communication reduced inhibitions and insecurities and increased their motivation to further engage in language learning activities.

Similar to these findings, Rankin et al. (2006) showed increased vocabulary knowledge and enhanced output production for four participants in a pilot study. Students were asked to play the interactive game *Ever Quest II* for at least four hours per week. However, while more advanced learners seemed to benefit from the game-based interaction and communication, beginners seemed to struggle with cognitive overload from the game's requirements.

In another study, Rankin et al. (2009) employed a pre-post-test experimental design to investigate gamers' actual increase in vocabulary knowledge and conduct an in-depth analysis of their social interactions. Two experimental groups were established: in the first experimental group, six native Mandarin speakers were asked to play a video game among themselves. In the second experimental group, another group of six native Mandarin speakers played the game in interaction with a group of native English speakers. The six students in the control group did not play but instead received three hours of language instruction. Results showed that the two experimental groups outperformed the control group in the

post-test regarding vocabulary knowledge in the context of the game. However, classroom instruction was more beneficial for participants' scores on sentence usage. The authors attribute this finding to the fact that the employed test was very close to the classroom exercises students were exposed to before. It should be noted that the statistical results should be interpreted with caution due to the small sample size.

In-depth analysis of chat protocols revealed that the native speakers helped and guided the novice players through the all-English interface and the unfamiliar game. Results also showed that language use increased for Mandarin speakers over time. The protocols showed that these gamers started to produce more output as they grew more confident with the game (Rankin et al., 2009).

Results from M. Peterson (2012) also support the fact that gaming can help introduce language learners to specific language practices of a target group. The data showed that the six foreign language students in his sample adapted their interaction strategies in an online-based gaming environment and used time-saving techniques, such as abbreviations and emoticons. The data also shows how students engaged in continuous collaborative dialogue and interaction in the target language English.

Last, Piirainen-Marsh and Tainio (2009) conducted a qualitative study about the interaction of two teenage boys (10–14 years) regularly engaging in playing *Final Fantasy X* together. Although not an MMORPG, the study shows that even games with extensive (subtitled) dialogues offer a rich amount of linguistic input for the players, as well as a chance for playful and casual practice of language skills. The constant repetition throughout the game can lead to considerable learning effects.

While most studies reported here have focused on interactive gaming, Purushotma (2005) also found evidence for learning effects from non-interactive single-player games. In his article, the author analyzed the benefits of playing *The Sims* (a life simulation game played in single-player mode). While the game characters speak an artificial language, the game offers a wide range of text within the menu and in-game notifications. The vocabulary resembles an English beginner course, with a high number of everyday words and phrases. As with other games, players will get immediate feedback for their hypothesis of unknown words in the form of character's behavior in the game and the game environment. In addition, the newest version of the game offers the possibility to change the program code to show in-game messages in two languages (e.g., the native and a foreign language) and can offer translations for unknown words within a pop-up window. The analysis shows that even non-interactive games can offer opportunities for incidental language learning. With its high level of frequent vocabulary, games

like *The Sims* might be especially suitable for beginners. The non-violent and fighting-free setting might also make it especially suitable for younger learners. Research has also shown empirical evidence that these non-violent games might be a more attractive gaming option for female students than many of the often violent or sports-centered interactive game options (MPFS, 2017).

Although the sample sizes in the reported studies were often small, the empirical findings in this chapter suggest that incidental language learning can occur from interactive and non-interactive gaming. Furthermore, interactive games can help learners move from other-regulated learning to a state of internalized self-regulation and control of language as a mediative tool, as proposed by Vygotsky's sociocultural theory. However, as with other extramural contacts, interactive gaming in English can be challenging for beginners. However, collaborative dialogue and corrective feedback from other more advanced speakers can help bridge the gap, reduce inhibition, enhance motivation, and facilitate language learning. Overall, the immersive environment offered by modern interactive computer and video games is thought to offer an ideal platform for situated and incidental learning, thus bridging learning in and outside of the classroom (Reinders, 2012).

4.3 Incidental Language Learning Through Multi-channel Media Exposure

This last section will summarize empirical findings from studies that did not focus on a specific media channel but rather looked at learners' overall frequency of extramural contacts across multiple media channels.

At the beginning of the 2000s, Hasebrink (2001) showed that the German participants in his studies claimed to have learned around 20% of their English competences outside of school through informal contact (Hasebrink et al., 1997, p. 163ff). However, as this is only a self-reported estimate and the study did not include a test on language competences, these results should only be seen as a rough estimate. However, the result points towards the occurrence of informal learning processes even before the advent of the internet.

The only other empirical evidence for Germany comes from the study *Assessment of Student Achievements in German and English as a Foreign Language (DESI)*. The study investigated 9th graders in Germany and included some questions about media-related extramural English contacts via email, video, television, books, comics, manuals, and songs in the questionnaire. While these categories

are by no means exhaustive in terms of modern online and offline media content, the results can still yield some interesting insights. Media-related extramural English contact activities showed a medium-sized correlation with students' English test results and English grades. Students in the highest educational track (Gymnasium) reported higher frequencies of media-related extramural English contacts and a higher interest in reading (Helmke et al., 2008). Apart from these results, no further empirical evidence seems to exist for Germany or Switzerland.

For Sweden, Sundqvist (2009a)³ showed significant and positive correlations for the overall frequency of media-related extramural English contacts, vocabulary competences, and oral proficiency (for details about the test procedure see Sundqvist, 2009a). While the effect of reading was especially strong for oral performance, gaming and surfing showed the highest correlation for the vocabulary tests in her study. Dividing students into user groups showed that high-frequency users received significantly better test results than low-frequency users (Sundqvist, 2009a). Interestingly, however, the author also found indications for the effects of extramural English contacts to be stronger for low-frequency than for high-frequency users. She interpreted the findings as an indication that the increase from no contact (0 hours) to some contact (e.g., 8 hours) might be more beneficial than the increase from 45 hours to 53 hours (Sundqvist, 2009a).

In addition, the positive correlation between extramural contacts and oral test results found in the data only holds for two of the four classes, while it is negative for the other two. Sundqvist assumes this could be due to the socio-economic composition of the classes or due to the teacher influence but did not elaborate further (Sundqvist, 2009a). While her sample is relatively small ($n = 80$), her study does give an interesting and compelling inside view into the field of media-related extramural English contact through the media and the relationship with learners' competences. In addition, her use of language diaries provides a detailed, in-depth measurement of students' actual frequency of extramural contacts that might be more reliable than some of the ex-post-facto questionnaires employed in other studies, including the present.

Forsman (2004, cited in Sundqvist, 2009a) also found a significant and positive relationship between the overall frequency of media-related extramural English contact and students' tendency to use American words and phrases (in comparison to British ones) in his study with 330 Swedish-Finish students. The author attributes these findings to the dominance of American media content.

³ Results reported here are from Sundqvist's 2009 dissertation. The author has conducted several follow-up studies (Sundqvist, 2008, 2009b, 2011, 2012, 2013). Findings from these other publications will only be reported if they differ from the findings in the main thesis or if they add additional insight.

Lindgren and Muñoz (2013) could also show the positive effect of extramural exposure to a foreign language on children's listening and reading comprehension in multiple European countries (aged 10 to 11). The results also showed a significant effect for the cognate distance between the native language and the foreign language: students with a native language closer related to the target language showed a significant higher learning effect.

Peters (2018) found a significant positive correlation between media-related extramural English contacts and language competences. Significant effects could be shown for reading books and magazines, surfing on English-language websites, and watching movies and TV series without subtitles, but the correlations were small in effect (except for browsing). Surprisingly the results showed a small negative correlation between vocabulary knowledge and listening to English-language songs, as well as no significant correlation for watching subtitled movies and TV series or for gaming. The study was conducted in the Flemish region in Belgium, which has a high level of non-Flemish and non-dubbed TV productions. The author attributes the lack of correlation between subtitled TV series and movies with test scores, therefore, to the fact that there is virtually no variance in her dataset since almost all students watch subtitled movies and TV series regularly (Peters, 2018).

In addition to the correlations, results from an analysis of variance with covariates also revealed the overall frequency of media-related extramural contact to be a positive predictor for students' vocabulary knowledge. The effect explained with 13% more variance than the length of in-class English instruction (Peters, 2018, p. 159).

Olsson (2011) focused specifically on the effect of extramural English contacts on students' writing skills. The author found a strong and positive significant correlation between overall media-related extramural English contacts and test results for a national mandatory writing test. Examining the individual media categories separately, she found a significant and positive correlation between extramural reading, writing, and watching television and the writing test scores. An in-depth analysis showed that students with a higher level of extramural contact on average wrote longer sentences and used longer and more complex words for some text types. In addition, she found that all students with at least moderate extramural contacts reached a *pass with distinction* or a *pass with special distinction* in their 9th grade finals. The extramural contacts also showed a moderate, significant correlation with learners' grades (Olsson, 2011).

In addition to the overall scores for writing, the study also looked at certain text features in more detail and found significant correlation effects for sentence

length in the written mails and the use of infrequent vocabulary for the newspaper articles, but not the other way around. Moreover, even though all students showed a higher variation in vocabulary for the newspaper article than the mails, students with high frequent extramural contacts did show significantly more variation than non-users or low-frequency users. This points towards the fact that students with frequent extramural contacts might gain a more extensive and more diverse language register, which allows them to adapt their language to different text types (Olsson, 2011).

Despite these interesting findings, the results should be read with caution as Olsson's sample is very small ($n = 37$). Still, the study gives an important insight into the relationship between extramural contacts and writing in English as a foreign language in general and different text features in particular.

In a longitudinal study, Olsson and Sylvén (2015) also investigated the effect of media-related extramural English contacts on the academic vocabulary of CLIL and non-CLIL students. As in Sundqvist's study, students were asked to fill out a survey and keep a language diary. Students were then asked to write four argumentative and explanatory essays. The results reveal that CLIL students had slightly more extramural contacts and wrote and read English texts significantly more often outside of the classroom, which in turn seems to lead to a more positive attitude towards English. However, the frequency of extramural contacts did not significantly affect students' test results and learning progress. The two authors even raise the question of whether or not extramural contacts might level the advantages in language learning for students attending CLIL classes. However, as the authors also note, the study does not answer how much vocabulary students are subjected to through extramural contacts (Olsson & Sylvén, 2015).

Sylvén (2019) further investigated the differences reported by Olsson and Sylvén (2015) with the same dataset. The language diaries from both measurement points again showed that CLIL students were exposed to a greater amount of media-related extramural English than non-CLIL students over time. In addition, the frequency of extramural contacts showed a positive correlation with sentence length and sentence types.

Results from Sylvén (2004, as cited in Sylvén & Sundqvist, 2015) support these findings. The data showed that Swedish CLIL students seem to not benefit as much from English within the classroom as from the use of English outside of school. In addition, although CLIL students on average scored higher than non-CLIL students, non-CLIL students who had a high level of media-related extramural English contacts scored higher than CLIL students who did not have frequent out-of-school exposure to English.

Two quasi-experimental studies further investigated the causal link between extramural English contacts and language competences. In his study, Kuppens (2010) recruited 374 primary students in the Netherlands, who did not have had any English instructions in school and did not have many extramural contacts with English before the study. The questionnaire included watching subtitled television, playing computer games, and listening to music as extramural categories. Non-subtitled movies, TV series, TV shows, websites, and radio were excluded since it could be assumed that a certain level of preexisting proficiency in English would have been necessary to utilize these media forms in a meaningful way. On the other hand, watching subtitled television does not require such a high level of proficiency, nor does listening to music or playing computer games. The results showed that students did use the mentioned media categories regularly. Watching subtitled television showed a significant influence on students' language test results. Playing computer games also showed a significant effect but only for the English-to-Dutch test, not the other way around. Since the survey did not distinguish between different computer games, it is difficult to determine if variance regarding the preferred games might have influenced the results. The author also speculates that watching subtitled television might be functioning as a form of 'gateway' for eventually switching to monolingual television in English as well as the use of other media channels (e.g., fan sites, blogs) (Kuppens, 2010).

In their longitudinal study, Verspoor et al. (2011) compared a group of students who, for religious reasons, had minimal media-related extramural English contact (control group) with students who attended public schools and had the opportunity for regular extramural contact (experimental group). The data showed that lack of extramural contact had a long-term effect on students' proficiency development. While the control group did not differ significantly in their language competences from the rest of the students at the beginning of the study, a significant difference was found after three years (Verspoor et al., 2011).

Overall, the results presented in this section strengthen the findings from studies focusing on specific media channels. A higher frequency of overall media-related extramural English contacts seems to be positively correlated with higher language competences. While some of these studies only reported correlative results, findings from Kuppens (2010) and Verspoor et al. (2011) lend support to the notion of a causal effect of these contacts on language competences. The results from these two studies also support the claim that extramural English contacts have a positive effect on language competence, even without additional in-class instruction.

4.4 Conclusion

This chapter began by arguing that regular media-related extramural English contact with English as a foreign language can lead to unprompted and unconscious language learning processes. When reading in English, listening to music, watching a movie, or playing a video game, learners usually do not have a dictionary at hand. Instead, they are concentrated on the content and need to derive the meaning of unknown words from the surrounding context. According to the input hypothesis, this will result in incidental language learning, as long as the input is comprehensible, i.e., slightly more complex than a person's current level of competences. Under such conditions, learners can form plausible and practical hypotheses about the meaning of unknown words. This process is automatic, given that no significant cognitive obstacles or resistance are active (Krashen, 1982, 1985, 1989).

In addition, the chapter drew on the sociocultural theory and the output hypothesis and discussed the possibility of incidental language learning through output production, feedback, collaborative dialogue, interaction, and communication through interactive media platforms and games. According to the theory, learners will only reach the highest levels of language proficiency and self-regulated language use by interacting with other, more advanced learners or native speakers (Dunn & Lantolf, 1998; Lantolf, 2000, 2005, 2011; Swain, 2005; Vygotsky, 1978). Thus, frequent interactive extramural English contact can allow learners to increase their language competences as a by-product of other activities.

The empirical research presented in this chapter has supported the positive relationship between media-related extramural English contacts and learners' language competences. In addition, newer studies on interactive online media activities, such as gaming or message boards, social media, or online communities, have also shown the advantages of interaction and output production for incidental language learning. While some studies can only report correlative findings, (quasi-) experimental studies have also provided evidence for the causal effect of extramural English contacts on language competences.

Together these findings suggest that learners should not only receive input but also produce, use and repeat new words and phrases on a regular basis in order to foster a higher conversion rate into long-term memory through repetition and forming links with other words within the mental lexicon (Hulstijn, 2001, 2013).

Despite these positive findings, the process of incidental language learning seems to be limited in terms of the scope and speed by which learning can take place. Most of the studies summarized above have focused on vocabulary gains.

Studies that have tried to show increases in learners' knowledge of grammar, morphology, or syntax have generally only reported a marginal effect or no effect at all. Indeed, studies have shown that presenting students with formal instruction before presenting them with an incidental learning opportunity produced larger learning effects for grammar tests (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; Elley, 1997; Vidal, 2011). These results indicate that not all aspects of a foreign language can be easily acquired incidentally. While vocabulary, especially nouns, seems to be easy to pick up as a by-product of other activities, grammar seems to be too complex of a topic for such an incidental process. Instead, formal instruction and feedback seem to be needed for learners to grasp important grammatical concepts in a foreign language (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999). However, this does not diminish the importance of learning opportunities through incidental language learning. A rich and vast vocabulary is essential for language learners to master. In order to understand a message, learners must know the meaning and functions of words, as well as the conventional way in which they are used in the target language (Elley, 1997).

Empirical findings also indicate that incidental learning is a relatively slow process, with an unpredictable outcome, and prone to errors. Texts with 200,000 words or more are most likely needed for a person to learn 108 new words (Letchumanan et al., 2015; Sok, 2014; Webb & Rodgers, 2009), and learning gains from listening seem to be even smaller than gains from reading exposure (van Zeeland & Schmitt, 2013; Vidal, 2011). It is thus not surprising that some studies have shown that intentional learning is more effective and faster, even for vocabulary learning in direct comparison (R. Ellis, 1999).

In addition, several factors have been shown to influence the speed and success of incidental language learning. This includes word characteristics (e.g., distinctiveness, polymeny, length, imageability, and correlation between form and meaning), frequency of exposure, repetition, text type, input complexity, contextual clues, learners' language proficiency, and ability to guess words, mother tongue and motivation. In addition, the proportion of words already known and the students' background knowledge has also been shown to influence the incidental learning process (N. C. Ellis, 1994; R. Ellis, 1999; Huckin & Coady, 1999; Hulstijn, 2003; Letchumanan et al., 2015; Neuman & Koskinen, 1992; Ramos, 2015; Sok, 2014).

These last two factors also underline the fact that extramural contacts might not be suitable for all language learners alike. As empirical research has shown, this might be especially true for auditory and audio-visual input (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; Vidal, 2011). As movies and TV series were not made with the language learner in mind, the high pace, use of less

frequent vocabulary, idioms, different dialects, and advanced syntax might simply be too difficult for beginners to follow. Listening to and watching authentic media content in English is, therefore, most likely not suited for low proficiency learners, as they lack the competence to distinguish words in running speech and cannot identify certain word characteristics correctly (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; Vidal, 2011). As a result, learners who have not yet reached the necessary threshold will probably not engage in watching movies and TV series on a regular basis, at least not without subtitles (Webb & Rodgers, 2009).

This problem might be less prominent in books or other forms of written material, in which the reader has more time to engage with the text. However, overall, learners seem to need to have reached a certain level of language proficiency (usually within an educational context) before they can enjoy more complex forms of media content. Otherwise, even the most compelling authentic input will just be incomprehensible noise (Krashen, 1982). This is also emphasized by Neuman and Koskinen (1992), who pointed out the importance of prior knowledge of vocabulary as a moderating variable for incidental learning outcomes. Similarly, Vidal (2011) also found both readers and listeners to benefit from explicit elaboration before the extramural contact. He concluded that explicit (classroom) instruction helps to foster robust connections between form and meaning. Olsson (2016) also suggests that form-focused instruction will enhance the quality and depth of learners' vocabulary acquisition through incidental learning processes and might help with transforming receptive vocabulary knowledge into productive knowledge. Overall, the findings underline the importance of formal language instruction, especially in the beginning, in order to teach learners the most frequent vocabulary and linguistic principles of the target language (Hulstijn, 2001) as well as providing them comprehensible learning material for their competence level (Krashen, 1985).

In addition to these limitations of the incidental learning process, research has also yet to conclusively prove how incidental learning works within the brain. This is primarily due to the challenges in designing reliable, valid, and objective measurements, as it is difficult to measure what people do and how they deal with an unknown input while making sure that what is measured is, in fact, incidental learning.

Most research in the field of psychology has been experimental in nature, testing participants in a laboratory and sometimes using artificial language to avoid the problem of subjects' prior knowledge of the language. As a result, findings from these studies cannot easily be generalized to naturalistic contexts (Hulstijn, 2003; Kuppens, 2010).

Most experiments were also only able to provide evidence for short-term effects since they tested participants shortly after exposure to the stimuli (Hulstijn, 2003; Kuppens, 2010). As Vidal points out, the findings might thus only represent the strength of memory traces due to exposure rather than real incidental learning in terms of new lexical entries (Vidal, 2011). Investigating long-term language acquisition would require frequent and intensive contact with a target language. Such intensive exposure is difficult to implement within the confinements of an experimental setting. Still, if people pick up vocabulary or grammar after only a short period of exposure, it is almost certain to assume that more prolonged exposure would result in similar, if not even greater language acquisition (Kuppens, 2010).

Furthermore, most experimental studies tend to have a problem with priming. In order to investigate incidental learning processes, participants cannot be told to read texts and try not to learn something, as that means ‘putting the elephant in the room’ (Bruton et al., 2011). Studies usually ask participants in the experimental group to read a text without telling them that they would be tested afterward, while they instructed the control groups to read a text and announced the post-test beforehand (Hulstijn, 2001, 2003). However, participation alone might be enough to prime participants to expect some kind of test (Sok, 2014). Newer studies usually instruct the experimental group that they will be tested about a certain stimulus and then test a different, second stimulus, for which no test was announced. However, even such experimental designs cannot ensure validity since it cannot be conclusively proven that participants did not have any outside motive to learn. Thus, it is rather difficult to implement a study that can indisputably claim to measure the effect of incidental learning (Hulstijn, 2001; Sok, 2014).⁴

Studies outside of the field of psychology suffer to a lesser degree when it comes to these problems. Instead, they usually struggle to conclusively prove causality. While some studies have implemented quasi-experimental designs (e.g., Kuppens, 2010), most studies were carried out with learners who had already received years of classroom instruction in the target language. In addition, these studies often employed ex-post-facto study designs. It is thus difficult to determine how much of the increase in language competences over a certain period of time is due to extramural contacts and how much must be attributed to students’ prior knowledge and parallel classroom instructions.

⁴ The same uncertainty seems to arise when it comes to the question of whether operationalizing implicit learning is, in fact, possible. On the other hand, there is consensus that it is possible to operationalize explicit knowledge (Hulstijn, 2002).

Furthermore, while regular extramural English contact can be assumed to increase students' language competence through incidental language learning processes, it is also very likely that students with high language competences are more likely to engage more frequently in media-related extramural English contact. This is further supported by findings suggesting that authentic media input might be especially challenging for beginners. Consequently, a learner's language competence and their frequency of media-related extramural English contact will most likely influence each other. As a result of this unclear direction of causality, some of the studies presented above have only reported correlative effects. Thus, while high on ecological validity, most of these studies are relatively low on reliability.

In addition, frequency and form of students' media-related extramural English contact were often measured via a self-report questionnaire in which students were asked to average their frequency of media contact. A detailed day-to-day analysis of media habits and the specific media content students encounter was therefore often not possible. Thus, some studies cannot assess the true nature and scope of language input students might have had, making definite conclusions about causality impossible. These last two limitations also apply to the present study.

Despite these shortcomings and open (research) questions, the empirical research summarized in this chapter has shown that media-related extramural English contact can have a positive relationship with learners' language competences. Incidental language learning can most likely be a helpful and interesting route for language learning, especially for more advanced learners. Once students reach a certain level of language proficiency, they will be able to choose from various language sources outside of the educational system, enjoying them for their entertaining characteristics while increasing their language competences, without actively trying to store new information to memory. Learning effects are likely to be strongest for vocabulary, but other areas might also benefit. In addition, newer and more interactive forms of media content might allow learners to produce language output, form hypotheses, and test them in real-life interaction. Through this interaction, learners will also get feedback and assistance from advanced learners and native speakers.

The body of empirical studies summarized above was able to show positive effects for listening, reading, speaking, and even writing skills. Given the highly complex nature of writing in a foreign language, the latter is especially impressive. The present study will analyze the effect of extramural English contact simultaneously on students' reading, writing, and listening skills (for details on

language assessment, see the next chapter). Given the empirical results above, a positive effect of extramural English contacts on all three language skills can be expected. The final research hypothesis is, therefore:

H4: The frequency of media-related extramural English contact will have a positive effect on students' reading, listening, and writing skills.

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This dissertation was part of the project *Measuring English Writing at Secondary Level* (MEWS). The MEWS project was co-founded by the Swiss National Science Foundation (SNF) and the German Research Foundation (DFG). The study aimed to be the first large scale study in Germany and the German speaking part of Switzerland that focused especially on English writing skills in upper secondary education. In addition to writing competences, students were also tested on listening and reading comprehension, as well as given extensive background questionnaires, including a catalogue of questions concerning their media-related extramural English contacts. The following chapter will describe the sample and operationalization of key constructs and variables for the present analysis.

5.1 Sample and Test Procedures

The initial sample of the MEWS project consisted of 2,847 German-speaking upper secondary students in their penultimate year before their baccalaureate exams (CH: $n = 1882$; G: $n = 965$). Students were tested in a repeated measurement design. The first measurement point took place two years before the students took their baccalaureate exam (August/September 2016), the second measurement took place one year before finals (May/June 2017). Before the data collection, participating schools provided student lists, including the type of school track, date of birth, gender, and grades for English, German, and Mathematics for the

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previous school year. Students were also assigned an anonymous ID number in the process.

For Switzerland, the full population was students in the academic track in upper secondary education (Gymnasium) in the German-speaking cantons of Aargau, Basel City, Basel Country, Solothurn, St. Gallen, Lucerne, Schwyz, and Zurich. Participation was voluntary but recommended by the educational departments. Twenty schools agreed to participate, which resulted in an initial sample of $n = 1,882$ students. Due to scheduling demands, schools decided to volunteer entire classes instead of samples of students from each class. The Swiss sample is thus a convenience sample. Data collection was conducted by the research team at the *University of Applied Science Northwest Switzerland* (for more details, see Keller et al., 2020).

For Germany, the full population consisted of students in the academic upper secondary track (Gymnasium) in Schleswig-Holstein with eight years of secondary classes. Data collection was conducted by the *IEA Data processing and Research Center Hamburg* and with the consent of the Ministry of Schools and Professional Education in Schleswig-Holstein. Thirty-seven schools were recruited, and student participation was voluntary. In the end, $n = 965$ students from different profiles participated (for more details, see Köller et al., 2019).

For the present thesis, $n = 124$ students with less than one valid response to at least one test item were excluded from the analysis (CH: $n = 53$; G: $n = 71$). In addition, one Swiss school did volunteer students yet declined to provide any background information for them. Since this information played an important role in later analyses and the scaling of the three language skills, the students were also excluded from the analysis ($n = 101$; $n = 99$ valid). Data for one visually impaired student was also excluded, as providing the student with all tests and questionnaires in an adequate format proved difficult. Last, $n = 136$ students with English as a native language were excluded from the dataset for the present analysis (CH: $n = 103$; G: $n = 33$).

The final dataset contained 2,487 students, with $n = 1,626$ students from Switzerland (58.2% female; age: $\bar{x}_{T1} = 17.57$, $SD_{T1} = 0.91$; $\bar{x}_{T2} = 18.27$, $SD_{T2} = 0.91$) and $n = 861$ students from Germany (58.8% female; age: $\bar{x}_{T1} = 16.9$, $SD_{T1} = 0.56$; $\bar{x}_{T2} = 17.6$, $SD_{T2} = 0.56$).

Data collection took place during regular school hours and was supervised by trained university students and Ph.D. students. Students wrote two essays and completed a reading and listening comprehension test at each time point. In addition, they were asked to complete a test for cognitive abilities at T1 and fill out an extensive background questionnaire (at both T1 and T2). All tests were conducted

on laptops provided by the test teams, and the data was stored electronically. Testing took about three hours for each measurement point, including two breaks for the students.

5.2 Language Assessment

Students were tested on their productive writing skill and their perceptive reading and listening skills. For reading and listening, test items from the *German National Assessment* were used (for details, see Köller et al., 2010). Students were presented with two sets of reading and two sets of listening comprehension tests (testlets) that each took, on average, 15 minutes to complete. The testlets were rotated among students between the two measurement points using a multi-matrix design to avoid sequence effects (Köller et al., 2019). The items tested the entire range (A1 to C2) of competences of the *Common European Framework of Reference for Languages* (CEFR) (Keller et al., 2020) and are in alignment with the educational standards for English as a first foreign language (Standing Conference of the Ministers of Education and Cultural Affairs in the Federal Republic of Germany [KMK], 2014). Completing the test thus also required the understanding of longer and more complex reading and listening input, including idiomatic expressions and different linguistic registers (Keller et al., 2020).

For writing, there was no established large-scale assessment procedure for measuring writing in English as a foreign language. The research team, therefore, partnered with the *Educational Testing Service* (ETS) in Princeton, NJ, USA, which conducts the internationally renowned TOEFL iBT assessment (Burstein et al., 2013; Educational Testing Service [ETS], 2009). A central goal in the German and the Swiss writing curricula for English as a foreign language is to develop students' understanding of a wide range of input from audio or written sources. Students should be able to use that information to produce their own writing and be able to address a specific audience in an appropriate and persuasive way, as well as to state their personal opinion about a given topic (Educational Department of Basel-Stadt [EDBS], 2017; Fleckenstein et al., 2018; Institute for Quality Development in Schools of Schleswig Holstein [IQSH], 2014). In order to operationalize the main learning goals from the national curricula, *integrated* and *independent* prompts were selected from the ETS TOEFL iBT pool for the MEWS study. For the independent essay, students were presented with a controversial topic and were asked to write an argumentative essay in which they were supposed to agree or disagree with the statement and support their opinion with arguments. Students had 30 minutes to write the argumentative essay on

the computer. They were advised that a good essay should be at least 300 words long. They were not required to count the words but were told that 300 words would result in approximately ten lines on the screen (ETS, 2009).

For the integrated essay, students were presented with a written text on a specific topic (250–300 words long) and a spoken audio input expressing opposing views to the written input (2–3 minutes long). They had 20 minutes after the input to summarize the information (150–225 words). In contrast to the independent essay, they were not required to formulate their own opinion or conclusion (ETS, 2009). The integrated essay, therefore, represented a *synthesis text*, which required the writer to combine different language skills and writing strategies, including demonstrating a broad understanding of the opposing input sources, selecting important information, evaluating them, and rearranging them in a logical and coherent text (Keller et al., 2020; van Ockenburg et al., 2019).

Students were asked to write one independent and one integrated essay at both measurement points, resulting in four essays per student. Due to copyright reasons, the research team selected prompts that had already been used for TOEFL and were publicly available online. Overall, four prompts were selected that were thought to meet students' interests and, in terms of the independent prompts, were likely to meet students' world knowledge (for details on the writing prompts, see Keller et al., 2020). As with the testlets for reading and listening, writing prompts were permuted between the two time points.

The written texts were scored by the ETS through a combination of human scoring and automated essay evaluation (AEE). The following is a brief overview of the scoring technique used for the study. For an in-depth description of the procedure, refer to Rupp et al. (2019).

For the human scores, each essay was scored on a holistic scale from 0 to 5 by two experienced and trained human raters. A score of 0 indicated an essay written in a language other than English or that the students did not write an essay, despite being present for the test. For both prompt types, an essay scored high if students used English accurately and made only minor grammatical and spelling errors. In addition, an independent essay was scored high if ideas were well organized and developed and if students supported their ideas and opinions with examples. For an integrated essay to score high, students had to clearly summarize the main points from both the audio and the written input and contrast the two positions. Inter-rater-agreement for the human rating, measured in quadratic weighted kappa, was high for both text types and at both time points (Independent: $QWK_{T1} = .639$, $QWK_{T2} = .670$; Integrated $QWK_{T1} = .865$, $QWK_{T2} = .775$; Rupp et al. (2019), p. 9).

For the automated essay evaluation, the students' texts were scored using e-rater®, the AEE engine of the TOEFL iBT test (Burstein et al., 2013). E-rater® rates texts based on text features (*macrofeatures*), such as grammar, usage, mechanics, organization, development, discourse, collocations and prepositions, average word length, median word frequency, and sentence variety (Rupp et al., 2019). In addition to these generic macrofeatures, the model also included prompt-specific vocabulary usage measures (Attali, 2007).

Research has shown that AEE models can help boost scoring reliability, as it counterbalances human rater errors such as fatigue or leniency effects, topic effects, sequence effects, and halo effects (Deane, 2013). However, AEE cannot understand the content of an essay as a human rater does. As a result, it might assign a high score to an essay that is linguistically and grammatically correct but does not express any comprehensible and coherent thought. As a result, AEE scoring only measures the mechanical side of an essay, i.e., the textual quality. Nevertheless, the macrofeatures capture important text qualities and writing abilities that learners need in order to compose and organize a well-written text (for a detailed discussion on students' writing skills for both writing, see Keller et al., 2020). To obtain one writing score for each prompt, an average score was calculated using the two human scores and the one machine score. This resulted in an HHM-score (human-human-machine) for the integrated and the independent essay at each time point. In order to create one writing score for each student per time point, the two HHM-scores at each time point were again averaged, resulting in one overall writing score for T1 and one overall writing score for T2.

In order to obtain comparable measurements for all three language skills, the scores for each skill were scaled using a longitudinal multi-level two-parameter item response model in MPlus Version 8 (Muthén & Muthén, 1998–2017). After computing *expected a posteriori* (EAP) measures, 15 plausible values were calculated for each domain at each time point. Principal component scores from the background questionnaire (provided by the schools) and the students' questionnaires at T1 were used as the background model for the calculation. Reliability for the plausible values reached $.92_{T1} / .76_{T2}$ for reading, $.85_{T1} / .72_{T2}$ for hearing and $.94_{T1} / .85_{T2}$ for writing. Following the example of other international large-scale studies, the plausible values were standardized and transformed to $\bar{x} = 500$ and $SD = 100$ at T1. Plausible values for T2 were standardized and transformed along the values for T1. As a result, differences between T1 and T2 can be interpreted as gains in language competences between the measurement points (Keller et al., 2020; Köller et al., 2019).

Table 5.1 summarizes the means and standard deviations for students' reading, writing, and listening skills at both measurement points, as well as the correlation between them (detailed descriptions can be found in Keller et al., 2020; Köller et al., 2019; Rupp et al., 2019).

Table 5.1 Correlation between listening, reading, and writing scores

Score	\bar{x}	SD	Correlation	
			Listening	Reading
T1				
Listening	500	100		
Reading	500	100	.568	
Writing	500	100	.536	.477
T2				
Listening	522.01	104.38		
Reading	519.49	102.25	.471	
Writing	518.24	107.04	.492	.472

Note: \bar{x} = 500 and SD = 100 at T1. Plausible values for T2 were standardized and transformed along the values for T1. Differences between T1 and T2 can therefore be interpreted as changes between the measurement points

As Table 5.1 shows, the four skills are moderately correlated. This is in line with newer research, showing that a one-dimensional model of language competences might not be the best representation of the underlying data, especially for beginners and intermediate students, as not all dimensions develop simultaneously. Instead, a multi-dimensional model, in which the language skills are independent but correlated, might better represent the underlying data structure (Jude et al., 2008; Schoonen, 2019). The present study will therefore assume such a multi-dimensional structure for the analysis. This will also allow a separate analysis of the effect of extramural contact on all three skills.

5.3 Questionnaire

This chapter summarizes the relevant constructs and variables for the present analysis. The complete questionnaire for Germany and Switzerland and the descriptive statistics for all variables can be found in (Meyer et al., in preparation).

5.3.1 Socio-economic Background and Gender

Measurements for gender and socio-economic background factors were collected at T1. For gender, information from the official student lists provided by schools was used (0 = male, 1 = female). Students' technical equipment at home was operationalized by five dichotomous items from the PISA study (0 = no; 1 = yes) and measured *internet access at home*, *computer for studying* and possession of a *gaming console*, a *personal laptop*, and a *personal smartphone* (Hertel et al., 2014; OECD Programme for International Student Assessment, 2009a, 2009b, 2012).

Students' socio-economic background was measured by two structural factors (*highest level of parental education* and *number of books at home*) and three process factors, which measured a conducive home environment for English and parental role modeling. As Rolff et al. (2008) could show, the process factors are themselves already influenced by the structural factors.

The first structural factor, the highest level of parental education (HISCED), was operationalized by using either the highest level of mother or father on the *International Standard Classification of Education* (ISCED) (Schroedter et al., 2006). The index ranges from 0 (*no formal school leaving certificate*) to 9 (*2nd Stage of Tertiary Education (Research Qualification)*). If a student had only provided information for one parent, that parent's level of education was used for the HISCED. As such, the HISCED operationalizes the educational resources and the institutionalized cultural capital at home. The HISCED is also an approximate measure for a family's economic resources because educational resources are closely linked to the economic situation since a high level of qualifications is usually associated with better career prospects (Hußmann et al., 2017; Stecher, 2005).

The second structural factor, the number of books at home, was used to measure the objectified cultural capital of a family. The scale ranged from (1) *No books* to (7) *More than 500 books*. This indicator has proven to be a reliable operationalization of objectified cultural capital, as well as serving as another indicator for the proximity to the education system (Hußmann et al., 2017; Stecher, 2005).

In addition, the questionnaire included 26 items from the study *Assessment of Student Achievements in German and English as a Foreign Language* (DESI), measuring process factors for English competence and English use within the family (Wagner et al., 2009). The scale for all items ranged from 1 – *Not at all true* to 4 – *Exactly true*. A principal component analysis with all 26 items revealed five process factors: *the use of English at home*, *parent's English competence*, *parent's use of English at work*, *the perceived importance of English by the parents*,

and *parent's interest in classroom instruction* (Wagner et al., 2009). Three of these factors can be considered especially important for the present study, as they represent crucial indicators for a conducive English home environment and positive English media socialization: (1) *English use within the family* (6 items, $\bar{x} = 1.9$, $SD = 0.74$, $\alpha = .804$), (2) *parent's English competences (as perceived by students)* (11 items, $\bar{x} = 2.1$, $SD = 0.78$, $\alpha = .936$), and (3) *Parents' perceived value of English as an important investment into their children's future (as perceived by students)* (3 items, $\bar{x} = 3.33$, $SD = 0.63$, $\alpha = .799$) (for detailed results see the electronic supplementary material). From the 11 items loading high on the second factor, six were excluded for the present study, as they related more to school-related support than to parents' English competence. The remaining five items still showed satisfactory reliability (5 items, $\bar{x} = 2.43$, $SD = 0.85$, $\alpha = .888$). Each group of items was combined to form a mean value index, with each index ranging from 1 to 4.

It is important to note that neither the structural nor the process factors are entirely congruent with the complex reality of socialization conditions within a family. Nevertheless, scientific studies have shown that they allow for a reliable approximation to the conditions of socio-economic socialization and thus the social origin of the (media) habitus for quantitative research purposes (Stecher, 2005).

Missing rates for these socio-economic indices ranged from 25.5% (HISCED) to 8.3% (Computer to study/ Internet access). Missing rates can be found in Table 1 and Table 2 in the electronic supplementary material.

5.3.2 Media-related Extramural English Contact

For the MEWS study, an in-depth questionnaire to measure students' extramural English contacts through media content was developed by the author of the present book. The questionnaire included traditional media forms like books and television, as well as newer media channels, such as surfing on websites or using social media platforms. The questionnaire was administered to all students participating at the second measurement point (T2) after they had written the essays and completed the listening and reading comprehension tests. In a first step, learners were asked how often they engaged in English-language media content through ten media channels. These questions then served as filter questions for the subsequent follow-up questions. They will therefore be referred to as *entry questions*. A translated version of the entry question can be seen in Table 5.2.

Table 5.2 Excerpt from the questionnaire: Frequency of extramural English contact

	(Almost) Never	1-3 times per year	1-3 times per month	1-3 times per week	(Almost) Daily
Listening to English music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening to English radio or podcast programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening to English audiobooks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading English books (incl. E-books)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading English newspapers or magazines (online and offline)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching English movies and TV series	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching English TV shows (e.g., news, game shows, sports programs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching (short) videos in English on video platforms (e.g., YouTube)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surfing on English-language websites (incl. social media sites)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Playing games on the computer, smartphone, or gaming console in English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Translated from German by the author

The entry questions can be used to investigate the frequency of extramural English contact through each media channel separately. Missing rates ranged from 18.7% (Music) to 19.6% (Books). In addition, the answers for all ten questions were combined to create a mean additive index for the analysis. This index represents students' overall frequency of media-related extramural English contact across all media channels. Cronbach's Alpha showed satisfactory reliability among the ten items ($\alpha = .77$).

Follow-up questions were used to gather additional information for some of the most relevant media channels. Filters were used, so low frequency students who did not engage in a media channel at least 1–3 times per month were not shown the follow-up questions. Since reading books might require longer than watching a movie, the filter for the follow-up question for reading books was set for reading at least 1–3 times per year.

As a result of the filters, the follow-up questions are based on differing subsamples. The subsamples for the follow-up questions will henceforth be referred

to as *readers*, *watchers*, *surfers*, and *gamers*, respectively. Missing rates ranged from 23.5% to as high as 62.8% for some follow-up questions (see again Table 1 and Table 2 in the electronic supplementary material for more details). The size of each subsample as it results from the answers in the entry questions is reported in Table 5.3. The numbers might differ from the actual valid responses in the data set due to the number of missings by intention.

Table 5.3 Subsample for follow-up questions

Media category	n
Readers	1507
Watchers	1566
Surfers	1903
Gamers	965

Table 5.4 shows the follow-up questions for the individual media channels.

Table 5.4 Follow-up questions per media category

Media Category	Follow-up topics	Question Type
Music	None	/
Books	Number of English books per year	Closed-ended question
Watching movies, TV series, & TV shows	Hours spent watching movies and TV series per week (excl. short online videos)	Open-ended question
	Hours spent watching movies and TV series per sitting (excl. short online videos)	Open-ended question
Surfing & watching online videos	Hours surfing per day	Open-ended question
	Preferred Websites	Closed-ended multiple-response question (1/0)
	Preferred content creators	Open-ended question
	Active & passive surfing activities	Closed-ended multiple-response question (1/0)

(continued)

Table 5.4 (continued)

Media Category	Follow-up topics	Question Type
Gaming	Hours gaming per week	Open-ended question
	Hours gaming per sitting	Open-ended question
	Preferred gaming genres	Closed-ended multiple-response question (1/0)
	Active & passive surfing activities	Closed-ended multiple-response question (1/0)

In order to measure gaming genres, Graham's item battery of 12 gaming genres was adapted to German (Graham, n.d., Appendix A). Two categories – *card games and gambling games* and *quizzes* – were added to include two important categories for smartphone-based gaming. In addition, the questionnaire also listed *multiplayer online role-playing games* as a separate category to explicitly measure the use of highly interactive and communicative games. Examples of well-known games were included for each category.

The open-ended questions for hours spent surfing, watching, or gaming were recoded into categorical numeric variables using SPSS 25.0 (IBM Corp, Released 2017) and Microsoft Excel. Unrealistic answers were coded to missing (e.g., 24 hours surfing per day).

Students who regularly surf on English-language websites (*surfers*) were also asked which influencers/content creators, channels, and celebrities they were following online on social media. Due to the variety and range of influencers and channels available, students were provided with an open-ended question. By doing so, students' responses were not limited to a predefined set of answers. Students were free to list as many names as they wanted to and could remember. Therefore, the answers can be seen as representing spontaneous recall or top-of-mind awareness, i.e., names that are most salient to students. This technique has been well established in marketing for measuring consumer brand awareness (Common Language Marketing Dictionary). Answers were categorized using the free version of the software QDA Miner 5.0 (Provalis Research, Released 2016), which allows the coding and analysis of text-based data from interviews and open-ended questions. The dataset contained 1,557 valid answers. Three students gave indefinable answers, and 217 students answered that they regularly watched

YouTube Videos but did not follow anybody in particular and therefore provided no names. These answers were set to missing, as they provided no further detail ($n = 155$). Each mentioned name was initially coded as a separate category. To summarize the data for the analysis, names were grouped into six main categories according to the type of information and entertainment they produced and the level of input they allowed into their private lives (see Table 5.5). Names were researched across multiple social media platforms to determine their category.

While some influencers allow deep insight into their private lives and often make their everyday activities the focus of their content, others prefer not to share as much private information online. For example, gaming channels on YouTube might focus on instructional videos and walk-throughs for specific games. The creators might not appear on screen or share any private information. Other gaming creators might allow viewers insight into their lives (sometimes via a second channel or on a different platform, such as Instagram) and engage in other topics apart from gaming. To differentiate between these two forms of influencers, two categories were coded: *influencer* and *channels*. If a content creator had a large following, used multiple platforms, appeared in person, talked about their lives, or posted pictures about themselves, they were categorized as influencers. If not, they were categorized as channels.

Content creators who focused on fitness were either coded as influencers or as channels, depending on their overall online presence. Professional athletes were coded as celebrities (e.g., Roger Federer).

If the name could not be identified by online research, the name was set to missing ($n = 101$); the same was done for German-speaking influencers ($n = 41$).

Table 5.5 Coded categories: influencer followed online

Category	Definition	Examples
Influencer	<ul style="list-style-type: none"> – Content creators usually have a main topic (e.g., beauty, fashion, lifestyle, and gaming) – allow viewers deep insight into their lives (focus on the person) – often promote products for other companies or own their companies 	PewDiePie, Lily Singh, Tyler Oakley

(continued)

Table 5.5 (continued)

Category	Definition	Examples
Channels	<ul style="list-style-type: none"> – Content creators or channels focused with a main topic (e.g., science videos, gaming tutorials, cooking shows, news about movies, politics) – do not allow insight into the creator's life (neither on YouTube nor on other social media platforms) or are produced by a group – Channels owned by a bigger production company 	Gametheory, BuzzFeed
Celebrities	– social media channels of musicians, singers, artists, actors	Tom Holland, Ariana Grande
Politicians	– social media channels of politicians and political institutions	Barack Obama, the White House
Sport	– Channels owned by a sport association	National Football League
TV Shows (on YouTube)	– (Short) clips from talk shows, news outlets, or TV series	Saturday night lights, CNN, the Simpsons

Last, students who reported regular media-related extramural English contact were asked why they chose to engage in said extramural contact. Overall, 1,857 valid answers were recorded. Answers to the open-ended question were again analyzed using the free version of the software QDA Miner 5.0 (Provalis Research, Released 2016). Through content analysis, 28 categories were derived from the textual data and summarized into nine main categories: *quality*, *exclusivity*, *internationality*, *convenience*, *appreciation for English*, *appreciation for the original*, *language learning*, *external influence*, and *other reasons* (see the electronic supplementary material for the coding manual). To increase the reliability, two additional coders re-coded the first $n = 150$ answers in the dataset. Inter-coder-agreement between the author and the two coders, measured as Brennan and Prediger's kappa (κ_n), was satisfactory and substantial (Coder 1: $\kappa_n = .63$; Coder 2: $\kappa_n = .71$; Rädiker & Kuckartz, 2019). Quotes chosen for this publication will be corrected for spelling mistakes and translated into English by the author.

It should be mentioned that nine students stated that they only engage in regular out-of-school English contact for homework. In addition, five students said

they did not engage in extramural English contact at all, even though their previous answers had activated the filter for the follow-up question. These two groups are worrisome since only students who reported at least occasional extramural contact in the entry questions were shown this follow-up question. This points towards possible misunderstandings within the questionnaire or false declarations. In-depth analysis of these students revealed that four of them seem to have stated that they read books in English at least 1–3 times per year, even though they later stated to only do so for school, which the entry question specifically instructed not to count. For the rest of the cases, the data does not provide any conclusive explanation as to why they said not to engage in voluntary extramural English contact. Most of them had selected regular extramural contact via the internet (surfing and watching videos). They might not have counted these as relevant contacts for the open-ended question. However, this is speculation. No such misunderstanding had occurred during the pilot and was therefore not anticipated for the field phase.

The media questionnaire underwent piloting in both Germany and Switzerland before the final field phase. Qualitative think-aloud interviews with 20 students (10 Germany, 10 Switzerland) were conducted. The sessions were audio-recorded with the permission of the students. After the first round of qualitative piloting with 10 Swiss students, changes were made to the scaling of the entry question. In the first draft, the entry questions were scaled on a 4-point scale (*(almost) never—rarely—often—very often*). This was followed by in-depth questions for each media category for which students would have reported regular extramural contact on a 5-point scale (*never—1 to 3 times per year—1 to 3 times per month—1 to 3 times per week—(almost) daily*). Students pointed out the ambiguity of the first scale (e.g., what does ‘often’ mean?) and the duplication. Therefore, the questionnaire was shortened to contain only the one 5-point scale entry question presented in Table 5.2.

In addition, examples were added for the category TV shows and the category surfing the internet. For the follow-up question for reading, the scale for the number of books was changed to cover a greater number of books. For hours spent surfing, watching movies, TV series, TV shows, and gaming, descriptions were added to clarify the question. The changed questionnaire was again tested with 10 German students. These interviews revealed no further misunderstandings.

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This chapter will discuss the empirical findings for each research question in separate subchapters. Follow-up questions for each media channel will be separated by inline paragraph headings in bold. The analyses for Sections 6.1 and 6.2 were performed in SPSS. The analysis for Section 6.3 was performed in MPlus. A summary and discussion of the findings can be found in Chapter 7.

6.1 Forms and Frequency of Media-related Extramural English Contacts Among Adolescents In Germany and Switzerland

Following the literature and empirical review in Chapter 2, it was proposed that adolescents in Germany and Switzerland have regular extramural English contact via numerous media channels (*HI*). This chapter will look at the frequency with which students in the MEWS study reported contact with English-language media content in different media channels. Findings for each media channel will be presented separately, starting with the most popular one. For brevity, non-significant differences between students from Germany and Switzerland will not be reported in detail but can be found in the electronic supplementary material.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/978-3-658-42408-4_6.

A first look at the questions about technical equipment reveals that almost all students have the technical tools necessary to access online media content in English (Table 6.1). There are only small differences between Germany and Switzerland: Significantly fewer German students have access to their own laptop ($\phi = .08$), but more German students live in a household with a gaming console than Swiss students ($\phi = -.12$) and have their own smartphone ($\phi = -.01$), although this last effect is negligible in size. These results show that the technical requirements for regular online media-related extramural English contact are overall given in both countries.

Table 6.1 Technical equipment at home

	Overall		Country			
			G		CH	
	N	%	N	%	N	%
Internet Access	2274	99.7	783	99.6	1491	99.7
Smartphone	2281	97.3	778	99.0	1442	96.5
Personal Laptop	1908	83.6	637	81.0	1271	85.0
Computer for studying	2247	98.5	772	98.2	1475	98.7
Gaming console	1606	70.4	622	79.1	984	65.8

Note: Significant differences between countries indicated in bold (Chi2 analysis for multiple response questions, $X^2 = (5) = 63.34$, $p \leq .001$)

A first look at the overall mean index for frequency of media-related extramural English contacts shows that almost all students, on average, engaged in extramural contacts at least several times a month (Figure 6.1). Students from Germany and Switzerland did not differ significantly in their overall extramural contact. The individual media channels will be analyzed in more detail in the following subchapters.

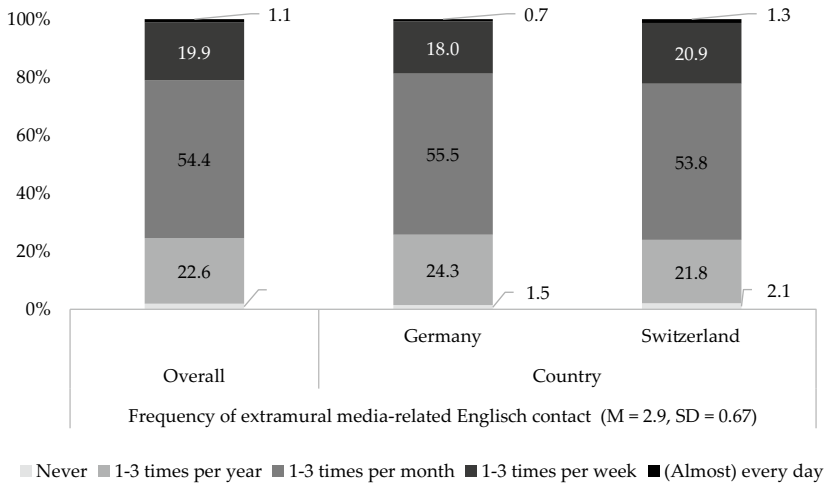


Figure 6.1 Frequency of English media content overall (in %)

6.1.1 Frequency of Listening to Music, Radio, and Audiobooks

Listening to English-language music is by far the most used media category. As Figure 6.2 shows, most students (85.9%) listen to English music every day, 9% multiple times per week, and only 5.1% do so less frequently. In contrast, listening to English radio programs and podcasts seems to be less common, as only 4.8% of students do so on a daily basis, while 57.2% do not listen to them at all. English audiobooks are even less popular among the participants: less than 4% of students listen to them more than a few times a month, and 77% state they never listen to them at all. Swiss students show a slightly higher frequency of listening to audiobooks ($\bar{x}_G = 1.39$, $SD = 0.80$, $\bar{x}_{CH} = 1.30$, $SD = 0.73$; $t(1419.1) = 2.59$, $p = .01$, $d = .119$).

Overall, music seems to be equally distributed as a source of extramural English contact within the sample. This is consistent with findings from other studies and can be explained by the dominance of the American and British music industry worldwide. Unfortunately, the data does not distinguish between active listening and passive listening. Students might passively listen to music while concentrating on other activities or actively listen to the music and try to understand the lyrics.

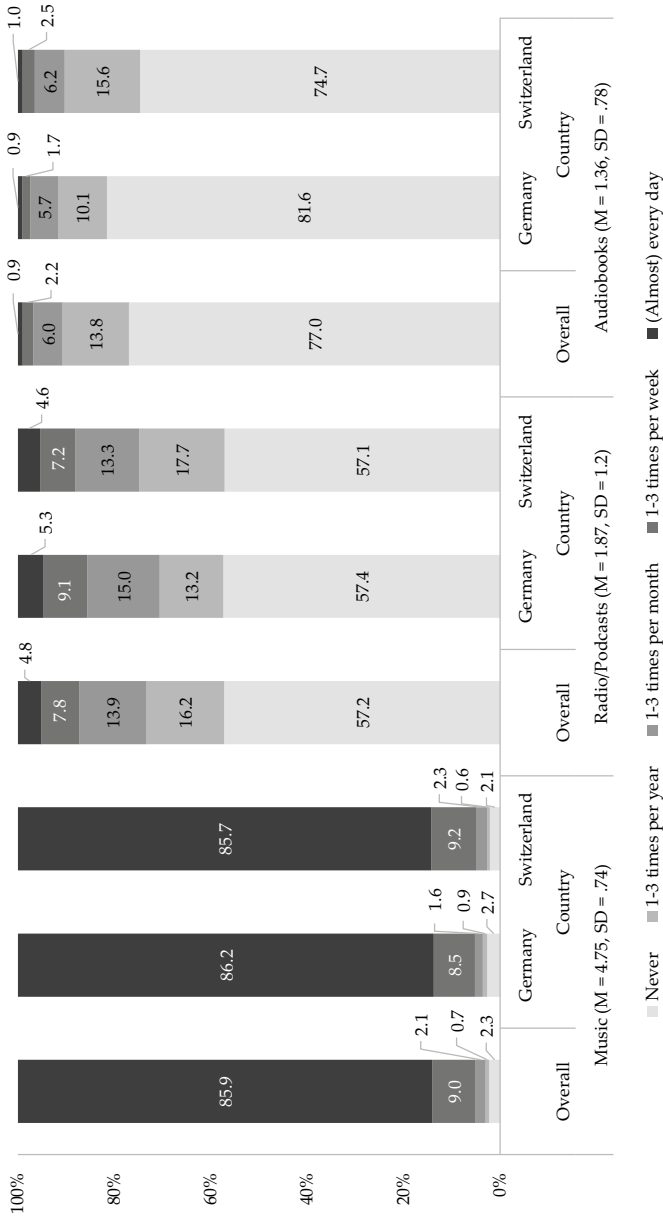


Figure 6.2 Frequency of listening to English media through music, radio, and audiobooks (in %)

6.1.2 Frequency of Surfing Online

Browsing on English-language websites and watching online videos in English are tied for second place among students' most preferred free time media categories (Figure 6.3). This is not surprising, given the overlap between the two activities, as one needs to use the internet to watch videos online. Both categories consequently also show a high correlation ($r = .61$).

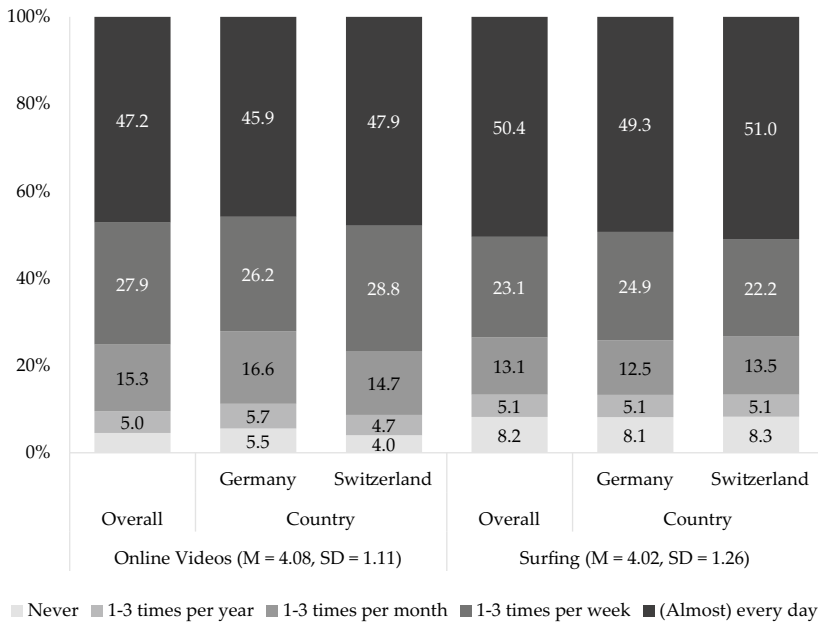


Figure 6.3 Frequency of engagement with English-language content online (in %)

Only 13.3% of students state to rarely ever surf on English-language websites, and even fewer students (9.5%) (almost) never watch online videos in English. There is no significant difference between German and Swiss students for the frequency of surfing activities in general but Swiss students tend to watch English-language online videos more frequently ($\bar{x}_G = 4.01$, $SD = 1.16$, $\bar{x}_{CH} = 4.12$, $SD = 1.08$; $t(2016) = 2.05$, $p = .04$, $d = .097$), yet the difference is small.

For the follow-up questions, students who visit English-language websites or watch English-language online videos at least a couple of times per week were categorized as *surfers* ($n = 1903$).

Hours spent surfing per day. Most *surfers* (84%) spent one to two hours per day engaging in English-language content online (Table 6.2). Only two percent spent 4.5 to 5 or even more than five hours online. German students spent significantly more hours online per day than Swiss students ($\bar{x}_G = 1.98$, $SD = 1.33$, $\bar{x}_{CH} = 1.60$, $SD = 0.97$; $t(936.53) = 6.16$, $p \leq .001$; $d = .335$).

Table 6.2 Time spent surfing per day

	n	%
0–1 hours	1061	58.7
1.5–2 hours	477	25.9
2.5–3 hours	158	8.6
3.5–4 hours	69	3.8
4.5–5 hours	36	2.0
More than 5 hours	39	2.1
\bar{x}	1.73	
SD	1.12	

Popular Websites. Asked about websites in English they like to visit, almost all *surfers* named watching online videos in English on video-sharing platforms such as YouTube (Table 6.3). Again, this is not surprising and supports the high correlation between watching online videos and surfing reported above. The second most named website categories were social media platforms and search engines. Almost half of the students also named messaging apps like WhatsApp to communicate in English and websites for streaming movies and TV series in English online (for more details on movies, TV series, and TV shows, see also Section 6.1.3).

Table 6.3 Popular English-language websites

	Overall		Country			
			G		CH	
	n	%	n	%	n	%
Video sharing platforms	1609	85.4	529	84.9	1080	85.7
Social media	1519	80.7	507	81.4	1012	80.3
Information and search engines	1149	61.0	396	63.6	743	59.8
Messaging apps	1023	54.3	341	54.7	682	54.1
Free online streaming websites	969	51.5	193	31.0	776	61.6
Streaming services	776	41.2	305	49.0	471	37.4
Travel and shopping	669	35.5	192	30.8	477	37.9
News and magazines	655	34.8	220	35.3	435	34.5
Mailing	541	28.7	180	28.9	361	28.7
Gaming	481	25.5	208	33.4	273	21.7
Blogs	417	22.1	150	24.1	267	21.2
Forum/message board	356	18.9	122	19.6	234	18.6
Chatrooms	209	11.1	70	11.2	139	11.0
Fan-Fiction communities	163	8.7	75	12.0	88	7.0

Note: Results from a multi-response question; n = number of respondents (answer yes); % = percent of cases within country; significant differences between countries indicated in bold (Chi2 analysis for multiple response questions, $X^2(20) = 243.32$, $p \leq .001$)

Students in Switzerland and Germany do not differ for most categories, but Swiss students are more likely to use free streaming websites while German students are more likely to use legal streaming services ($\phi = .28$). Apart from streaming services, German students also indicated using fan-fiction websites ($\phi = -.09$) more often and are more involved in online gaming ($\phi = -.13$). Significantly more Swiss than German students prefer travel and shopping sites ($\phi = .06$). Overall, the differences between the two countries ranges from small to moderate in size.

In addition to the closed-ended categories, students were also provided with an open-ended category, to name any other website. Six additional categories could be extracted from the answers: Seven students (0.4%) regularly read *books/poems/literature online*, four students (0.2%) visit *humor sites*, five students (0.3%) browse *sports-related websites*, three students (0.2%) listen to *music streaming sites* and three students (0.2%) regularly use the internet for *scientific research*

activities. Seven students (0.4% – all but one male) even reported that everything they do online is in English. Although the total numbers for these categories are small, they still provide further evidence for the omnipresence of online English-language media content in the everyday lives of some students.

Popular influencer and Content creators. *Surfers* were also asked which English-speaking influencers and content creators they were following online. The recording of the answers revealed that the average student follows several content creators, channels, and celebrities online and does so across multiple social media platforms. Many students stated that they could not possibly name all of them. Instead, they limited their answers to some examples. From $n = 1,557$ valid answers, six main categories were extracted from the data: influencer, channels, celebrities, politics, sport, and TV shows (see Section 5.3.2 for a detailed definition for each category). Answers varied widely and represented the diversity of the industry. For brevity, only names that were mentioned more than ten times will be reported. It should be mentioned that the total number of entries, even for these names, does usually not surpass a few dozen students. The most frequently mentioned name was mentioned 115 times. The results can therefore only be seen as tendencies for students' preferences. Figure 6.4 presents the most popular content creators as a word cloud. The more frequently a name was mentioned, the larger the font in the word cloud.



Figure 6.4 Most popular English influencers online

As the word cloud shows, the most popular English-speaking influencers at the time of the data collection were *PewDiePie*, *Casey Neistat*, *Zoella*, and *Liza*

Koshy. PewDiePie was mentioned the most ($n = 115$), followed by Zoella ($n = 69$). These three names coincidentally represent four main topics for influencers and content creators in general: gaming, hair/make-up/fashion, vlogging, and comedy. The research showed that all four influencers are active on YouTube and Instagram and, in the case of PewDiePie, the gaming platform Twitch. All of them have also branched out into other businesses (e.g., makeup line), written books, or have started acting.

For channels, *Buzzfeed* was the most mentioned name ($n = 64$) (Figure 6.5). BuzzFeed is a professional media company that produces a variety of content via multiple channels for a variety of entertainment topics. They also produce newspaper articles and investigative pieces and maintain a popular YouTube Channel (Buzzfeed). Twenty-one students also regularly watch videos on the channel *TedTalks* on YouTube, and eleven students report watching the educational channel *In a nutshell*. These last names underline the fact that YouTube and other social media sites not only provide entertainment but can also serve as a source for information and educational content for adolescents.



Figure 6.5 Most popular English online channels

Several students also named YouTube channels from popular TV shows (Figure 6.6). The most popular ones are *The Ellen DeGeneres Show* ($n = 39$), *The Late Late Show* ($n = 37$), *The Tonight Show* ($n = 36$), and *Last Week Tonight* ($n = 31$). The channels do not provide the complete tapings of shows but rather share clips ranging from interviews with celebrities to commentary and analysis of political topics. While it cannot be said which clips students prefer, these results again point towards the role of online content for education and information among adolescents.



Figure 6.6 Most popular TV shows via video platforms

The only celebrity mentioned more than ten times in the present sample was Jon Olsson ($n = 20$), a skier who is very active on social media and had a YouTube channel with 1.5 million subscribers (as of November 2020). For the categories of sports and politics, no name was mentioned more than ten times.

Active and passive online behavior. Asked about their activities, most *surfers* said they regularly watch videos online and read short comments and posts on social media sites in English (Table 6.4). Only a quarter/a third said they read longer stories, posts, and comments as online activities.

Even fewer *surfers* named active online activities. While almost all *surfers* named watching videos online, only three percent said they record and upload videos themselves. Similarly, not even 10% of surfers said they write longer texts and upload them to the internet. Furthermore, only half of the *surfers* reported communicating with others via social media, and only 40.4% said they regularly exchange emails in English.

Surfers from Germany and Switzerland show similar results. However, more German *surfers* named reading longer posts or comments in online forums ($\phi = -.09$) and writing longer texts and comments or posts online ($\phi = -.08$). By contrast, more Swiss students in the sample said they record and upload English videos ($\phi = .05$). The differences between the countries are again mostly small in size.

All in all, extramural English contact through online content seems to be dominated by input rather than output production or interaction for most students. This is in line with results from Fraillon et al. (2014), which showed that actively writing and uploading content was less popular among young people than passively consuming input online.

Table 6.4 Frequency of active and passive use of English online content

		Overall		Country			
				G		CH	
		n	%	n	%	n	%
Passive	I watch English Videos online	1780	94.4	583	93.4	1197	94.8
	I read short English comments and posts on social media sites	1581	83.8	528	84.6	1053	83.4
	I read English stories/ fan fiction/ poems/ reports/ blogs etc.	791	41.9	277	44.4	514	40.7
	I read longer English comments and posts in internet forums/ online communities	750	39.8	285	45.7	465	36.8
Active	I write short English comments and posts on social media sites	746	39.6	260	41.7	486	38.5
	I write English stories/ fan fiction/ poems/ reports/ blogs, etc.	136	7.2	58	9.3	78	6.2
	I write longer English comments and posts in forums/ online communities	109	5.8	52	8.3	57	4.5
	I record English Videos and upload them online	56	3.0	11	1.8	45	3.6
Interactive	I communicate with others via social media	976	51.7	329	52.7	647	51.3
	I communicate in English with others via mail/ chat or video call	762	40.4	256	41.0	506	40.1

Note: n = number of respondents (answer yes); % = percent of cases within country; Significant differences between countries indicated in bold (Chi2 analysis for multiple response questions, $X^2(13) = 75.24, p \leq .001$)

6.1.3 Frequency of Watching Movies, Tv Series, and Tv Shows

Watching movies and TV series is also very popular among students: 73.8% of students engage in it at least 1–3 times a month, 46.9% even watch them multiple times a week or (almost) daily (Figure 6.7). By contrast, English TV shows (e.g., game shows or talk shows) are not as popular, as almost half of the students

never watch them. Swiss students watch significantly more TV series and movies in English ($\bar{x}_G = 3.16$, $SD = 1.26$, $\bar{x}_{CH} = 3.35$, $SD = 1.18$; $t(2011) = 3.24$, $p \leq .001$, $d = .153$). However, there is no difference in watching TV shows.

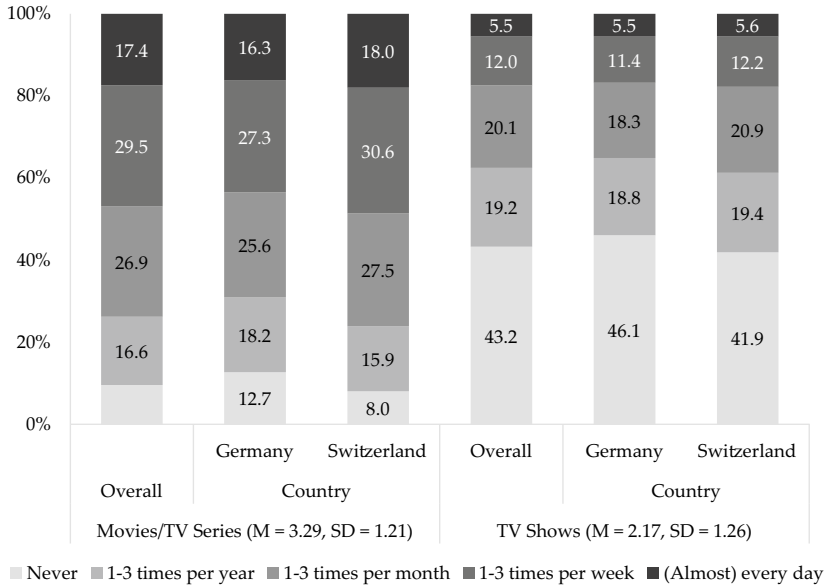


Figure 6.7 Frequencies of watching English movies, TV series, and TV shows (in %)

From the sample, $n = 1,566$ students qualified as *watchers*, as they indicated they watch movies/TV series or TV shows at least 1–3 times per month. These students were shown follow-up questions to determine the time they spent watching audio-visual content.

Hours spent watching movies and TV series. The two open-ended questions for hours spent watching in one sitting and hours spent watching per week were recoded into categorical variables for the analysis. Unrealistic answers (e.g., 100 hours per day) were set to missing.

When sitting down to watch movies and TV series, most *watchers* watch one to two hours in a row (87%) (Table 6.5). German students on average watch slightly more hours in one sitting than Swiss students ($\bar{x}_G = 1.75$, $SD = 1.04$, $\bar{x}_{CH} = 1.60$, $SD = 0.81$; $t(610.21) = 2.45$, $p = 0.02$, $d = .161$).

Table 6.5 Hours spent watching movies & TV series in English per sitting

	n	%
0–1 hours	741	54.2
1.5–2 hours	452	33.1
2.5–3 hours	124	9.1
3.5–4 hours	29	2.1
4.5–5 hours	11	0.8
More than 5 hours	10	0.7
\bar{x}	1.65	
SD	0.88	

When asked about the hours they usually watch per week, 72.5% stated they watch up to four hours per week (Table 6.6). German and Swiss students do not differ significantly ($\bar{x}_G = 3.71$, $SD = 2.98$, $\bar{x}_{CH} = 3.46$, $SD = 2.72$; $t(874.22) = 1.57$, $p = .118$).

Table 6.6 Hours spent watching movies & TV series in English per week

	n	%
0–1 hours	445	28.9
1.5–2 hours	293	19.0
2.5–3 hours	218	14.1
3.5–4 hours	161	10.4
4.5–5 hours	130	8.4
5.5–6 hours	75	4.9
6.5–7 hours	45	2.9
7.5–8 hours	38	2.5
8.5–9 hours	8	0.5
9.5–10 hours	68	4.4
More than 10 hours	60	3.9
\bar{x}	3.54	
SD	2.80	

6.1.4 Frequency of Reading Books, Magazines, and Newspapers

Figure 6.8 shows that only 39.3% of the students in the sample read books in English at least 1–3 times per month or more. Magazines and newspapers in English seem to be slightly more popular with the students, as 47.2% read them at least 1–3 times per month or more. However, only 7.8% out of these students read magazines every day. Since the questionnaire does not distinguish among genres, it is unclear whether students read an entire issue or only selected articles. However, it seems likely that the shorter overall length of newspaper and magazine articles in English makes them more suitable for a quick read than books written in English.

Swiss adolescents showed a slightly higher frequency for reading books in English ($\bar{x}_G = 2.15$, $SD = 1.14$, $\bar{x}_{CH} = 2.47$, $SD = 1.09$; $t(1998) = 6.07$, $p < .001$, $d = .286$) and reading magazines and newspapers in English ($\bar{x}_G = 2.29$, $SD = 1.25$, $\bar{x}_{CH} = 2.53$, $SD = 1.32$; $t(1388.19) = 3.93$, $p < .001$, $d = .182$).

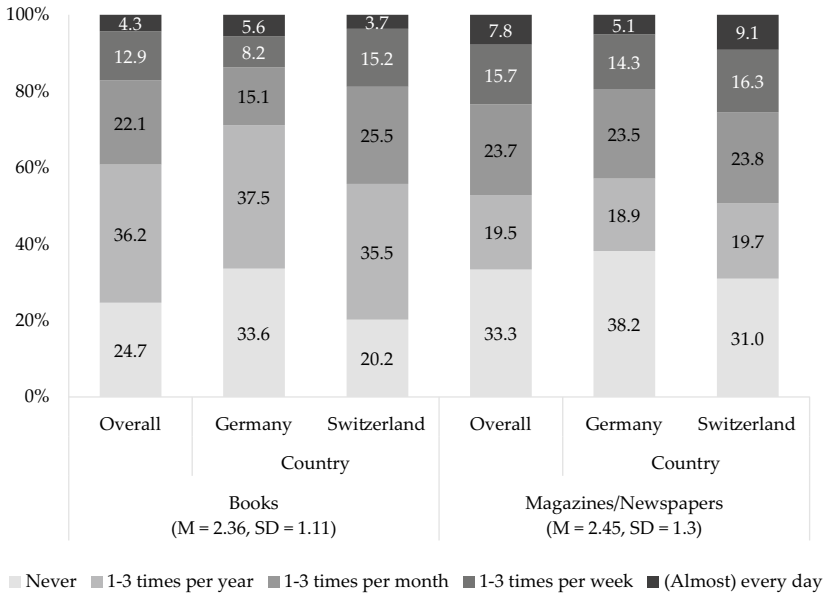


Figure 6.8 Frequencies of reading English books, magazines, and newspapers (in %)

Number of English books read per year. Since a book is usually not read within one sitting, it must be assumed that students will need multiple reading sessions for each book. The $n = 1,507$ regular *readers* were asked about the number of books they read per year. Table 6.7 shows that almost half of the *readers* indicate that they read two to three books per year, and almost 20% even read up to five books.

Table 6.7 English books read per year

	n	%
1 book or less	327	21.7
2 to 3 books	645	42.8
4 to 5 books	298	19.8
6 to 7 books	100	6.6
More than 7 books	137	9.1
\bar{x}	2.39	
SD	1.16	

Swiss students, on average, read more books than German students, who are more likely to only read one English book or less per year. Yet, German students also surpass Swiss students who read seven or more English books ($\bar{x}_G = 2.24$, $SD = 1.23$, $\bar{x}_{CH} = 2.45$, $SD = 1.13$; $t(1505) = -3.159$, $p \leq .002$; $d = .179$).

6.1.5 Frequency of Gaming

Gaming in English is the least frequented category by students overall. Only 27.4% of students state that they engage in the activity at least 1–3 times per month, and only 19.7% do so every day (Figure 6.9). As a result, only $n = 965$ students qualify as regular *gamers*. This is surprising given that the questionnaire also included smartphone gaming apps, which are designed to be played on the go. Consequently, a higher frequency might have been expected.

German students tend to engage in gaming activities in English slightly more often than Swiss students ($\bar{x}_G = 2.84$, $SD = 1.65$, $\bar{x}_{CH} = 2.48$, $SD = 1.56$; $t(1265) = 4.7$, $p \leq .001$, $d = .225$).

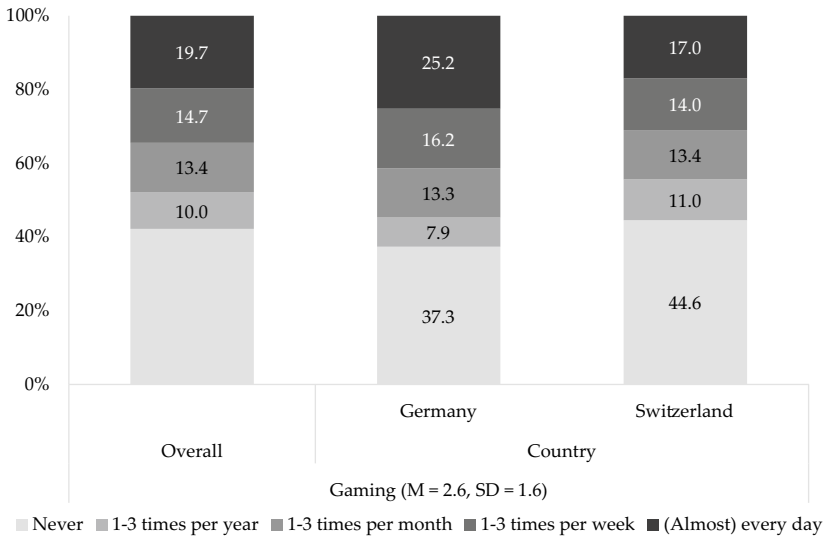


Figure 6.9 Frequencies of gaming in English (in %)

Hours spent gaming. The two open-ended follow-up questions about time spent gaming in one sitting and hours spent gaming per week were recoded into two categorical variables for the analysis. The majority of regular *gamers* (84.8%) spent up to two hours gaming in one sitting (Table 6.8). German students show a slightly higher average of hours played in one sitting ($\bar{x}_G = 1.88$, $SD = 1.29$, $\bar{x}_{CH} = 1.58$, $SD = 1.01$; $t(623.76) = 3.84$, $p \leq .001$, $d = .271$).

Table 6.8 Time spent gaming per sitting

	n	%
0–1 hours	564	60.5
1.5–2 hours	227	24.3
2.5–3 hours	72	7.7
3.5–4 hours	29	3.1
4.5–5 hours	17	1.8
More than 5 hours	24	2.6
\bar{x}	1.69	
SD	1.14	

When looking at the hours spent gaming per week, the data shows that half of the *gamers* spent one to two hours per week with the activity; however, high-frequency users spent 10 hours or more per week. No other category shows such a high percentage of high-frequency users (Table 6.9). While the two countries are similar in their percentages of low-frequency users, the data shows a significantly higher percentage of high-frequency users in Germany, resulting in a significant difference between the two countries ($\bar{x}_G = 4.87$, $SD = 4.06$, $\bar{x}_{CH} = 3.41$, $SD = 3.42$; $t(669.49) = 5.71$, $p \leq .001$, $d = .390$).

Table 6.9 Time spent gaming per week

	n	%
0–1 hours	418	44.1
1.5–2 hours	97	10.2
2.5–3 hours	81	8.6
3.5–4 hours	46	4.9
4.5–5 hours	41	4.3
5.5–6 hours	31	3.3
6.5–7 hours	24	2.5
7.5–8 hours	21	2.2
8.5–9 hours	14	1.5
9.5–10 hours	44	4.6
More than 10 hours	130	13.7
\bar{x}	3.97	
SD	3.74	

Popular gaming genres. As another follow-up question, *gamers* were presented with 12 gaming genres and asked to name the genres they regularly engage in (see Table 6.10). The most named genres were action games and first-person shooters. Additionally, roughly a third of the students named adventure games, multiplayer online role-playing games, and strategy games. The least named category was rhythmic games. As these games often require special equipment, one reason for their low popularity might be their high purchase threshold.

Students in both countries only differed in four of fifteen genre categories: German students overall showed a higher preference for adventure ($\phi = .12$), multi-player-online- role-play ($\phi = .11$), simulation ($\phi = .14$) and horror games ($\phi = .09$).

Table 6.10 Popular gaming genres

	Overall		Country			
			G		CH	
	n	%	n	%	n	%
Action	366	42.8	156	45.5	210	41.0
First Person Shooter	315	36.8	136	39.7	179	35.0
Adventure	291	34.0	135	39.4	156	30.5
Multiplayer online role-play	266	31.1	123	35.9	143	27.9
Strategy	259	30.3	105	30.6	154	30.1
Simulation	234	27.4	117	34.1	117	22.9
Quizzes	224	26.2	85	24.8	139	27.1
Sport	222	26.0	77	22.4	145	28.3
Race	188	22.0	74	21.6	114	22.3
Roleplay	170	19.9	79	23.0	91	17.8
Puzzle	148	17.3	67	19.5	81	15.8
Cards games and gambling	147	17.2	51	14.9	96	18.8
Fight	131	15.3	58	16.9	73	14.3
Horror	89	10.4	46	13.4	43	8.4
Rhythmic	43	5.0	20	5.8	23	4.5

Note: Responses from a multiple response question; n = number of respondents (answer yes); % = percent of cases within country; significant differences between countries indicated in bold (Chi2 analysis for multiple response questions, $X^2(15) = 49.47$, $p \leq .001$).

Active and passive gaming behavior. Online games allow for different levels of interaction with other players. Opportunities for interactions range from single-player mode without any interaction, simple written chatrooms, to audio and even video chats. Some of the most interactive online games are organized as community games in which players form long-lasting groups with others (multiplayer online role-play). Therefore, *gamers* were asked if they only passively engage in gaming or make use of communication channels to talk to other gamers during the games. The results show that both passive and active gaming behavior in English is only carried out by a third of the *gamers* in Germany and Switzerland (Table 6.11). More German students stated that they communicate with others in English ($\phi = -.08$) and have set their gaming menu to English ($\phi = .01$), yet the latter is negligible in size.

Table 6.11 Frequency of active and passive gaming activities

	Overall		Country			
			G		CH	
	n	%	n	%	n	%
I have set my gaming menu(s) to English	637	33.8	241	38.6	396	31.4
I have set the language of my gaming characters to English (if possible)	532	28.2	178	28.5	354	28.1
I communicate in English with others during my game sessions	475	25.2	200	32.1	275	21.8

Note: Answers from a multiple response question; n = number of respondents (answer yes); % = percent of cases within country; significant differences between countries indicated in bold (Chi2 analysis for multiple response questions for all Passive/Active Items, $X^2(13) = 75.24$, $p \leq .001$)

6.1.6 Reason for Extramural English Contact

Students who reported regular extramural English contact at least 1–3 times per month were asked why they engaged in these contacts. The question was provided in an open-ended format. Overall, 1,857 valid answers were recorded and coded into nine main categories using content analysis. Students can fall into multiple categories at once, as they could name as many reasons as they wished. Table 6.12 reports the frequencies for each category and subcategory, starting with the most frequent one.

Table 6.12 Reasons for extramural English contacts

Main and subcategory	%
Language learning	47.13%
Improve/ maintain language skills (n = 801)	42.22%
Importance for future (n = 83)	4.38%

(continued)

Table 6.12 (continued)

Main and subcategory	%
Better than classroom instruction (n = 6)	0.32%
Contact to non-standard English (n = 4)	0.21%
Quality	46.76%
Authenticity (n = 761)	40.12%
Better content (n = 126)	6.64%
Exclusivity	42.75%
Only available/ easier to find in English (n = 431)	22.72%
More (and additional) content available (n = 239)	12.60%
Earlier access to content (n = 141)	7.43%
Appreciation for English	13.23%
English is fun (n = 226)	11.91%
Easier or more comfortable (n = 18)	0.95%
Challenge (n = 5)	0.26%
Diving into another world (n = 2)	0.11%
Appreciation for original versions	10.02%
Student expresses wish to (also) see original (n = 159)	8.38%
Content is the decisive factor, not the language (n = 31)	1.63%
External Influence	6.27%
I have English speaking friends (n = 45)	2.37%
Former exchange student (n = 41)	2.16%
I grew up in an international home environment (n = 17)	0.90%
Parents/ peers introduced me (n = 8)	0.42%
Teacher recommended it (n = 4)	0.21%
I am attending a bilingual/CLIL class (n = 4)	0.21%
Internationality	4.74%
Communicate with others (online) (n = 84)	4.43%
Insight into other cultures and ethnicities (n = 6)	0.32%
Other reasons	2.42%
It just happened (no real reason) (n = 33)	1.74%
Only use English content if German content is not available (n = 13)	0.69%
Convenience	0.74%
Easier than changing the settings (n = 6)	0.32%

(continued)

Table 6.12 (continued)

Main and subcategory	%
Content already available at home (n = 4)	0.21%
English content is cheaper/free (n = 4)	0.21%

Note: n = 1,897

Almost half of the students cited *language learning* as a reason to engage in English-language content. This category summarizes all statements regarding the possibility or the wish to increase language competences through media-related extramural English contact. This was also the most frequently named reason in the sample and can be illustrated by the following exemplary quote:

“So that I can improve my English. Watching TV series in English is great because you relax and at the same time you passively learn English. [Damit ich mein English verbessern kann. Serien auf English zu schauen ist toll, denn dabei entspannt man sich und zugleich lernt man passiv die Sprache Englisch mit.]” (Case 285)

Following the results from Stecher (2005), it could have been expected that students assign different learning potentials to different media categories. However, even though books were often named in terms of language learning, other media outlets were not explicitly excluded. Indeed, movies and TV series were often named as a good source for vocabulary training, coming into contact with different accents and dialects, and subsequently increasing listening comprehension.

Despite the awareness of learning opportunities, the resulting language learning is most likely still incidental in nature. As discussed in Chapter 4, incidental language learning, while mostly an unconscious process, does not mean that students must be unaware of possible learning processes, yet the emphasis of the activity is on decoding the message or participating in an interaction.

That this is most likely the case also becomes evident by the fact that while these students are aware of the possibility of language learning through media contact, it is almost never the sole reason for the contact. Most of the students in this category particularly stress that they appreciate the opportunity to learn or maintain their language skills while still engaging in a fun and voluntary activity. Since they can choose the media content they want, it is reasonable to assume that their choice of media content is driven by interest and personal relevance. Therefore the choice to engage with English-language media content seems in part to be driven by the desire to combine fun with learning opportunities.

Four students also specifically stressed the opportunity of coming into contact with dialects other than the standard English usually taught in school. While these represent only isolated opinions, they illustrate the variety of English content available for students outside the classroom.

In addition, some students also stated that extramural English contacts have even helped them more than their classroom instructions since they provided more input and additional information. Again, these are isolated statements, yet they illustrate the rich learning opportunities through exposure from extramural contact.

Some students also explicitly stress the importance of being proficient in English for their future and their desire to practice the language as much as possible outside of school:

“Since I live in Germany, I have no other daily contact with the English language. And since language is something living, I try to integrate it into my everyday life so that I stay fit. I think that English as a world language is an important language, which one should know at least a little bit. [Da ich in Deutschland lebe, habe ich sonst keinen täglichen Umgang mit der englischen Sprache. Und da Sprache etwas Lebendiges ist, versuche ich sie in meinen Alltag einzugliedern, damit ich darin fit bleibe. Denn ich denke, dass Englisch als Weltsprache eine wichtige Sprache ist, die man heutzutage mindestens in Ansätzen beherrschen sollte.]” (Case 246).

The second most frequent category was *quality*. Almost half the students stated that the original audio track provided a better or more authentic experience. Many of the students considered the dubbed German audio track to be of inferior quality and to disturb the viewing experience. Students also stated that meaning was lost during translation in terms of humor, emotion, and atmosphere. Some students mentioned similar problems with translated books or computer games. The following quote illustrates these findings:

“Movies/series/books are often more authentic in English (the original language); a lot gets lost in translation, e.g., jokes that have to do with the culture and especially word plays. [Filme/Serien/Bücher sind oft authentischer auf Englisch (Originalsprache); viel geht verloren z.B. Witze, die mit der Kultur zu tun haben und vor allem auch Wortspiele]” (Case 620)

In addition, some of the students said that English media sources had better quality and provided more information. This was mainly geared towards the English influencer community and online content.

Almost half of the students also mentioned *exclusivity* as a reason for extramural English contact, as the content they are interested in is only available in

English. This seems to be especially true regarding content created by influencers. Since every creator produces a specific type of content, often tied to their personal life, this is not surprising. Videos and posts are not always available in a dubbed or translated version, and an English-speaking influencer is not simply replaceable with a German or Swiss influencer. As a result, their content is unique and exclusively linked to the language it was produced in. The same seems to be true for many websites, posts, and message boards. In addition, students also stated that since there was so much more English content available online, it was easier to find information and material.

Lastly, a small percentage of the students stated earlier access to movies and TV series, but also to books, as an important criterion for engaging in extramural content. Since authentic material does not have to be translated prior to release, it is often available for download or purchase earlier than the translated version. Some students stated that they had started a TV series in German but then got impatient waiting for the release of the next season in German.

While it is reasonable to assume that all students who engage in extramural contact appreciate the English language somehow, more than a tenth explicitly stated that English is ‘fun’ and that they liked to incorporate it into their everyday life (*appreciation for English*). Some students simply expressed their wish to see the original versions, often after or in addition to the dubbed or translated versions.

Some students reported being encouraged by outside factors to engage in extramural English contacts (*external influence*). Most of these students reported coming into contact with English outside of school and started to engage in English media contacts while spending time abroad. Some students have English-speaking friends or were introduced to English media content by their parents, family members, or teachers. However, overall, the numbers for these categories are small. It is thus reasonable to assume that this is not necessarily the case for most students.

Since the follow-up question was shown to all students who regularly engaged in any form of media-related extramural contact, respondents to the open-ended follow-up question do not frequent all media categories alike. Seventy students explicitly reported to only read books in English for homework, yet engage in contact with other media categories voluntarily. This might be due to the fact that reading a whole book is a demanding activity, especially for beginners, as could be shown in other studies (Huckin & Coady, 1999; Peters, 2018; Sylvén & Sundqvist, 2015). In addition, nine students reported getting into some forms of out-of-school contact for school-related reasons while also engaging in extramural contact voluntarily, without naming specific media categories.

In summary, the results indicate that students engage in extramural English contact because they appreciate the undubbed or untranslated versions of media content such as books or movies. This is mainly due to the perceived lack of quality of the German translation and because they genuinely like English. Students stressed the omnipresence of English, especially online, and the fact that some content is only available in English or that the English content is of higher quality or more informative. Students also see English as an important factor in today's world and hope to increase their language competences while engaging in fun leisure time activities.

6.1.7 Patterns of Media-Related Extramural English Contact

As the results in the last section have shown, most students do not only have extramural English contact through one media channel. Instead, students tend to engage in various media activities, best serving their needs and interests. It was thus interesting to see if any patterns emerge from the data.

Table 6.13 Correlation between media categories

	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Music (1)	.109	–	.107	.144	.195	.120	.256	.248	.076
Radio/podcasts (2)		.359	.236	.325	.257	.349	.180	.229	.159
Audiobooks (3)			.351	.246	.224	.238	.103	.124	.092
Books (4)				.325	.363	.183	.164	.224	–
Magazines (5)					.336	.463	.314	.400	.175
Movies & TV series (6)						.373	.374	.377	.211
TV Shows (7)							.332	.330	.308
Online videos (8)								.608	.379
Surfing the internet (9)									.342
Gaming (10)									

Note: Results from Pearson's correlation. Two-tailed t-test correlation coefficients ($p \leq .05$).

With the exception of surfing on English-language websites and watching English-language videos online, most media categories only show a small to medium correlation with each other (Table 6.13). As discussed above, the high

correlation between these two online activities is not surprising: one has to use the internet to watch videos online.

The low to medium correlation for the other media channels is probably due to the fact that students show a variety of use patterns and preferences. In addition, some media categories can be engaged in simultaneously (e.g., listening to music while reading a book or surfing the internet), and some media categories are popular with almost all students (e.g., music), while others are used by almost no one (e.g., audiobooks).

To investigate if the variables can nevertheless be reduced to a smaller number of underlying latent components, an explorative principal component analysis (PCA) was conducted (see Table 6.14). The results from the PCA show three principal components with an eigenvalue bigger than 1. Component 1 explains 34% of the variance, component 2 explains 13.83%, and component 3 explains 10.19% of the total variance.

Table 6.14 Types of media users: results from a principal component analysis (rotated component matrix)

Factor	Item	Component			Degree of Communality
		1	2	3	
Music	Music			.767	.591
Traditional media channels	Radio/podcasts	.663			.495
	Audiobooks	.745			.560
	Books	.655			.654
	Newspapers & Magazines	.566			.485
	Movies & TV series	.450		.472*	.487
	TV Shows	.502	.539*		.548
Online based media channels	Online videos		.539		.667
	Surfing the internet		.610		.651
	Gaming		.565		.667
Explained variance (%)		34.00	13.83	10.19	

Note: * Cross-factor-loading > .4. Extraction based on principal component analysis. Varimax rotation with Kaiser normalization. Factor solution was satisfactory for the data (The Kaiser-Meyer-Olkin test (KMO) for sampling adequacy = .811; Bartlett's test for sphericity: approx. $X^2 = 4262.5$, $df = 45$, $p \leq .001$).

The first component could be interpreted as the *use of traditional media channels*. It captures a considerable part of the variance for listening to audio content (audiobooks and radio), reading books, magazines, and newspapers, as well as watching movies, TV series, and TV shows. However, watching TV shows also shows a substantial cross-loading on the second component, and watching movies shows cross-loading for component 3. In the case of cross-loading, it is helpful to take into account theoretical considerations (Research Methods Consulting University of Zurich, 2018). For the present study, it seems more logical to see watching movies and TV shows as part of component 1, given the closeness of the categories to watching TV series.

Component 2 could be seen as the *use of online-based media channels*, as it explains most of the variance for online-based extramural English contact via surfing, watching videos online, or gaming.¹ However, surfing and watching online videos also shows cross-loading on component 3.

Last, component 3 could be categorized as the *use of music* because music is the only media category with a high factor loading.

While these components might show a tendency for certain usage patterns, the frequent and substantial cross-loading points towards a lack of discriminatory power between the components. Given these non-conclusive findings, the results should be interpreted with caution (Research Methods Consulting University of Zurich, 2018), as it seems there are no clearly distinctive patterns of media usage for the present study.

6.2 Media-related Extramural English Contacts and the Digital Divide

The theoretical and empirical literature presented in Chapter 3 provided evidence that investigating media behavior patterns while ignoring the social structures in which the behavior is embedded would fail to capture the unique social conditions under which such patterns emerge. The present study included two social factors of interest: socio-economic background and gender. In this chapter, students' frequencies and forms of media-related extramural English contact will be analyzed considering these two factors.

¹ Even though, as we have demonstrated, online based platforms like Netflix have become increasingly important for movies, TV series and TV shows.

6.2.1 Socio-economic Background and Media-related Extramural English Contacts

For the present study, students from the penultimate year of baccalaureate schools (Gymnasium), the highest secondary educational track, were selected. Studies have repeatedly proven the significantly lower probability for children from lower socio-economic families to receive a recommendation for this highest educational track in both Germany and Switzerland. These differences persist, even after controlling for grades or test performance (see, for example, Angelone & Ramseier, 2012; Buchmann et al., 2016; Frank & Sliwka, 2016; Hußmann et al., 2017; Klemm, 2016; Konsortium PISA.ch, 2019; Kuhl et al., 2013; OECD, 2016, 2020; Solga & Dombrowski, 2009).

Since educational trajectory and a probability of transitioning to the highest educational track thus already depend on the socio-economic family background, it could be assumed that the sample for this study would also be highly selective. Indeed, the data shows that, on average, the parents' highest level of education in the sample is at least a post-secondary non-tertiary education, either vocational or academic (Table 6.15). Parents from Switzerland have a significantly higher educational level than parents in Germany ($t(1826.77) = -9.87, p \leq .001, d = .421$). This is most likely due to the even higher selectivity of the Swiss educational system, in which the entrance to the highest educational track is even more restrictive than in Germany (Keller et al., 2020).

Table 6.15 Parents' highest level of education

HISCED Level	Description	Overall		Country			
				G		CH	
		n	%	n	%	n	%
(1) No level	Early childhood education only	3	0.2	0	0.0	3	0.3
(2) HISCED 1	Primary education	5	0.3	0	0.7	5	0.4
(3) HISCED 2	Lower secondary education	53	2.9	5	1.5	48	4.1
(4) HISCED 3 A	Upper secondary education, general	29	1.6	10	22.8	19	1.6
(5) HISCED 3B/3 C	Upper secondary education, vocational	372	20.1	157	22.7	215	18.5

(continued)

Table 6.15 (continued)

HISCED Level	Description	Overall		Country			
		n	%	G		CH	
				n	%	n	%
(6) HISCED 4	Post-secondary non-tertiary education	189	10.2	156	38.4	33	2.8
(7) HISCED 5 A	First stage of tertiary education	501	27.0	264	11.8	237	20.3
(8) HISCED 5B		481	26.0	81	2.2	400	34.3
(9) HISCED 6	2nd stage of tertiary education (research qualification)	220	11.9	15	0.7	205	17.6
\bar{x}		6.81		6.41		7.05	
SD		1.53		1.11		1.70	

Similar results can be seen for the average number of books at home (indicating cultural and educational capital) in both countries. The data shows that families on average own 100 to 250 books (Overall: $n = 2234$, $\bar{x} = 5.25$, $SD = 1.37$; G: $n = 781$, $\bar{x} = 5.30$, $SD = 1.29$; CH: $n = 1453$, $\bar{x} = 5.22$, $SD = 1.41$). There was no significant difference between families from Germany and Switzerland ($t(1724.81) = 1.26$, $p \leq .207$).

In addition to these two structural factors, the study also measured the use of the English language at home, parents' English competences, and parents' attitudes towards English as an important investment into their children's futures. These process factors can be seen as the operationalization of a family's incorporated cultural capital concerning English as a foreign language (Rolff et al., 2008).

The data show that most students indicated that English is not used regularly at home. However, most students would agree that their parents have good English competences and see English as an important investment into their children's futures (Table 6.16). Swiss and German parents only differ significantly in their English competence, with Swiss students indicating a slightly higher competence level for their parents than German students. This might be due to the higher overall education of Swiss parents in the sample.

Table 6.16 Language praxis within the family

	Overall		G		CH		d	t	p	d
	n	\bar{x} (SD)	n	\bar{x} (SD)	n	\bar{x} (SD)				
Use of English within the family	2277	1.92 (0.74)	786	1.92 (0.74)	1491	1.92 (0.74)	2275	.04	.97	–
Parents' English competence	2279	2.43 (0.84)	786	2.28 (0.79)	1493	2.51 (0.86)	1706.81	–6.19	≤ .001	.26
Parents' perceived value of English	2266	3.33 (0.63)	784	3.34 (0.65)	1482	3.33 (0.62)	2264	.408	.68	–

Note: Results from separate t-tests.

Process factors and structural factors show a significant correlation with each other (Table 6.17), which is not surprising, as the process factors are themselves already influenced by the level of educational and monetary capital within a family (Rolff et al., 2008). However, the parents' perceived value of English for their children's future shows only a small correlation with the parents' highest level of education and objectified cultural capital. This shows that, at least for the MEWS sample, the value of English as an important investment into a child's future does not vary as much across social class boundaries.

Table 6.17 Correlation of socio-economic background factors

	(1)	(2)	(3)	(4)
Parents' highest educational level (1)				
Objectified cultural capital (2)	.352			
Use of English within the family (3)	.274	.307		
Parents' English competence (4)	.440	.338	.592	
Parents' perceived value of English (5)	.072	.073	.244	.272

Note: Pearson's correlation coefficients are reported. All coefficients are significant at least at $p \leq .05$.

Overall, the results show that students within the sample disproportionately come from families with a higher level of objectified and institutionalized cultural capital and educational and economic resources.

Since the highest level of education (HISCED) and cultural capital within a family are also indications of the monetary situation, it could be assumed that these factors also influence a family's possibility to afford state-of-the-art technical equipment. It is reasonable to assume that while it might have become more affordable for families to provide each child with a smartphone and provide at least one computer per family, providing each child with a personal computer or providing stable internet access at home might not be possible for every family. In addition, educational and cultural capital might influence the technical equipment a family is willing to invest in. However, logistic regression models only showed significant effects for the probability of a student owning a gaming console ($X^2(2) = 59.44$, $p \leq .001$, $R^2 = .047$, $n = 1793$) for both highest educational level (OR = 0.86, 95%CI [0.799 – 0.934]) and objectified cultural capital (OR = 0.805, 95%CI [0.740 – 0.877]). Here, children from families with a higher educational and cultural capital have a lower probability of indicating ownership of a console.

This result can be read as an indication of the diminished importance of educational and financial capital for students' access to technical equipment and the internet. The negative effect for gaming consoles could be interpreted as the result of a less favorable attitude towards gaming as a free time activity for children from families with a higher socio-economic level, even if the monetary resources would allow them to buy a console. This can, in turn, be seen as the first support for the hypothesis of the existence of a class-specific media habitus.

To determine the effects of the socio-economic background factors on extramural English contacts through media, regression analyses were used for each individual media category and the overall media index (Table 6.18). Since Rolff et al. (2008) could show that the effect of the structural factors are most likely mediated by the process factors, a stepwise regression analysis was chosen. For each dependent variable, the first model (M1) included only the two structural factors, parents' highest educational level and objectified cultural capital (operationalized through the number of books at home). In a second step (M2), the three process factors *use of English within the family*, *parents' English competence*, and *parents' perceived importance of English as a school subject* were included in the analysis. If findings from Rolff et al. (2008) hold true for the present sample, the two structural factors should become non-significant after introducing the process factors into the regression model.

The results show that students' socio-economic background does indeed influence the frequency of extramural contact through most media categories as well as their overall frequency of media-related extramural English contact. Similar to findings in Rolff et al. (2008), the structural factors do not show a significant effect for most media categories after the three process factors are included in the model. The only exception can be found for the level of objectified cultural capital on the frequency of reading books in English. Here, a small to a medium positive effect of objectified cultural capital on the frequency of reading books was found, even after controlling for all three process factors. The effect is, however, not surprising since the number of books at home can also be seen as an indicator of parents' reading habits: Children from families in which literacy plays an important role are also more likely to enjoy reading in English.

For gaming, the first model shows a significant effect for the parents' highest educational level and is therefore in line with other empirical findings indicating a more restrictive parenting style from parents with higher educational backgrounds, as gaming is usually seen as a negative leisure time activity (Graham, n.d.). However, surprisingly the second model did not show any significant effects. Overall, the data from the present study show little to no effect for socio-economic background factors on extramural English contacts through gaming.

This might be partly influenced by the low number of frequent gamers in the sample.

Neither structural nor process factors showed a significant effect for listening to English music in either model. This was to be expected, given that the data shows little to no variation, as almost all students listen to English songs (almost) daily.

Among the process factors, English use within the family shows the most consistent and strongest effects on students' frequency of extramural English contact across most media categories. It positively influences students' frequency of listening to English radio programs or audiobooks, reading books, reading newspapers and magazines, watching movies, TV series, and TV shows, surfing on English-language websites, and watching English videos online. This finding is again in line with hypothesis *H2.3* and illustrates the important influence of cultural praxis and the media habitus in regard to English media content within a family.

Parents' perceived importance of English as an investment in their children's future also shows small positive effects on students' frequency of extramural contact via radio, podcasts, books, newspapers, magazines, movies, TV series, surfing, and watching online videos. Surprisingly, parents' English competence has a small negative effect on students' frequency of listening to English radio or podcasts. However, without a more detailed follow-up question, it is hard to determine the exact nature of this effect.

For the overall index, English use at home and parents' perceived importance of English also shows a significant positive effect. This again supports the notion that parents serve as role models in shaping their children's aesthetic taste and relationship with foreign media sources.

As discussed above, the Swiss sample, on average, has a slightly higher socio-economic background level, with students reporting slightly higher educational and cultural capital at home, as well as a higher English competence among parents. Therefore, it was interesting to see if the differences in extramural English contact via certain media channels between Germany and Switzerland reported in Section 6.1 still hold after controlling for students' socio-economic background. To this end, regression analysis for each media category and the media index was performed using country as a dichotomous dependent variable while controlling for all five socio-economic factors (Table 6.19). However, it should also be noted that including the country variable at the individual level is not without risks (Snijders & Bosker, 2012). The results should therefore be interpreted with caution.

Table 6.18 Regression results for the effect of family background on frequency of extramural contacts

	Overall		Music		Radio & Podcasts		Audiobooks		Books		Newspapers & Magazines		
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	
Structural factors													
Parents' highest educational level	–	–	–	–	–	–	–	–	–	–	.063	–	
Objectified cultural capital	.114	–	–	–	–	–	.076	–	.179	.128	.089	–	
Process Factors													
Use of English within the family		.247		–				.190		.167		.228	.158
Parents' English competence		–		–				–.092		–		–	–
Parents' perceived importance of English as a subject		.096		–				.088		–		.087	.092
R²	.014	.073	–	–	–	–	.038	.009	.040	.030	.089	.016	.045

(continued)

Table 6.18 (continued)

	Movies & TV-Series		TV Shows		Surfing		Online Videos		Gaming		
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	
Structural factors											
Parents' highest educational level	-.070	-	-	-	-	-	-	-	-	-.069	-
Objectified cultural capital	.081	-	-	-	-	-	.076	-	-	-	-
Process Factors											
Use of English within the family		.214		.130				.164		.131	
Parents' English competence		-		-			-	-		-	
Parents' perceived importance of English as a subject		.053		-			.066			.056	
R²	.016	.053	-	.022	-	.027	.005	.022	.004		-

Note: Standardized regression coefficients from separate linear regression models for each media category item are reported. Only significant coefficients are reported ($p \leq .05$)

Table 6.19 Regression results for the effect of country and family background on frequency of extramural contacts

	Overall	Music	Radio & podcasts	Audiobooks	Books	Newspapers & Magazines	Movies & TV series	TV Shows	Online videos	Surfing	Gaming
Country		-	-	-.058	-.138	-.062	-.063	-	-.074	-	.105
Structural Factors											
Parents' highest educational level	-	-	-	-	-	-	-	-	-	-	-
Objectified cultural capital	.062	-	-	-	.145	.061	-	-	-	-	-
Process Factors											
Use of English within the family	.299	-	.214	.171	.260	.190	.254	.157	.180	.201	-
Parents' English competence	-.172	-	-.145	-	-.120	-.119	-.139	-	-.129	-.133	-
Parents' perceived value of English	.110	-	.095	-	.093	.099	.063	-	.069	.076	-
R2	.085	-	.042	.029	.107	.050	.061	.019	.031	.031	.015

Note: Standardized regression coefficients from separate linear regression models for each media category item are reported. Only significant coefficients are reported ($p \leq .05$).

Results showed that even after controlling for students' family background, both countries showed the same significant differences in the average amount of extramural English contact via books, audiobooks, newspapers/magazines, movies/TV series, online videos, and gaming. Thus, the differences between the two countries for these media categories cannot solely be attributed to differences in the sample's socio-economic background factors.

Including both socio-economic background factors and country of residence into one model also resulted in small differences in the effects of the background variables. After controlling for country, parents' English competence now shows a significant effect for (audio-)books, newspaper/magazines, movies/TV series, TV shows, online videos, surfing online, gaming, and the overall media index.

Despite these small changes, the results still confirm the fact that language habits within the family seem to influence students' media-related extramural English contacts, even after controlling for differences between countries. The weight of this influence might differ in different national contexts.

All in all, the results show that the habitus towards the use of English as a foreign language within the family has a significant influence on students' extramural English contacts. The results thus underline the importance of parents as role models for their children in shaping their media habitus. The effects are apparent not only for traditional media contact via books, but also for newer forms of audio-visual contact and interactive contact via online platforms.

The follow-up questions also further support these results. For the follow-up questions, multiple linear regression models and logistic regression models were calculated to determine the effect of the structural and process factors. Since the previous analysis only showed small to marginal differences between the two countries and the analysis in Table 6.19 showed that including country in the analysis does not seem to dramatically change the overall picture of the relationship between socio-economic background and overall frequency of media-related extramural English contacts, the analysis for the follow-up questions will not differentiate between the German and Swiss subsample.

Number of English books read per year. Even after including the three process factors in the regression analysis, the results again show a significant effect for the objectified cultural capital in the form of books at home (Table 6.20). In addition, the use of English within the family again also shows a positive effect on the number of English books read per year. These findings are in line with the findings for the overall frequency of reading reported above.

Table 6.20 Regression results for the effect of family background on frequency of reading English books per year

Structural factors	
Parents' highest educational level	–
Objectified cultural capital	.112
Process Factors	
Use of English within the family	.194
Parents' English competence	–
Parents' perceived importance of English as a subject	–
R²	.056

Hours spent with extramural activities. Additional stepwise regression analysis showed almost no influence of socio-economic background factors on students' actual amount of time with most media categories (Table 6.21). The perceived value of English as an important investment into a child's future and the use of English within the family both show small significant positive effects on students' hours surfing on English-language websites. This once again supports the hypothesis that parents are role models for their children's behavior when it comes to extramural English contacts.

Parents' highest level of education and language competence show negative effects on students' hours spent surfing per week. The same is true for the negative effect of English use within the family on the hours spent with extramural gaming activities. Again, this probably represents the negative effect of a higher educational background in general on surfing and gaming that was also found in other studies (e.g., Graham, n.d.; MPFS, 2017; Waller et al., 2016). However, without additional information on parental restrictions on children's gaming and surfing activities, this cannot be conclusively proven with the given dataset.

Table 6.21 Regression results for the effect of family background on hours spent surfing, watching movies/TV series and gaming

	Hours spent surfing per week	Hours spent watching movies & TV series per week	Hours spent watching movies & TV series per sitting	Hours spent gaming per week	Hours spent gaming per sitting
Structural factors					
Parents' highest educational level	-.100	-	-	-	-
Objectified cultural capital	-	-	-	-	-
Process factors					
Use of English within the family	.088	-	-	-.111	-
Parents' English competence	-.077	-	-	-	-
Parents' perceived value of English	.058	-	-	-	-
R ²	.021	-	-	.025	-

Note: Standardized regression coefficients from separate linear regression models. Only significant coefficients reported ($p \leq .05$).

Popular websites. Separate logistic regression models for types of preferred websites only showed significant effects for students' prevalence for eleven website types (Table 6.22). Once again, English use within the family had the most consistent effect on all categories. Apart from gaming, the language habitus within the family does significantly increase students' probability to engage in extramural English contact through these eleven website categories. The same is true for parents' perceived importance of English for information websites, shopping websites, and communicating via messaging apps. This finding is in line with hypothesis *H2.3*.

Objectified cultural capital also showed a significant effect on students' chances to engage in literacy-based activities, again supporting the hypothesis that cultural capital fosters literacy-related contacts above and beyond the indirect effect via the three process factors.

Parents' English competence again shows negative effects for some of the website categories while showing no significant effect for others.

Popular gaming genres. Only eight of the fifteen gaming genres showed significant effects for at least one socio-economic background factor. Except for puzzles, quizzes, and strategy games, a higher socio-economic background decreases gamers' likelihood of engaging in each gaming genre (Table 6.23). These results confirm findings from other studies, which show that children from higher socio-economic families usually show less frequent gaming activities. However, the exceptions for puzzles, quizzes, and strategy games indicate that a high educational family background might motivate students to choose games with a level of educational purpose or cognitive challenge.

Frequency of active and passive media use. Table 6.24 shows the results for active and passive extramural English contacts in regard to the five socio-economic background factors. As for other follow-up questions, socio-economic factors seem to play only a minor role in students' choice to engage passively or actively in extramural contacts. Parents' English competence again shows a negative effect on some of the media activities. In contrast, the use of English within a family and parents' perceived importance of English tends to positively affect most categories, increasing students' chances of engaging in active and passive extramural activities. An exception is, once again, the probability of engaging in communicative behavior while gaming online.

Summary. Overall, the results can be read as an indication of the importance of the family environment for children's use of the language outside of school. If the presence or usage of English is a regular occurrence within a household and is frequently used by parents and children alike to communicate or engage in leisure-time activity related to EFL, children will grow accustomed to a daily life in which English plays a significant role. As a result, they are more likely to engage in numerous extramural activities themselves.

Table 6.22 Logistic regression models for the effect of family background on contact to English-language websites

	Parents' highest educational level		Objectified cultural capital		Use of English within the family		Parents' English competence		Parents' perceived value of English	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Social media	–	–	.78	.70–.88	1.56	1.22–2.00	–	–	–	–
Messaging apps	–	–	–	–	1.66	1.37–2.01	–	–	1.26	1.05–1.51
Fan-Fiction communities	.84	.73–.97	1.23	1.05–1.45	1.95	1.41–2.69	.58	.42–.79	–	–
Blogs	–	–	–	–	1.39	1.11–1.73	–	–	–	–
Video-sharing platforms	–	–	–	–	1.58	1.20–2.08	–	–	–	–
Free online streaming	1.12	1.0–1.2	–	–	–	–	–	–	–	–
Streaming services	–	–	–	–	1.63	1.34–1.97	–	–	–	–
News & magazines	–	–	1.10	1.00–1.21	1.23	1.02–1.50	–	–	–	–
Gaming	–	–	–	–	.72	.58–.90	–	–	–	–
Information & search	–	–	–	–	1.44	1.19–1.75	.83	.69–.99	1.21	1.01–1.45
Travel & shopping	–	–	.90	.82–.99	1.59	1.31–1.94	.79	.66–.95	1.24	1.03–1.51

Note: Results from separate logistic regression models for each genre are reported. Only categories with at least one significant effect reported ($p < .05$). OR = odds ratio; CI = confidence interval

Table 6.23 Logistic regression models for the effect of family background on preferences for gaming categories

	Highest educational level		Objectified cultural capital		Use of English within the family		Parents' English competence		Parents' perceived value of English	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Race	-	-	-	-	-	-	-	-	.71	.54-.95
Puzzles	-	-	-	-	1.78	1.26-2.53	-	-	-	-
Quizzes	-	-	-	-	1.62	1.20-2.18	-	-	-	-
Sport	-	-	-	-	.69	.49-.96	-	-	-	-
Strategy	-	-	1.16	1.00-1.34	.68	.50-.91	-	-	-	-
Fight	-	-	-	-	-	-	.59	.40-.87	-	-
First-person-shooter	-	-	-	-	.71	.53-.95	-	-	-	-
Multiplayer online role-play	-	-	-	-	.67	.49-.90	-	-	-	-

Note: Results from separate logistic regression models for each game genre are reported. Only categories with at least one significant effect reported ($p < .05$). OR = odds ratio; CI = confidence interval

Table 6.24 Logistic regression models for the effect of family background on frequency of active and passive online behavior and gaming activities

	Highest educational level		Objectified cultural capital		Use of English at home		Parents' English competence		Parents' perceived value of English	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Active	-	-	-	-	1.53	1.04–2.25	.60	.42–.85	1.50	1.08–2.10
	I read short English comments & posts on social media sites									
	I read English stories/ fan fiction/ poems/ reports/ blogs, etc.	-	-	1.13	1.03–1.24	1.64	1.34–2.01	.73	.60–.88	-
I have set the language of my gaming characters to English (if possible)	-	-	-	-	1.40	1.07–1.84	-	-	-	-

(continued)

Table 6.24 (continued)

	Highest educational level		Objectified cultural capital		Use of English at home		Parents' English competence		Parents' perceived value of English	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Passive	I write short English comments & posts on social media sites	-	-	-	1.61	1.31-1.97	-	-	-	-
	I write English stories/ fan fiction/ poems/ reports/ blogs, etc.	-	1.27	1.04-1.54	2.07	1.42-3.01	-	-	-	-
Interactive	I communicate with others via social media	-	-	-	2.38	1.91-2.96	.67	.55-.81	1.38	1.13-1.67
	I communicate in English with other via mail/chat or video call	-	-	-	2.81	2.25-3.51	-	-	-	-

(continued)

Table 6.24 (continued)

	Highest educational level		Objectified cultural capital		Use of English at home		Parents' English competence		Parents' perceived value of English	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
I communicate with others within my computer games	–	–	–	–	.66	.50–.86	.75	.62–.92	1.29	1.05–1.58

Note: Results from separate logistic regression models for each activity are reported. Only categories with at least one significant effect reported ($p < .05$). OR = odds ratio; CI = confidence interval

6.2.2 Gender and Media-related Extramural English Contacts

As discussed in Chapter 2, female adolescents have been shown to be less active online, watch fewer online videos, and spend less time playing computer games. At the same time, male students tend to read less and use the internet for less communicative purposes.

However, studies have also shown that female adolescents have caught up in terms of technology use and ownership. In the present study, male and female students also do not differ much regarding ownership or access to the internet and technical equipment (Table 6.25). Nevertheless, a slightly higher percentage of female students owned a personal computer to study ($\phi = .07$), while more male students had access to a gaming console ($\phi = -.097$).

Table 6.25 Technical equipment at home by gender

	Overall		Gender			
	n	%	Male		Female	
			n	%	n	%
Internet Access	2274	99.7	934	99.7	1340	99.7
Smartphone	2220	97.3	913	97.4	1307	97.2
Personal Laptop	1908	83.6	758	80.9	1150	85.6
Computer to studying	2247	98.5	922	98.4	1325	98.6
Gaming console	1606	70.4	706	75.3	900	67.0

Note: Answers from a multiple response question; n = number of respondents (answer yes); % = percent of cases; significant differences between gender indicated in bold (Chi2 analysis for multiple response questions, $X^2(5) = 27.64$, $p \leq .001$)

Looking at the frequency of extramural English contacts, Figure 6.10 and Table 6.26 show that male and female students do not differ significantly in their frequency of extramural contact through music, radio/podcasts, audiobooks, and movies/TV series. However, male students can be shown to be more active gamers and be more engaged with English content online. On the other hand, female students read English books at least a few times per month (45.6%), while only 30.1% of male students indicated the same.

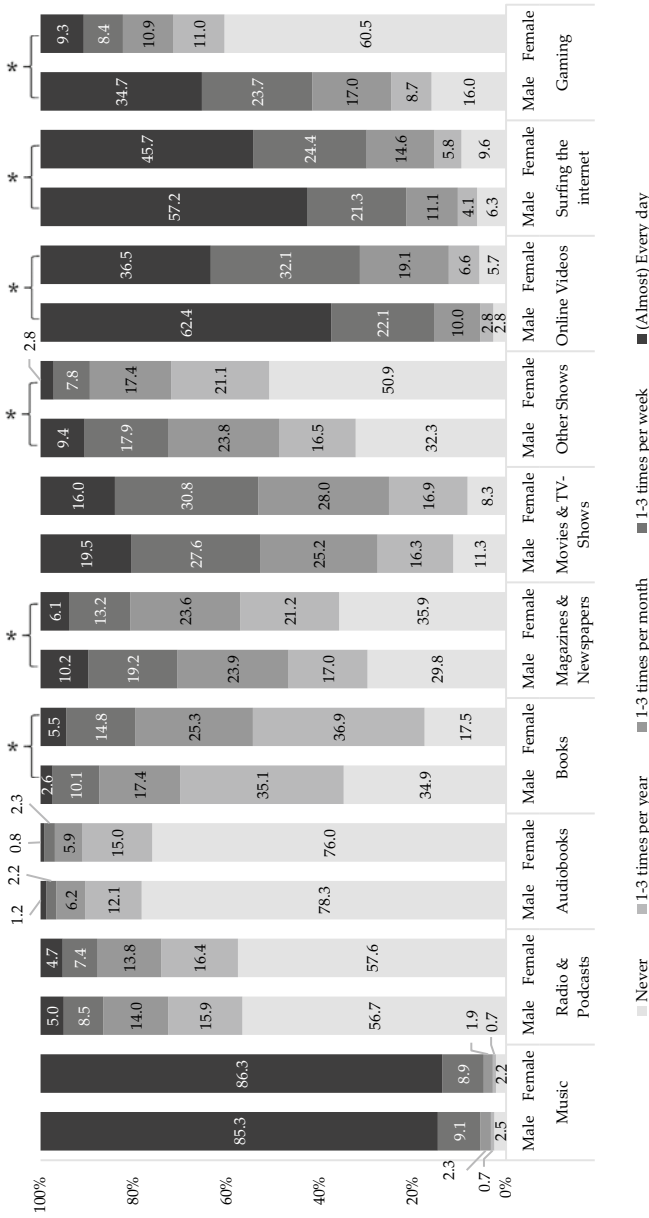


Figure 6.10 Frequency of extramural English contact through media by gender (in %). (Note: Significant differences between male and female students indicated by asterisk; $p \leq .05$)

Table 6.26 Mean difference in frequency of media exposure between genders

Category	\bar{x}_M (SD)	\bar{x}_F (SD)	df	<i>t</i>	<i>p</i>	<i>d</i>
Music	4.74 (0.77)	4.76 (0.72)	2019	−.74	–	–
Radio/Podcasts	1.89 (1.22)	1.85 (1.19)	2002	.74	–	–
Audiobooks	1.36 (0.79)	1.37 (0.76)	2000	−.26	–	–
Books	2.10 (1.07)	2.54 (1.11)	1805.6	−8.8	≤ .001	.392
Newspapers & Magazines	2.63 (1.35)	2.32 (1.25)	1696.2	5.1	≤ .001	.236
Movies & TV Series	3.28 (1.27)	3.29 (1.17)	1689.5	−.28	–	–
TV Shows	2.56 (1.35)	1.91 (1.11)	1551.3	3.2	≤ .001	.518
Online Videos	4.39 (0.97)	3.87 (1.15)	1888.5	5.1	≤ .001	.466
Surfing	4.19 (1.17)	3.91 (1.30)	1952.2	10.9	≤ .001	.226
Gaming	3.52 (1.44)	1.95 (1.37)	1729.9	24.6	≤ .001	.983
Overall	3.07 (.67)	2.78 (0.65)	2022	9.79	≤ .001	.432

Note: Results from separate t-tests

Female students also stated that they read more English books per year in the follow-up question ($\bar{x}_M = 2.15$, $SD_M = 1.04$, $\bar{x}_F = 2.52$, $SD_F = 1.21$; $t(1248.72) = -6.31$, $p \leq .001$, $d = .321$). By contrast, male students show a higher average for reading magazines and newspapers in English and watching TV shows. Male students were also shown to be more active online, surfing on English-language websites and watching online videos.

In line with other empirical findings, male students also showed a higher frequency of extramural English contact through computer games than female students. The effect size for this category is the strongest of all media categories. This difference becomes even clearer when looking at *gamers* who play multiple times per week or daily (frequent gamers): while 58.4% of the male students in the sample are frequent gamers, only 17.7% of female students fall into the same category; the difference is significant and again shows a strong effect size ($\phi = -.42$, $p \leq .001$).

Given the higher involvement of male students in six out of ten media categories, it is no surprise that the t-test for the overall frequency of media-related extramural English contact also shows a significant difference between male and female students, with male students reporting a significantly higher contact frequency. The effect size is medium. So far, the results do support hypothesis *H3.1* and *H3.2*. The follow-up questions further support the hypothesis of gender stereotypical media behavior in regard to English-language media content.

Hours spent with extramural activities. Follow-up questions revealed that male students spend more total hours online than female students ($\bar{x}_M = 1.81$, $SD = 1.15$, $\bar{x}_{CH} = 1.67$, $SD = 1.09$; $t(1838) = 2.66$, $p = .008$, $d = .125$), play computer games for a longer period of time in each sitting ($\bar{x}_M = 1.90$, $SD_M = 1.24$, $\bar{x}_F = 1.30$, $SD_F = 0.77$; $t(907) = 9.14$, $p \leq .001$, $d = .530$), and spend more hours per week with these games ($\bar{x}_M = 4.94$, $SD_M = 3.98$, $\bar{x}_F = 2.20$, $SD_F = 2.41$; $t(934.97) = 13.19$, $p \leq .001$, $d = .733$).

Popular websites and gaming genres. The data shows significant gender differences for eleven of the fourteen website categories (Table 6.27). Significantly more female students indicated that they visit social media sites, messaging apps, fan fiction communities, and blogs regularly. This is in line with females' more communicative online behavior and their stronger interest in reading found in other studies. However, these findings might also be driven by the fact that girls and women are often excluded from certain male corners of the internet (Kommer, 2008; Tillmann, 2014).

Male students are once again found to be more active on gaming websites. They also preferred video platforms, magazine and newspaper websites, and they named forum and message boards more often than female students.

In regard to gaming genres, the data showed significantly more female students who indicated puzzles, quizzes, card and gambling games, and real-life simulations (e.g., *The Sims*) as preferred game categories (Table 6.28). Male students demonstrated a clear tendency for sports, action, and speed-driven games, as well as for first-person shooter games and multiplayer online role-playing games. These findings are again in line with findings from other studies and with *H3.2*

Table 6.27 Differences in preferred English-language websites by gender

	Overall		Male		Female		ϕ
	n	%	n	%	n	%	
Video sharing platforms	1609	85.4	700	88.1	909	83.5	-.07
Social media	1519	80.7	592	74.5	927	85.2	.13
Messaging apps	1023	54.3	391	49.2	632	58.1	.09
Travel and shopping	669	35.5	174	21.9	495	45.5	.24
News and magazines	655	34.8	310	39.0	345	31.7	-.08
Mailing	541	28.7	254	31.9	287	26.4	-.06

(continued)

Table 6.27 (continued)

	Overall		Male		Female		ϕ
	n	%	n	%	n	%	
Gaming	481	25.5	369	46.4	112	10.3	-.41
Blogs	417	22.1	97	12.2	320	29.4	.20
Forum/message board	356	18.9	264	33.2	92	8.5	-.31
Chatrooms	209	11.1	106	13.3	103	9.5	-.06
Fan-Fiction communities	163	8.7	39	4.9	124	11.4	.11

Note: Answers from a multiple response question; n = number of respondents (answer yes); % = percent of cases within gender; Only website categories with significant differences are reported (Chi2 analysis for multiple response questions, $X^2(20) = 815.07, p \leq .001$)

Table 6.28 Difference in preferred gaming categories by gender

	Overall		Male		Female		ϕ
	n	%	n	%	n	%	
Action	366	42.8	316	54.5	50	18.2	-.35
First Person Shooter	315	36.8	294	50.7	21	7.6	-.42
Adventure	291	34.0	217	37.4	74	26.9	-.13
Multiplayer online role-play	266	31.1	221	38.1	45	16.4	-.24
Strategy	259	30.3	226	39.0	33	12.0	-.29
Simulation	234	27.4	128	22.1	106	38.5	.12
Quizzes	224	26.2	89	15.3	135	49.1	.29
Sport	222	26.0	199	34.3	23	8.4	-.28
Roleplay	170	19.9	132	22.8	38	13.8	-.12
Puzzle	148	17.3	36	6.2	112	40.7	.36
Card games and gambling	147	17.2	84	14.5	63	22.9	.07
Fight	131	15.3	106	18.3	25	9.1	-.13
Rhythmic	43	5.0	19	3.3	24	8.7	.09

Note: Answers from a multiple response question; n = number of respondents (answer yes); % = percent of cases within gender; Only game genres with significant differences are reported (Chi2 analysis for multiple response questions, $X^2(15) = 766.18, p \leq .001$)

Frequency of active and passive media use. The data shows that significantly more male *surfers* indicate to engage in active content production online, such as recording and uploading their own videos in English and writing longer posts and comments in online communities (Table 6.29). However, in line with findings from other studies, female *surfers* are more likely to write longer creative texts, such as fan fiction or poems.

Table 6.29 Differences in active and passive media use by gender

		Overall		Male		Female		ϕ
		n	%	n	%	n	%	
Passive	I watch English videos online	1780	94.4	766	96.5	1014	92.9	-.01
	I read English stories/ fan fiction/ poems/ reports/ blogs, etc.	791	41.9	272	34.3	519	47.5	.15
	I read longer English comments and posts in inter forums/ online communities	750	39.8	395	49.7	355	32.5	-.19
	I have set my gaming menus to English	637	33.8	453	57.1	184	16.8	-.20
	I have set the language of my gaming characters to English (if possible)	532	28.2	398	50.1	134	12.3	-.24
Active	I write English stories/ fan fiction/ poems/ reports/ blogs, etc.	136	7.2	31	3.9	105	9.6	.12
	I write longer English comments and posts in forums/ online communities	109	5.8	69	8.7	40	3.7	-.11
	I record English videos and upload them online	56	3.0	31	3.9	25	2.3	-.05

(continued)

Table 6.29 (continued)

		Overall		Male		Female		ϕ
		n	%	n	%	n	%	
Interactive	I communicate in English with others via mail, chat, or video call	762	40.4	261	32.9	501	45.9	.15
	I communicate with others during my game sessions	475	25.2	403	50.8	72	6.6	-.43

Note: Answers from a multiple response question; n = number of respondents (answer yes); % = percent of cases within gender; Only activities with significant differences are reported (Chi2 analysis for multiple response questions, $X^2(15) = 1317.91$, $p \leq .001$)

In addition, while half of the male *gamers* indicated to regularly communicate with others during a game session, only 6.6% of female *gamers* stated the same. This is most likely due to the fact that female students tend to favor non-communicative games, such as puzzles, quizzes, and simulations (see above). In contrast, male students showed a stronger preference for gaming genres that afford more opportunities for interactive gaming, such as multiplayer online role-playing. As a result, female students not only spent less time gaming overall; if they play, they show a preference for non-communicative gaming categories.

Summary. Overall, the results showed that adolescents in Germany and Switzerland show gender-stereotypical media behavior in regards to English media content. Male students show a higher overall frequency for extramural English contact and strongly prefer game and audio-visual-driven content. In contrast, female students show a more communicative media behavior but seem to be more reluctant to engage in real-time communication through gaming environments or upload their own video content. Together with the more active and communicative behavior, these results might indicate an advantage for male students in terms of incidental language learning opportunities through these extramural English contacts.

6.3 Media-related Extramural English Contacts and Language Competences

The third research question asked how students' extramural English contacts might relate to and influence their English competences. Following the theoretical framework in Chapter 4, extramural contacts can be expected to be positively correlated to all three language skills and even have a positive causal effect on them (*H4*).

As discussed in Section 5.2, the present study will assume a multi-dimensional model for the three language skills (Jude et al., 2008; Schoonen, 2019). This also allows for a separate analysis of the effect of media-related extramural English contacts on students' reading, writing, and listening skills. Table 6.30 shows the correlation for each media category as well as the overall media index with all three language skills at T2.

Table 6.30 Correlation between media categories and language competences

	Writing T2	Reading T2	Listening T2
Music	.088	.099	.091
Radio	.057	–	–
Audiobooks	–	–	–
Books	.267	.200	.209
Magazines	.218	.145	.136
Movies/TV series	.257	.193	.200
TV Shows	.071	–	–
Online videos	.242	.177	.207
Surfing	.277	.199	.219
Gaming	.057	.104	.060
Media Overall	.272	.209	.212

Note: Averaged across all 15 PVs, conducted in MPlus, $n = 2487$; Only significant correlation coefficients are reported ($p \leq .05$).

Music only shows a small significant correlation with all three skills. Given the small variation in the data set, this was expected, as almost all students listen to English music (almost) daily. Similarly, no significant correlation either for

reading or listening skills was found with audiobooks and radio or with watching TV shows, probably because most students do not engage in these media channels. However, watching TV shows and listening to the radio showed a small but significant correlation with students' writing skills.

Reading books and magazines, watching movies and TV series, watching online videos, surfing, and gaming all show a medium correlation with all three language skills. The same is true for the frequency of extramural English contacts overall.

Together, these correlations show a positive relationship between the amount of time students spent interacting with English via media content and their language competences. It could have been expected that reading English books might show a particularly high correlation with students' reading skills. Interestingly the correlation with students' listening skills is of the same magnitude, and the correlation with writing is even stronger. The same applies to watching movies, TV series, or online videos. This finding will be discussed in more detail in Section 7.3.

In a next step, structural equation models (SEM) were calculated to further investigate the relationship between students' language skills and their extramural English contacts. In addition, such a model also allows a further investigation of the causal direction of the relationship.

In contrast to linear regression models, SEM allows for the integration and simultaneous testing of multiple linear regression models. They thus also allow the integration of gender and socio-economic background factors into the model. In this way, it will be possible to integrate the results of the previous chapters and combine them with the analysis of possible learning effects. The proposed path model can be seen in Figure 6.11.

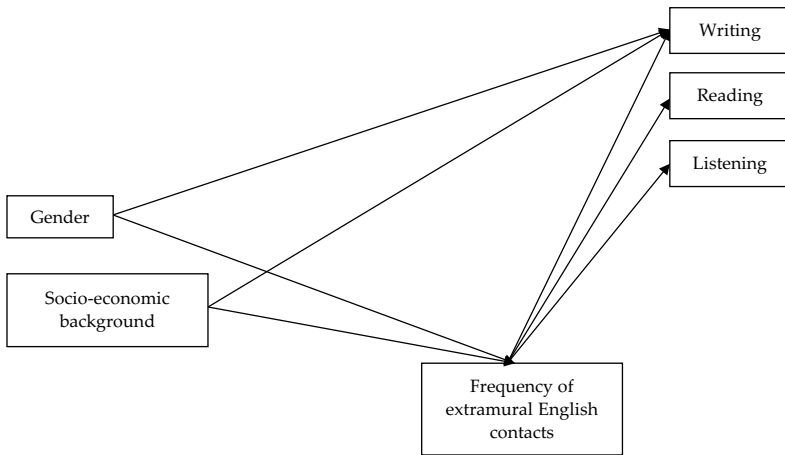


Figure 6.11 Proposed path model. (Note: Socio-economic factors summarized for brevity)

As the IRT scaling for the three language skills was performed separately, all variables in the following analysis are manifest. Separating the steps of IRT scaling for the test scores and SEM analysis is common in large-scale assessments (Jansen et al., 2016). Consequently, the models discussed below do not include measurement models.

All models were conducted in MPlus Version 8 (Muthén & Muthén, 1998–2017). Full information maximum likelihood (FIML) was used to estimate any missing information in the independent variables. The hierarchical structure, i.e., students clustered in classes, was accounted for by using the *type = complex* and *cluster = class* command. Controlling for class also helps to adjust for differences in class composition due to differences in educational track selectivity between the two countries. For potential drawbacks of this method, see Section 7.3.

For language competences, information from all 15 PV data sets was used by employing the *type = imputation* command in MPlus to average the final results (Rubin, 1987).

The first step was a baseline model (M0) with only gender and social background factors regressed on all three language skills. As already mentioned above, multiple studies have shown female students to reach significantly higher test results and better in-school performance in terms of foreign language learning (Hartig & Jude, 2008). Similarly, studies have also continuously shown that students from higher socio-economic backgrounds attain significantly higher test results in national and international studies (see, for example, Angelone & Ramseier, 2012; Buchmann et al., 2016; Frank & Sliwka, 2016; Hußmann et al., 2017; Klemm, 2016; Konsortium PISA.ch, 2019; Kuhl et al., 2013; OECD, 2016, 2020; Solga & Dombrowski, 2009). As has been discussed in Section 3.1, similar results were also evident for English as a school subject (Rolff et al., 2008). This can also be expected for the present sample.

The model fit statistics suggest an adequate fit of the model, although the χ^2 test for the model is significant ($\chi^2/\text{df} = 64.798/5$, $p \leq .001$). As the null hypothesis for the χ^2 test assumes a perfect fit of the model in the population, a significant test suggests that the model does not fit perfectly. However, given the χ^2 test's sensitivity to large sample sizes, this result was not surprising. Under such circumstances, researchers are recommended to take into account other measures of model fit in order to better assess their structural equating models (Geiser, 2010; Schermelleh-Engel et al., 2003). The other model fit statistics show an adequate fit for the baseline model (CFI/TLI = .984/.892; RMSEA = .069; SRMR = .019), yet the results should be interpreted with caution. Path coefficients are reported in Figure 6.12. For readability, only significant effect paths are reported.

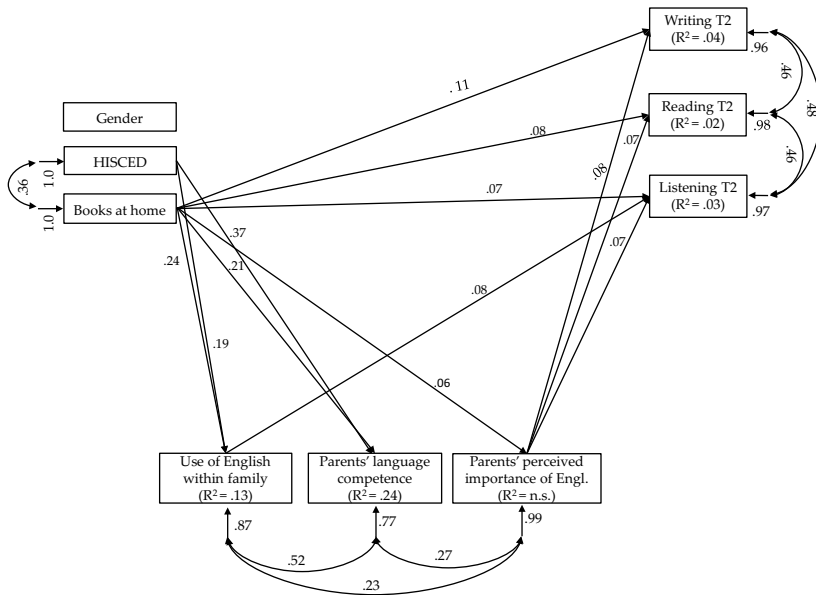


Figure 6.12 Path analysis: the effect of socio-economic background and gender on students' language skills (M0). (Note: Averaged across all 15 PVs, $n = 2,487$; standardized coefficients are reported; only significant effect paths are shown ($p \leq .05$))

Overall, the model explained 2%–4% of the variance in the three language skills. Results replicate findings from other studies, yet a few effects are worth mentioning: In line with findings from Rolff et al. (2008), the two process factors *use of English within a family* and *parents' English competence* are influenced by the structural factors for educational and cultural capital (HISCED and number of books at home). As already discussed in Section 6.2.1., this was to be expected since parents who hold higher educational degrees are more likely to have higher English competences and are more likely to use English at home. Additionally, and also similar to results in Section 6.2.1., parents' perceived importance of English was only significantly influenced by the number of books at home. This might be due to sampling. As students attending the Gymnasium are usually expected to go on to tertiary education, it is likely that all parents place a high value on English for their children's future. It is therefore also not surprising that parents' perceived importance of English shows a significant effect on all three language skills. By contrast, parents' own educational background does not show

a significant direct effect on students' language skills. These results once again support findings from Rolff et al. (2008), which showed that while controlling for language practice at home, monetary resources and institutionalized educational titles did not significantly influence students' language achievements. However, contrary to Rolff et al. (2008), the results showed a significant effect for the cultural capital on all three language skills.

Surprisingly, no effect could be found for parents' English competence or the use of English at home on students' language skills (with the exception of listening). This might be due to the selective sample in the present study and the resulting small variance in social background. The effect of English use at home on listening is most likely explained by the fact that the activities captured by the index focused more on listening activities than on reading and writing. Interestingly, there was also no significant effect for gender on any of the three language skills.

In a next step, students' frequency of extramural contacts was included in the model (M1—Figure 6.13). Model fit statistics for M1 again showed an adequate fit ($\chi^2/df = 63.944 / 5$, $p \leq .001$; CFI/TLI = .985/.874; RMSEA = .069; SRMR = .018).

The model once again shows the expected effect of the two structural factors on the use of English within the family and parents' English competences. The number of books at home also shows a significant positive effect on students' test achievement. However, the highest level of education in the home does not. The model also shows a significant effect of parents' perceived importance of English as an investment in their children's future on writing, but not for the other two skills. By contrast, neither the parent's own language competences nor English use at home show a significant effect on any of the language skills.

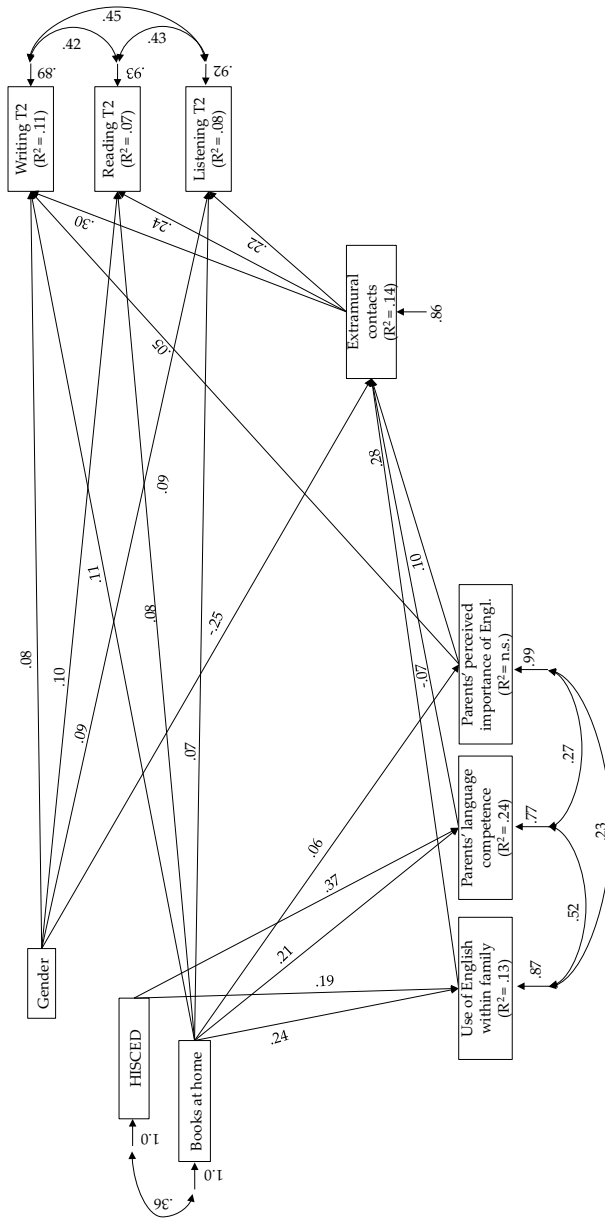


Figure 6.13 Path analysis: the effect of extramural English contact on students' language skills (M1). (Note: Averaged across all 15 PVs, n = 2487; standardized coefficients are reported; only significant effect paths are shown ($p \leq .05$))

After including extramural English contacts, the model showed the expected effect for gender. Female students receive significantly higher scores on all three language domains. The missing effect in M0 might thus be due to the higher frequency of extramural contacts of male students. After controlling for these contacts, female students show significantly higher achievements once again. However, the effects are small.

In terms of extramural English contacts, male students were shown to be more likely to engage in extramural contact than their female counterparts. This supports the findings from other empirical studies and is in line with hypothesis *H3.1*. In line with hypothesis *H2.3*, the results also showed that a conducive home environment and parents' perceived importance of English as a school subject have a significant positive effect on the frequency of extramural contacts. As before, the small negative effect of parents' English competence is probably due to the fact that parents with a higher educational level tend to be more restrictive when it comes to their children's media use. As expected, the two structural factors only show an indirect effect mediated through the process factors.

Overall, the results support the hypothesis that language and media practices within the family are more important for students' own media habits than institutionalized and objectified educational and cultural resources. Gender and family background combined explain 14% of the variance found in the frequency of extramural English contact.

In line with hypothesis *H4*, the frequency of extramural English contacts had a significant positive effect on students' test scores in all three language domains. The more often students engage in voluntary contact with English outside of the classroom, the higher their test achievements in reading, writing, and listening. Including the frequency of extramural English contacts in the model significantly increased the size of the explained variance for the three language skills to 7%–11%.

In M1, the effect of the social background and gender is partly mediated through students' extramural English contacts. Therefore, it can be argued that students from more conducive home environments and a higher educational background engage in more extramural English contacts, and as a result, they benefit more from the incidental learning processes activated through these contacts. Similarly, as male students engage in more extramural contact, they benefit from more frequent incidental learning processes outside of school.

A longitudinal research design was employed for the present study, with language competence measured at two time points. While the nature of the non-experimental research design and the limited number of time points prevent a

definitive proof of causality, students' language competencies at T1 could be included in a third step to control for prior knowledge (M2—Table 6.9).

As family background and gender preceded performance at T1, M2 models the direct effect of socio-economic background and gender on language competencies at T1. Media-related extramural English contact was measured at T2. As questions about extramural language contacts were not specifically directed to the time between T1 and T2, the relationship between extramural contacts and language competencies at T1 is conceptualized as a correlative effect in the model. The following results can thus be understood as the effect of extramural contacts on gains in all three language skills between T1 and T2.

Model fit statistics showed a good fit of the model to the data ($\chi^2/df = 112.98/23$, $p \leq .001$; CFI/TLI = .989/.964; RMSEA = .04; SRMR = .02). After controlling for language competencies at T1 the model explains 30% to 53% of the variance for the language skills at T2. This is unsurprising, given the high correlation between test achievements at T1 and T2 (Figure 6.14).

Cultural capital again shows a positive effect on students' test achievements in all three skills at T1. Educational background, however, does not, nor does gender. The effect of the two structural factors on students' test achievement is again mediated through the three process factors. The perceived importance of English shows a significant positive effect on all three test scores at T1. In addition, the use of English within the family had an effect on both listening and writing skills at T1.

The model also finds significant effects for family background and gender on students' frequency of extramural English contact. However, the results show the complex interconnectedness of these social dimensions in terms of media-related extramural English contact. Chapter 7 will discuss and interpret the results in more detail and address important limitations of the present study.

Regarding the effect of extramural English contacts on language competencies, the results show that even after controlling for T1, extramural contacts still have a significant positive effect on language gains between T1 and T2. The effect size is now small to negligible. However, correlations with language skills at T1 show medium-sized effects.

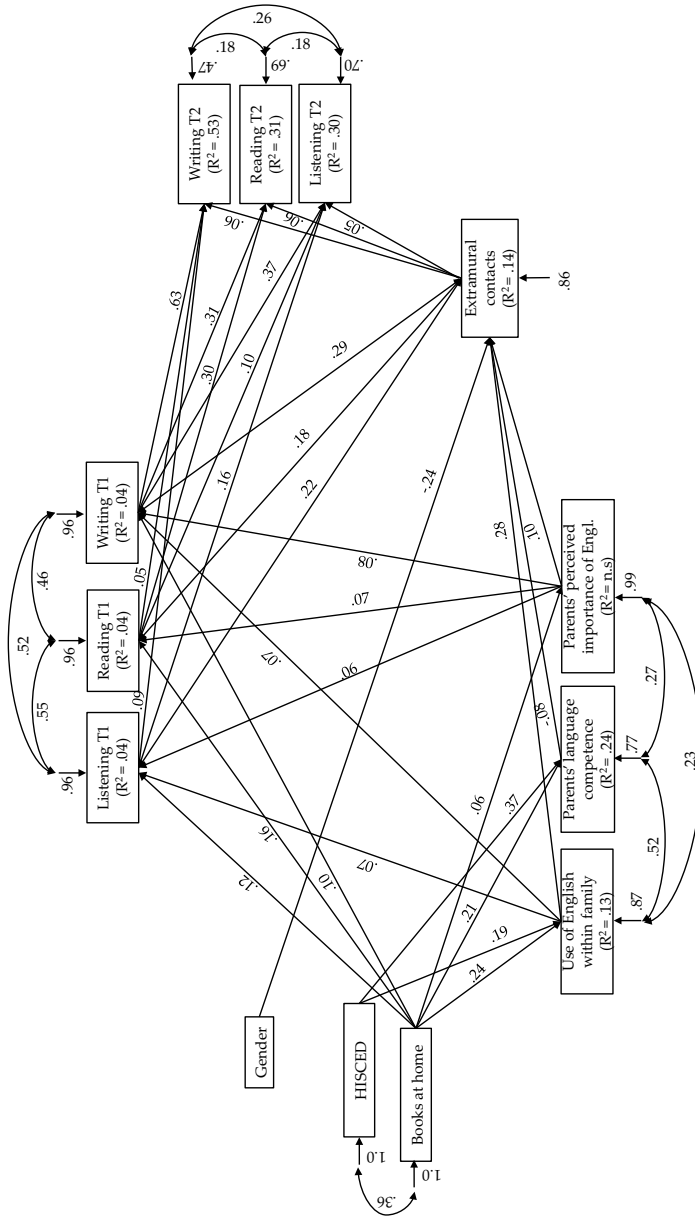


Figure 6.14 Path analysis: the effect of extramural English contact on students' language skills under the control of prior knowledge (M2). (Note: Averaged across all 15 PVs, $n = 2487$; standardized coefficients are reported; only significant effect paths are shown ($p \leq .05$))

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Summary and Discussion

7

Three initial research questions guided the present study:

- 1) *Which forms and frequencies of media-related extramural English contacts do German and Swiss adolescents have?*
- 2) *How do socio-economic background and gender influence the pattern and frequency of media-related extramural English contacts?*
- 3) *How do media-related extramural English contacts influence students' English competences?*

This chapter summarizes and discusses the central results of the present study and embeds them into the theoretical framework. The discussion for each research question will be presented in a separate subchapter. In addition, further limitations of the present study, recommendations for future research, and implications for the educational setting will be discussed.

7.1 Summary and Discussion of Forms and Frequency of Extramural English Contact

While research has shown a regular and intensive contact with English for the population of several smaller European countries, e.g., Sweden and the Netherlands, empirical data for Germany and Switzerland had been limited until now. The present study was designed to help close the research gap by providing reliable empirical evidence. Given the dominance of the American entertainment industry and the development of entertainment technology in recent decades, it

was proposed that adolescents in both countries will have increasingly frequent media-related English contacts outside of school, so-called extramural contacts (*H1*).

In line with findings from national media studies (MPFS, 2017; Waller et al., 2016), the present study could show that in 2016/2017 almost all students in the sample had access to the internet and owned a smartphone and laptop, which allows easy and regular access to a variety of online content. A majority also had access to a gaming console at home.

Furthermore, the results showed that English-language media content has become a constant presence in the lives of most adolescents in Germany and Switzerland. Even though both countries have a rich pool of German-language media content, adolescents increasingly use new online-based solutions to integrate international media content into their everyday life. When doing so, they tend to favor the original versions over dubbed or translated versions.

Music has shown to be the most frequented form of extramural English contact. In addition, most students surf up to two hours per day on English-language websites and visit social media sites. They also regularly visit video-sharing platforms to watch videos in English. Most students also watch movies and TV series in English regularly. Reading books or newspapers and magazines in English was less popular, yet still, almost 40% in the sample stated that they read English books at least a few times per month. Playing computer games in English is the least frequented activity, yet students who do engage in these computer games spend a considerable time gaming in each session and per week.

While the results support the research hypothesis, there is also a wide variation within each media category, as illustrated by the standard deviations. Thus, while most students have regular contact with English via the media, others only engage in occasional contact or no contact at all. In addition, not all students prefer the same media channels to the same degree.

The data showed small to medium differences between Switzerland and Germany, with Swiss students being more active in listening to audiobooks in English, watching online videos, movies, and TV series in English, and reading books and newspapers in English. By contrast, German students are more active in gaming, and they spend longer hours gaming per sitting and per week. They also surf longer hours per day and read and write longer content online. However, there was no significant difference between students from Germany and Switzerland for the overall amount of extramural contact. It seems that students in both countries might differ in their preference for specific media categories

when it comes to English-language content, but not in their overall frequency of media-related extramural English contact. In addition, the effect sizes for the found differences were small.

These results also hold after controlling for socio-economic background factors. Thus, differences in socio-economic background between the subsamples cannot completely explain the differences between the two countries. Therefore, these differences are most likely caused by other factors, such as media traditions or an overall attitude towards English media content. Unfortunately, the present study could not analyze this question in more detail.

Overall, the results found in this study are in line with empirical findings from other European countries (e.g., Kuppens, 2010; Olsson, 2011, 2016; Olsson & Sylvén, 2015; Sundqvist, 2008, 2009a, 2009b, 2011, 2012, 2013; Sundqvist & Sylvén, 2012a, 2012b, 2014; Sylvén, 2006, 2007, 2019; Sylvén & Sundqvist, 2012a, 2012b, 2015, 2017; Toffoli & Sockett, 2010, 2012). The high frequency of extramural English contact in the sample indicates that learners in upper secondary education have reached a level of language proficiency, on which they can comfortably process even more complex authentic language input and are able to interact with the language in a self-regulating way.

However, most students use media channels passively, i.e., they read, listen, and watch English media content. Only a minority of students engaged in active behavior through posting and uploading content themselves. The most common form of active involvement is posting short comments and posts on social media sites or communicating in English. Thus, it seems that learners' extramural English contacts are characterized mainly by a steady intake of English input rather than a production of output or interaction with others. However, as Toffoli and Sockett (2010) showed, this might also be subject to change over time, as students might grow more comfortable and start to engage in active output production, the longer they engage in extramural English contacts.

When asked about the reasons why they engaged in extramural English contact, students stated that they are fond of English, enjoy the authentic content, and appreciate the original and undubbed versions of movies, TV series, books, and games.

The translation of a book or the dubbing of movies and TV series was also often seen as a distortion of the original work. Statements like these are similar to the sentiment prevalent in Scandinavia and the Benelux states (Berns et al., 2007). The answers also reveal that the dominance of the English language in the entertainment industry and online is an important motivator for students to engage in out-of-school contact. English content is often easier to find, contains more information, and is of a higher quality. For example, similar to results from

Toffoli and Sockett (2012), some students in the present study started watching the original version because the translated version was not available yet. Once they had switched, they stayed with the English version and did not want to switch back.

Many students were also aware and convinced of the language-learning opportunities provided by this extramural contact. Some students also stressed the importance of improving and practicing their language skills in a natural setting to prepare them for the future.

However, this awareness does not mean that the possible learning processes are not incidental. Incidental language learning was defined as an unintentional or unplanned process resulting as a by-product of another activity (see section 4.1). It is unstructured learning resulting from daily life activities. Such a by-product can result from implicit learning processes but might also be accompanied by explicit learning processes, during which a person pays at least peripheral attention to certain language forms and engages in hypothesis forming and testing. Therefore, incidental language learning is not marked by any lack of explicit process or conscious knowledge of learning opportunities. Instead, the important distinction is that in the case of incidental learning, the focus of the activity is on understanding and decoding the message from the input and, in the case of interactive activities, on interaction and communication (Elley, 1997; N. C. Ellis, 1994; R. Ellis, 2008; Hulstijn, 2001; Kekra, 2000; Rieder, 2003).

The fast pace of authentic media content, such as movies or games, makes it unlikely that students have time to focus on much more than the content in the moment. Written input and written interaction might provide students with more time to employ certain learning strategies and explicit learning processes. Nevertheless, students' statements in the survey underlined the voluntary nature of their activities and the strong focus on entertainment rather than active language learning, even though they often were aware of possible learning gains. This is in line with the definition of incidental and informal learning as applied in this study.

When interpreting the results, it should be noted that the generalizability of the findings is limited by the selected sample and the study design.

First, the high level of media-related extramural English contact found in this study is most likely due to the older age group of the sample. The upper secondary students in the sample could have been expected to have reached a competence level in which input from more complex authentic media content can be processed and understood. The higher language competence in the MEWS

sample was demonstrated by Keller et al. (2020). The paper shows that the majority of students were found to have already reached the B2 level of the *Common European Framework of Reference for Languages* (CEFR) in writing at T1, and 15.9% of students reached C1 at T2 (see Keller et al., 2020 for an in-depth analysis of the two writing tasks and the overall writing performance). Köller et al. (2019) also discussed the high language competences at T1 for the German sample in all three language skills. Thus, the older sample probably also allowed the observation of a high level of engagement in demanding authentic material, such as books and movies. As such, the findings of the present study are most likely not representative for all age groups in Germany and Switzerland.

Studies have shown that for beginners, authentic media input is often too overwhelming (d'Ydewalle, 2002; d'Ydewalle & van de Poel, 1999; Huckin & Coady, 1999; Neuman & Koskinen, 1992; Peters, 2018; Rankin et al., 2006; Sylvén & Sundqvist, 2015; Vidal, 2011). It is thus reasonable to assume that a younger sample would have shown much lower levels of media-related extramural English contacts, as not all authentic input might be suitable or comprehensible for them.

Analysis of why students chose to engage in extramural English contact further supports this. Many students have stated that they have no trouble understanding and following everything they read, hear, and watch in English. By contrast, the small number of students who reported that they do not engage in extramural contacts all stated a lack of sufficient language competences as a reason, as they do not understand enough to make it an enjoyable activity.

However, results from Sylvén and Sundqvist (2015) indicate that even children as young as 11 or 12 might already be able to engage in extramural contact with authentic media content. Future research should strive to close this research gap for the German and Swiss populations.

Second, the present sample is also highly selective regarding socio-economic background, as entrance into the Gymnasium is already dependent on family background in both countries. As Section 6.2 has shown, this leads to a smaller variance within the sample regarding technical equipment, an above-average level of educational and cultural capital, and a conducive home environment. Consequently, the results are most likely not representative of all students in Germany and Switzerland. Future research should include a broader range of school tracks and socio-economic backgrounds into their sample to capture their unique media habits (for more details on the possible influence of socio-economic background, see the next subchapter).

Last, it is important to mention that the present study can only capture a fraction of an extremely complex leisure time activity. Given the lack of empirical

data for Germany and Switzerland, the study aimed to provide a first overview of media categories and preferred English-language content for both countries. For that reason, the questionnaire included ten media categories designed to capture the most popular media activities: music, radio/ podcasts, books, newspapers/ magazines, movies/ TV series, TV shows, online videos, surfing, and gaming. However, even though the study included follow-up questions for eight of the most relevant categories, the results have probably not captured every nuance of this complex behavior. In addition, students were asked to rate their overall average extramural media exposure. This averaged measure may have been challenging for some students.

Media diaries, as they were used in Sundqvist (2009a) and Olsson and Sylvé (2015), would have been more suitable to gather in-depth information about students' everyday media activities. This would have also allowed an investigation of the amount of passive language input and (inter)active language production in more detail. Unfortunately, this strategy was not possible for the present study, as students were only tested at two fixed measurement points. As a result, the present study has only scratched the surface, and each category could and has warranted entire studies dedicated to them.

Furthermore, due to logistic limitations, measures for media-related extramural contact could only be implemented at the second measuring point. This makes it impossible to discuss details about students' development between the two measurement points. Future research should aim to implement longitudinal study designs to track students' development over time.

7.2 Summary and Discussion of Extramural English Contacts and the Digital Divide

The second research question asked how gender and socio-economic background, as two important social factors, influence the pattern and frequency of media-related extramural English contacts among German-speaking adolescents.

Drawing on findings from the field of gender and women studies and the theoretical framework of West and Zimmerman (1987) and Bourdieu (1987, 2005), gender in the present study was understood as a social, cultural, and discursive category that does not exist a priori and outside of people. Instead, it is rooted in social interaction and is something people *do* rather than something they are. Through socialization, existing gender structures are inscribed into peoples' perception, behavior, and evaluation. As a result, forms of doing gender are deeply inscribed in all areas of behavior and everyday life (Bourdieu, 1987,

2005; Drüeke, 2016; Klaus, 2002; Röser & Wischermann, 2004; Schneider, 2002; West & Zimmerman, 1987).

As the media landscape is part of a given society, it does not stand outside of this system. As a result, media production is highly influenced by the existing gender norms. The resulting media content therefore actively participates in producing and reproducing gender definitions (what is considered feminine and masculine) and gender positions (roles, tasks, activities, and opportunities ascribed to gender categories) in an existing power structure (Dorer, 2002; Drüeke, 2016; Klaus, 2002; Peil et al., 2020; Philipp, 2011; Philipp & Garbe, 2007; Röser & Wischermann, 2004; Schneider, 2002). This is evident in the fact that women are often still shown in traditional life contexts and are underrepresented as experts in science and technology in the media (Götz & Prommer, 2020; Peil et al., 2020). Newer media channels did not overcome these stereotypical gender representations (Götz & Prommer, 2020; Prommer et al., 2019). Furthermore, certain media channels and media content are often defined as specific male or female domains, as is especially evident in terms of the internet and the computer as typical male domains (Dorer, 2002; Drüeke, 2016; Klaus, 2002; Peil et al., 2020; Philipp, 2011; Philipp & Garbe, 2007; Röser & Wischermann, 2004; Schneider, 2002).

However, the media does not simply impose gender norms on passive consumers. Instead, people actively use media channels and content to claim and reproduce a specific gender identity. Members of different gender groups claim different media categories and different content as their field of expertise and leisure-time activity and, by doing so, reproduce their membership in said gender group (Drüeke, 2016; Klaus, 2002; Röser & Wischermann, 2004; Straub, 2006). The media is thus not only a gendered field but also a gendering field (Straub, 2006).

Following the theoretical framework, it can be assumed that male and female students in the present study would thus differ in their frequency and preferences for certain media channels and specific media content as they serve as means to reproduce gender (*H3.1* & *H3.2*). Looking at the results, the present study found clear signs for gender-stereotypical behavior among German and Swiss adolescents. Similar to findings from studies investigating German-language media use, female students were shown to be more likely to choose communicative or literacy-based activities and English-language media content. They not only read more English books but also spent more time online on websites providing longer written input, such as fan fiction and social media websites.

However, male students indicated that they read more magazines and newspapers in English. At first, this might seem to contradict the research hypothesis,

as studies have repeatedly found female adolescents to be more frequent readers. However, studies have also found that this is not true for all forms of written content. While female adolescents and children can often be shown to have a higher average for reading books and magazines, studies found a higher overall average for male adolescents and children in terms of comics and online newspaper articles (Philipp, 2011; Philipp & Garbe, 2007).

In addition, the present study did not evaluate which newspapers and magazines were read. It is therefore difficult to say what kind of content students choose. Male students might read newspapers and magazines with a sports and technology focus, which would once again be in line with previously identified stereotypical media patterns. These results call for further investigation and underscore the fact that media channels can deliver a wide array of content and topics. Consequently, media habits may not always appear as straightforward as expected. This is also in line with other findings, which show that especially new online media content covers a wide range of topics within one media channel (Philipp, 2011; Philipp & Garbe, 2007). It thus seems not only important to ask which media channels students frequently use but also which content and topics they engage with.

Male students in the present study also indicated that they watch more online videos and were more active gamers. When engaged in gaming, more male students indicated an interest in violent or sports-based gaming categories than female students. In contrast, female students more often named simulation games or quizzes as their preferred gaming genres. Effect sizes for gaming variables were particularly strong.

In line with research hypothesis *H3.1*, the study found male students to have a higher overall frequency of extramural English contact. Similar to the findings from Sundqvist (2009a), this is mostly due to their high involvement in time-consuming online content and computer games.

With respect to socio-economic background, the present study drew on Bourdieu's theory of social habitus to explain differences in students' media preferences. According to the theory, social classes differ in terms of economic, social, and cultural capital, resulting in different life circumstances. These differences lead to differences in behavior and (aesthetic) taste for things like art, music, or movies. This so-called social habitus is passed down through unconscious intergenerational transmission (Bourdieu, 1983, 1987, 2001 [1966])). Consequently, taste for media channels, media content, and the affinity towards technology should be understood as a form of learned social behavior. Parents not only influence their children's media behavior and attitude towards English

media content by imposing rules and restrictions but also do so through their own attitudes in terms of aesthetic taste. Biermann (2009, 2013) used the term *media habitus* for this part of the social habitus that specifically relates to the taste and affinity for media content and technology.

For media contacts in the native language, empirical research has suggested that adolescents from lower socio-economic backgrounds have a higher probability of owning their own television and gaming consoles, spending more time online and with computer games, and spending less time reading books (MPFS, 2017; Waller et al., 2016). Research also suggests that adolescents from higher socio-economic backgrounds are more likely to have grown up in an English conducive home environment due to the high level of parental education, cultural capital, and foreign language habits (Lindgren & Muñoz, 2013; Rolff et al., 2008). As a result, they are more likely to show a higher overall engagement in regular extramural English activities (*H2.1*), while they would differ from children from lower socio-economic backgrounds in their preference for certain media categories, genres, and content (*H2.2*).

While the results were somewhat complex, the overall findings supported these hypotheses. Students from higher socio-economic backgrounds were found to have a significantly higher overall frequency of extramural English contact. The contact was mainly due to contact through books, newspapers and magazines, movies, TV series, TV shows, and online content. In contrast, students from lower socio-economic backgrounds were shown to surf on English-language websites for more extended periods of time but had a lower overall frequency of extramural English contact.

For most categories, the two structural factors (parents' highest educational level and objectified cultural capital) did not show significant effects. However, objectified cultural capital had a significant effect on literacy-based activities. This finding can be explained by the fact that objectified cultural capital was operationalized by the number of books at home. Unsurprisingly, growing up in a household with many books positively influences students' likelihood of being avid readers themselves.

The strongest and most stable predictor for extramural English contacts was the use of English within the family. Students from homes in which English is used regularly in daily life reported a higher frequency of extramural English contacts for most media categories and a higher involvement in literacy-based activities.

Surprisingly, however, this factor did not show a significant effect on the frequency of extramural gaming activities. Indeed, the data did not show any effect for socio-economic background factors for gaming in the model controlling both

structural and process factors. Hours spent gaming per week was also not affected by any of them. These findings are surprising, given that media studies for media use in the native language have indicated that students from higher economic backgrounds tend to engage less in computer gaming (MPFS, 2017; Waller et al., 2016). The same apparently does not hold for extramural gaming contacts in the present study. This might perhaps be due to the low variation in the data, as not many students in the study engaged in extramural gaming activities overall. It might also be because the questionnaire explicitly included smartphone-based games in the entry question and the follow-up questions about gaming hours. As most students have their own smartphone, engaging in mobile games might not be as determined by social background as gaming on a console.

Apart from the frequency of gaming, the follow-up questions for the other media categories supported the initial findings for each media category. Students from a higher and more conducive socio-economic background are engaged more often in online and offline literacy-based activities and use the internet for entertainment as well as for reading and information.

Looking at preferred gaming genres, the expected effect of socio-economic background on gaming was found, as students from higher and more language conducive socio-economic backgrounds are not as likely to engage in violence-based gaming. Instead, they are more likely to engage in literacy and knowledge-based games and less likely to engage in other gaming genres.

It should be kept in mind that since filters were used for all follow-up questions, the results for these questions can only be interpreted within the specific subsample of gamers, surfers, watchers, and readers. Effects for any given factor thus only indicate the significant or non-significant effect of socio-economic background (or gender) within that subsample.

The effects of socio-economic background factors (as well as the effect of gender) are, of course, not absolute. This is also evident in the present study, as effect sizes usually range from small to medium.

One reason might be the overwhelming dominance of English online and in the music industry, making it difficult to avoid extramural contact in everyday life. This seems to hold especially true for music, as almost all students listen to English-language music daily. It seems that music might transcend class and gender boundaries alike.

Another reason is that the influence of any given social factor on human behavior is complex and has to be understood as part of a complex interaction with other factors. Furthermore, the weight of the influence for each factor might differ from field to field. Bourdieu therefore emphasizes that the relationship between

socio-economic background (and by extension gender) and any form of social habitus is statistical, not deterministic (Bourdieu, 1987).

In addition, adolescents also undergo important self-socialization processes – which lead to the development of independent interests—and are influenced by their peer network (Henrichwark, 2009; Kommer, 2008; Senkbeil & Wittwer, 2009; Straub, 2006). Still, social factors, such as family background and gender, most likely influence the direction of these self-socialization processes and peer networks, thus making certain developments more likely than others (Kommer, 2008).

Overall, the results support the theory that the class-specific media habitus, to some extent, influences students. By passing down their media habits, attitudes, and practices towards foreign media production, parents unconsciously influence their children's tastes and preferences for things such as books, movies, or games. As a result, children from higher socio-economic backgrounds with a more English conducive home environment have a higher chance of extramural English contact. These findings are in line with results from other empirical studies (Henrichwark, 2009; MPFS, 2017; Senkbeil & Wittwer, 2009; Stecher, 2005; Waller et al., 2016).

Despite these interesting findings, it is important to discuss some limitations in terms of research design and sampling. As already mentioned in Section 3.1, the complicated nature of the individual dispositions of a given person is not determined by one single factor, not even one as important as social class, and can therefore not be measured by one (Bourdieu, 1987). Instead, the specific individual dispositions result from more than one factor, each of which influences the specific circumstances of life (social class, age, gender, place of residence). However, according to Bourdieu, even a system of factors would not be differentiated enough, for although all these factors have explanatory power in all fields, the weight of the factors varies from field to field. Thus, even within social classes, class fractions will differ. This is also true for predicting the trajectory and development a person will go through in life (Bourdieu, 1987). In order to understand this complex structure for each field, more complex analyses would be necessary.

In addition, quantitative measures for analyzing the effect of socio-economic background cannot fully reveal the entire complex structure of individual socialization conditions. According to Bourdieu, the individual habitus is produced and reproduced in people's actions, thoughts, and attitudes. Therefore, traces of it can be found in what people do and say or leave out (Bourdieu, 1987). To fully capture these traces, interpretative research methods are needed. Only then is it possible to show the totality of the complex socialization conditions. Such an analysis is not possible with quantitative data (Stecher, 2005). As a result, the

present study was only able to approximate these conditions by applying surface characteristics by which persons can be divided into broad social groups. Consequently, the specific way in which parents consciously or unconsciously influence their children's extramural contacts or to what extent parents execute control over age-appropriate media content cannot be conclusively determined in this study.

A similar argument can be made for the gender category used in the present study, as the utilized dichotomous gender variable can be criticized for adhering to the traditional binary male/female distinction. As was discussed in Section 3.2.3, understanding gender as an interactive and discursive category would, in theory, require the observation and analysis of gender identities in their performative production, in which the produced gender identity is the result, not the starting point of the analysis (Nentwich & Kelan, 2014). This would also allow for a broader representation of gender fluidity and gender representation outside of the heteronormative binary gender system. Unfortunately, such an in-depth analysis was not possible for the present study due to economic reasons. Instead, gender was categorized by a binary gender variable. Therefore, it is important to emphasize that the found differences should not be understood as natural differences between male and female students. Instead, the results must be seen as an effect of the students' deeper mechanisms of gender identification and reproduction.

Despite these limitations and the somewhat contradicting findings for gaming, it can be concluded that overall, students' extramural English contacts seem to be influenced by a specific media habitus, i.e., class and gender-specific attitudes and behavioral patterns. Being raised in a household with strong extramural media habits and a higher educational background positively influences students' frequency of out-of-school contact with the English language. In addition, male students seem to be more prone to frequent extramural contacts, especially through online and gaming content.

The found differences in gender and socio-economic background might lead to differences in incidental language learning outside the classroom, both for female students and students from lower socio-economic backgrounds. This might be less of a problem for female students, who usually outperform male students in test achievement and school grades in English as a foreign language (Hartig & Jude, 2008). However, for students from lower socio-economic backgrounds, the results are problematic, as they already have a lower probability of achieving higher test scores and grades in school (Angelone & Ramseier, 2012; Buchmann et al., 2016; Frank & Sliwka, 2016; Hußmann et al., 2017; Klemm, 2016; Konsortium PISA.ch, 2019; Kuhl et al., 2013; OECD, 2016, 2020; Solga & Dombrowski, 2009). According to the results from this study, they might also benefit less from the incidental language learning outside of school.

7.3 Summary and Discussion of Extramural English Contacts and Language Learning

According to Krashen's input hypothesis, a high amount of comprehensible language input in a foreign language through natural settings will lead to language learning similar to the way children acquire their native language. Input is comprehensible if it is slightly more complex than a person's current level of competences ($i + 1$). Under such circumstances, learners can derive enough unknown words from the surrounding context to understand and interpret the language input. Such input can derive from contact through any form of written or spoken content (e.g., books, movies, conversation) and will automatically lead to language acquisition in the language acquisition device of the brain (LAD), given the affective filter is low enough (Krashen, 1982, 1985, 1989). According to this theory, language input through media content will lead to a natural increase in language competences.

Newer online-based media channels might also provide learners with an opportunity to interact and produce output, as well as receive immediate feedback from other, often more advanced, learners or native speakers. This interaction will not only help to make input more comprehensible but also assist learners in attaining higher levels of language proficiency and being able to self-regulate their use of language as a social tool (Dunn & Lantolf, 1998; Lantolf, 2000, 2005, 2011; Swain, 2005; Vygotsky, 1978). In addition to the input hypothesis, the present study therefore drew on Vygotsky's sociocultural theory and Swain's output hypothesis to underline the importance of interaction and output production for incidental language learning.

Drawing on this theoretical framework, it was hypothesized that a higher frequency of extramural English contact will be positively related to students' language competences (*H4*). Overall, the analysis in the present chapter supported the research hypothesis. Almost all ten media channels revealed a positive correlation to students reading, writing, and listening skills.

The results have shown the effects of extramural English contacts to be similar for students' listening, reading, and writing skills. This is interesting for two reasons: first, one might have expected the effect for extramural contact for audio(-visual) media content to be particularly strong on students' listening skills, while written language input could have been suspected to be linked especially closely to students' reading comprehension. Second, as writing in a foreign language is a demanding productive activity and composing a high-quality argumentative or synthesis essay demands students to be familiar with rules and conventions of the text genre, writing skills might be highly dependent

on intentional learning and formal classroom instruction. It could thus have been expected that this test score might show a weaker relationship with the frequency of extramural English contacts. However, this was not the case.

Nevertheless, the findings are somewhat in line with other empirical findings. Olsson (2011) and Sundqvist (2009a) also found a positive relationship between extramural English contacts with the two productive skills. The authors attributed this to the fact that students with frequent extramural contacts gain a more extensive and diverse language register, which allows them to adapt their language better to different text types (Olsson, 2011).

In addition, for the present study, overall text characteristics, such as vocabulary, grammar, collocations, and prepositions, were important criteria for scoring the essays. This was true for both the integrated and the independent writing task (Keller et al., 2020; Rupp et al., 2019). Many of these criteria are also important for reading and listening skills. This can be understood as an indication that declarative linguistic and metacognitive knowledge of a foreign language provides a critical source from which both receptive and productive skills draw (Schoonen, 2019). This is also in line with findings from Laufer and Nation (1995), which provided evidence that vocabulary size and lexical richness are significant determinants for successful written production and holistic scores in foreign language writing.

If this is indeed the case, extramural English contact should have an especially large effect on those underlying macrofeatures of the writing scores, which best capture these overall language criteria. Unfortunately, proprietary reasons provided a detailed analysis of the macrofeatures for the present study. Future studies will hopefully allow a rescoring of the student texts and thus enable a more detailed evaluation of the relationship between extramural English contact and different text criteria.

Structural equation models further supported the research hypothesis, showing that extramural English contacts positively affect language learning for all three language skills. Again, the path coefficients were similar in size for all three skills. However, the models only explained a small portion of the variance for the three skills. Model Fit indices showed an adequate to a good fit for all three models, yet some uncertainty remains, and the results should be interpreted with caution (Geiser, 2010; Schermelleh-Engel et al., 2003). Further methodological limitations will be discussed below.

The effect of extramural contacts on the three language skills stayed significant, even after controlling for language competence at T1, yet path coefficients

decreased considerably in size. This indicates that the effect of extramural contacts on actual language gains between the time points is significant but small. The small effect sizes might seem unfortunate, yet it is not surprising for three reasons: First, students had already reached a high level of language competences at the first measurement point. Language gains between the time points were, therefore, small in general. In addition, the two measurement points did not lie that far apart. As discussed above, incidental language learning is a slow process (R. Ellis, 1999; Letchumanan et al., 2015; Sok, 2014; Webb & Rodgers, 2009), huge language gains could thus not have been expected to take place between the two measurement points.

Second, as students probably choose a diverse set of topics and genres in their extramural contacts, it is possible that the standardized test administered to measure students reading, writing, and listening skills did not capture the unique content students were exposed to through their extramural contacts. Media content usually contains a high number of high-frequency words and phrases. However, some students might engage in extramural contact that provides them with a large amount of non-frequent and peripheral words. For example, students engaged in extramural contact through playing fantasy games might have acquired an extensive set of vocabulary related to the specific genre that would not have factored into their test scores. This might explain both the only medium-sized effect in model 1 and the small effects on language gain between measurement points in model 2.

Third, as this was not an experimental study, the exact level of language complexity provided by students' extramural English contacts cannot be determined. As already discussed in Section 4.1, lack of comprehensible input might lead to *fossilization*, which will slow down the learning progress or stop it completely (Krashen, 1985). As students' extramural contact is guided by their personal interests, they might not automatically progress to more complex and demanding media content as they increase their language competences. Instead, they might engage in the same type of media content for a long period of time, even though they might have already reached the level of difficulty provided by the source. Input that is too easy will then not provide learners with new syntax and only with a limited range of vocabulary (Krashen, 1985). Extramural English input through mainstream media at some point might even fail to provide more advanced students with input complex enough to aid further language learning (although this might be less of a risk with the upper secondary students in this study).

In addition, as the results from M. Peterson (2012) show, online communication often relies heavily on abbreviations and shortcuts, which can be easily memorized and used for quick communication. As a result, language learners

might develop strategies for successful online communication with memorized phrases without real language learning taking place (Krashen, 1985).

By contrast, input that is too complex will provide learners with input they cannot decipher (Krashen, 1985). As a result, students would be unable to understand enough of the content to derive unknown words from the surrounding context, and they might not even be able to use other-regulation or object-regulation to work through their zone of proximal development. While intermediate and advanced students might already feel comfortable enough to seek extramural English contact, some learners in the sample might not have yet been able to use the media to its full advantage because they have not yet reached the required level of proficiency.

In conclusion, extramural English contacts hold the risk of unsuitable language input and communication that is either too simple or too complex. For future research, it would be valuable to control for or at least measure the quality and difficulty of language input students receive in their free time. It would also be interesting to see which strategies learners might employ to select comprehensible input and communicative settings and how they progress from one level of difficulty to the next.

With respect to the influence of gender and socio-economic background, the results from the structural equation models confirm findings from Chapter 6. Male students showed a significantly higher probability of engaging in media-related extramural contact. As a result, they might benefit more from incidental language learning. This might also be why this study failed to find a significant effect for gender on the three language skills in M0. This would be in line with Sundqvist (2009a), who concluded that the high test performance from the male students in her sample might have been due to their high level of involvement in extramural contacts.

In addition, the present study was able to demonstrate that the students' socio-economic background influences the frequency with which they engage in extramural English contact. Here again, structural factors were less relevant than process factors. A positive and conducive home environment significantly affected the frequency of extramural contacts, as did does parents' perceived importance of English as an investment into their children's future. Interestingly, parents' own English competences negatively influenced students' extramural English contacts. As discussed in Section 6.2.1, this is most likely an effect of educational background in general, as studies have revealed a negative effect for educational background on media activities in the native language. Children from higher educational backgrounds have been shown to spend less time watching

TV, surfing the internet, and gaming but more time reading than children from lower educational backgrounds (MPFS, 2017; Waller et al., 2016).

All in all, the results for the socio-economic background indicate that by including English in everyday life activities and placing value on language proficiency, parents directly influence their children in their choices to engage with English media content voluntarily.

Despite these encouraging findings, the results should be interpreted with caution, as the present study design and resulting dataset has some limitations. First, the hierarchical structure of the data posed a challenge for the analysis of the structural equation models. As data was gathered in Germany and Switzerland across different schools, students in the dataset are nested in classes, which are nested in schools, which are nested in countries. In the Swiss dataset, schools were also nested in different cantons. Since entrance into upper secondary education is dependent on socio-economic family background in both countries, both samples are most likely highly selective and not representative for all adolescents in the two countries. In Switzerland, selectivity will most likely be even higher since entrance into upper secondary education is even more restrictive in the Swiss educational system (Keller et al., 2020). In addition, the sampling procedure differed between Germany and Switzerland. Therefore, it is advisable to account for the hierarchical structure of the data in the analysis.

One option would be to compute a multiple group comparison. This would have also made it possible to investigate possible differences in the effects between the two countries. Unfortunately, given the overall significant Chi^2 tests of the SEM models in this study, it would not have been possible to determine if any found differences were statistically significant.

Another option would have been to include country as a control variable on the individual level. However, including cluster variables as a control variable on the individual level also introduces uncertainty into the model (Snijders & Bosker, 2012). Instead, it is advised to control for clustering on the appropriate hierarchical level.

MPlus does allow for the computation of the standard errors and chi-square test of model fit while taking into account the clustering structure of the data without modeling specific effects on the higher hierarchical levels (Muthén & Muthén, 1998–2017). Such so-called sandwich estimators can yield robust standard errors, accounting for the multilevel structure of the data, without specifically modelling cross-level effects (Muthén & Muthén, 1998–2017; Snijders & Bosker, 2012). MPlus currently allows for the control of two hierarchical levels, although one has to choose which level the standard errors should be controlled for (Muthén &

Muthén, 1998–2017). The literature usually advises controlling for the highest level cluster (Snijders & Bosker, 2012). Unfortunately, small sample sizes within classes and schools, especially in the German data set, combined with missing data, led to some higher-level clusters only having one valid observation on some variables of interest. Consequently, the present data did not allow for simultaneous control of clustering at multiple hierarchical levels in MPlus. Even if this had been an option, the data structure would still have made it necessary to disregard either the class, school, or country level, as only two hierarchical levels can be included simultaneously.

In addition, studies have also shown that controlling for the highest cluster level is not always the best strategy if the number of elements on the highest cluster is small. Under such circumstances, the sandwich estimation might not provide the best model (Snijders & Bosker, 2012). Given the fact that the current study only included two elements at the country level and overall differences between countries were small for media use as well as for socio-economic background factors, the decision was made to control for students nested in classes instead. This also accounts for variance at the class level due to class composition effects, which most likely also influence students peer group connections (see Section 7.4. for a brief discussion about the effect of peer groups on adolescents' media use). However, the results should be interpreted with some caution, as the complex hierarchical structure could not be fully accounted for.

In light of these challenges, future research should strive to carefully implement sampling and study designs that not only allow for a more thorough statistical modeling of the hierarchical structure but also for a more detailed investigation of cultural and national differences within the German-speaking communities.

Second, the study design also does not allow for a conclusive determination of the direction of the causal relationships between students' language competences and their media-related extramural English contacts. While it is reasonable to assume that regular and intensive contact with the English language via media content will lead to learning processes, a reverse causal effect is likely also relevant. As a certain threshold needs to be reached to understand authentic media content or to interact with others, it is most likely that students' language competences influence their ability to access media content or participate in communication with other English speakers. Furthermore, students with a high language competence might also feel more motivated to choose English media content instead of content produced or dubbed in German. It is thus likely that language competence and extramural English contacts have a reciprocal effect on each other. Future research should strive to implement experimental study designs

to further investigate the causal relationship between extramural language contact and language learning. This will also increase our understanding of the learning process and the learning gains that can be expected from extramural English contact under different circumstances.

7.4 Further Limitations and Recommendations for Future Research

Overall, the findings in the present study have revealed that extramural English contacts might positively impact learners' language competences, both for receptive and productive skills. In addition, the results have indicated that the decision to engage in these contacts is in part influenced by a learners' socialization process into gender norms and a specific form of social media habitus.

While the study has shed important light on out-of-school informal language learning processes, the nature of the study design left some questions unanswered and raised some new ones. The previous subchapters already discussed limitations and possible biases, as they related directly to the results and the discussion of each research question. In this section, some further limitations of the present study and suggestions for future research will be mentioned.

First, the present study could not include other social factors such as the influence of peer networks and self-socialization processes. However, as Senkbeil and Wittwer (2009) and Henrichwark (2009) have pointed out, children and especially adolescents develop interests independently of their parents and undergo important self-socialization processes. Peer networks provide adolescents with meaningful connections and opportunities to talk about shared interests in media topics and genres, as friends often share the same interests. In addition, children and adolescents often have their first contact with the computer and the internet through their peer network (Henrichwark, 2009; Kommer, 2008; Senkbeil & Wittwer, 2009; Straub, 2006).

Furthermore, the internet especially offers young people the possibility to search for information and develop new values, identities, and interests independently of their parents. Media, therefore, also provides adolescents with the opportunity for self-socialization processes (Straub, 2006). These processes might be amplified by the increased autonomy smartphones and computers give adolescents. By using their personal devices, watching a movie might shift from a family activity in the living room to a private activity with minimal parental

supervision. Thus, while being rooted in social practice and media habitus, extramural English contact through media channels is most likely also influenced by individual development.

Second, it was also beyond the scope of this study to include psychological factors such as interest or motivation, as they are a complex field of their own. However, research has repeatedly demonstrated the positive moderating role of motivation and interest for second and foreign language learning. The fact that media-related extramural English contacts are engaged in voluntarily most likely provides a strong intrinsic motivation for continued regular language contact outside of the classroom (Senkbeil & Wittwer, 2009). In addition, as interest is defined as the “heightened attention and emotional engagement that emerges when a person has a positive interaction with a content area or a task” (Hidi & Renninger, 2006, p. 112), it is very likely that interest in the media content helps to further increase and foster incidental learning processes.

Still, interest and motivation are part of Krashen’s input hypotheses (1982, 1985, 1989): According to him, input will only lead to acquisition if a person’s affective filter is low enough. The filter will be low if the learner feels motivated, self-confident, self-efficient, and not anxious. A high filter will prevent acquisition, no matter how much input is provided. For students with a low level of anxiety and a high level of motivation, self-efficacy, and a conducive self-concept, extramural English contact will likely result in a higher level of incidental learning. Nevertheless, the exact nature of the relationship in the case of media-related extramural English contacts should be investigated further.

Furthermore, it is very likely that a positive experience and positive feedback in understanding the content of a movie or book, or from a successful interaction with others, will positively influence these psychological factors. This, in turn, can lead to a positive self-concept and self-efficacy as an English speaker and help lower the affective filter. As students grow more accustomed and confident in their role as language users in an international community, their learning revenues might therefore increase. It would also be interesting to see how incomprehensible input, unsuccessful interaction, or negative feedback might influence students’ motivation or self-efficacy.

In addition, a positive experience with English outside of the classroom might also increase interest and strengthen students’ understanding of the personal relevance of English for their personal future. Therefore, extramural English contacts might help turn English from a school subject with general significance into an object of personal significance (Tin, 2013).

Third, future research might also be interested in the interaction between psychological and social factors, such as gender and socio-economic background,

and their effect on incidental learning. The present study did not hypothesize that socio-economic background would affect the actual incidental learning process arising from extramural contacts. Drawing on Krashen's theory, for the socio-economic background to affect the learning process itself, students from different backgrounds would have to systematically differ in their affective filter. However, unlike classroom instructions, extramural English contacts are not mandatory. Students can choose the media category and content they are most interested in. As a result, it can be argued that the affective filter should generally be low for students who decide to engage in extramural contact, thus creating an ideal basis for incidental language learning. Thus, while socio-economic background might influence the probability of engaging in extramural contact, it was not expected to play a moderating role in the learning effect for students who do decide to engage in said contact. The same can be said for gender. However, empirical evidence in this area is still limited, and future research should examine the interactions of these various factors more closely.

Fourth, this study could not include students' actual communication and interaction strategies with extramural English content. Nevertheless, for a full understanding of the benefits of interactive media use it is important to understand how students interact online and how learners might use other-regulation and object-regulation to work through their zone of proximal development. Some studies have demonstrated that native speakers and more advanced language learners might provide novices with explanations, co-construction, positive and negative feedback (Rankin et al., 2009; Thorne, 2008). However, research in this area is undoubtedly still at the beginning.

In addition, little is known about if and how students employ explicit learning strategies as they engage in extramural contact. Given the fact that students in the present study have indicated that they are aware of the learning potentials deriving from the extramural English contacts, future research should examine which explicit learning strategies students might employ and how these strategies might differ between fast-paced media content such as movies or computer games and the slower activity of online and offline reading.

Fifth, it was also beyond the scope of this study to investigate the effect of extramural English contact on students' speaking skills. Sundqvist (2009a) was able to show that extramural contact can have a positive influence on learners' oral skills. This might be especially true for extramural contacts from listening to and watching English content, as it provides direct auditory examples of pronunciation. Anecdotal evidence, for example, links the frequent contact to English music, movies, and TV series with the fact that Dutch and Flemish children are often able to pronounce English words perfectly (Koolstra et al., 2002). It would therefore be interesting to see how regular extramural English contact might lead to different proficiency levels in certain dialects. Due to the dominance of the

United States, it could be expected that learners with a high level of extramural English contact might have a special inclination to reproduce the most represented American accents.

Last, the present study did not address the topic of media or ICT literacy, i.e., students ability to access, analyze, and evaluate images and sounds, as well as their ability to communicate with and through these media channels and use the necessary technology appropriately (Henrichwark, 2009). As studies have shown, and as Thorne (2008) points out, the media is a stable part in the lives of most adolescents, and the internet is much more a social fact than a technological one, yet this does not mean that adolescents automatically have a high level of ICT literacy. The present study assumed that students who engage in media-related extramural English contact at least had a high enough media literacy to access the content of interest. However, results from the ICIL study show that not all young people have the same level of ICT literacy. Although the study focused on school and work-related ICT skills, the findings raise doubts about equal access to online and computer-based media content and the competence to navigate and evaluate the found information. The study also revealed that media and ICT literacy strongly depend on social background factors and gender (Fraillon et al., 2014; Lorenz et al., 2014). Similarly, Henrichwark (2009) also provided evidence that not all students have the same ability to understand and evaluate content presented to them via media channels and that students' media literacy is dependent on socio-economic background.

Results like these are worrisome, especially given that children and adolescents have increasingly autonomous control over their media intake through their own technical devices. Therefore, the competence to understand and evaluate content and information is a crucial skill to navigate the online world and not fall prey to misinformation and radical ideas. Future research should include media literacy and ICT literacy measures to capture their selective effect on extramural English contact and investigate how students process and evaluate the information they receive online.

7.5 Pedagogical Implications

The high frequency of extramural English contacts among adolescents in this study poses new challenges for the educational system. In an ever-changing media landscape, teachers and parents should be aware of the frequency with which adolescents might engage in extramural English contacts and the benefits and risks

arising from them. Ignoring these influences means ignoring students' increasingly heterogeneous language backgrounds. Some students might participate in a complex net of extramural activities and are part of a stable online community where they take on the role of a self-sufficient language user. They may have a highly specialized vocabulary, which might not be recognized or valued in the school context. For these students, classroom instruction might even be frustrating or boring.

Other students might be hesitant to engage in any out-of-school contact, relying solely on the input from their teachers. Therefore, these students might be less able to self-regulate their language output or interact with members of the target language community in an informal and natural context. For these students, parents and teachers can serve as important motivators and inspiration.

By the time of this study, results from Grau (2009) suggested few teachers took students' extramural English contacts seriously. They also seemed to be mostly unreflective about their own role in providing students with appropriate listening and viewing strategies for their out-of-school language contact (Grau, 2009) or encouraging students to find their own voice in the international online community. One reason for this might be missing knowledge and expertise on the teachers' side (Sundqvist & Sylvén, 2012a). It seems crucial for teachers to be better informed of the newest developments in media and technology.

In addition, to encourage students to seek extramural English contacts, the educational system should also strive for a stronger incorporation of students' interests and prior knowledge into the classroom. The modern English classroom should strive to build bridges between students' in- and out-of-school language contacts, without necessarily making them a homework assignment. Doing so can link formal instructions to students' interests and activate prior knowledge. Learners' extramural English contacts should be seen as an opportunity to increase in-school motivation and interest in English as a subject and as a fruitful addition to the language classroom. Ignoring the interests and language backgrounds students bring to the classroom means to deepen the rift between students' in-school and out-of-school lives and leaves students to their own devices when it comes to choosing, consuming, evaluating, and reflecting on media content.

Of course, incidental language learning should not be understood as a replacement for thorough and well-structured language instruction within the educational setting. Especially not since incidental language learning has been shown to be a slow and error-prone process and can be especially overwhelming for beginners (e.g., Letchumanan et al., 2015; Sok, 2014; Webb & Rodgers, 2009). It is important to teach learners the basic linguistic principles and lexical system of the target language, as well as to make them aware of (vocabulary) learning tasks

and to teach them explicit strategies for doing so. This ensures that learners start their language journey by studying a base vocabulary, grammar, and a robust connection between form and meaning (d'Ydewalle & van de Poel, 1999; Hulstijn, 2001; Neuman & Koskinen, 1992).

Thus, when integrating students' out-of-school interests into the classroom, in-classroom activities should strive to make genre- and context-specific linguistic structures and vocabulary of contemporary media content explicit to the learners. In addition, the classroom should endeavor to equip students with learning strategies for out-of-school language use and promote active language use in and outside of the classroom. In this way, it can be possible to incorporate media content from outside the classroom and allow learners a space to develop their personal interests. This can then help young learners to navigate and guide their own journey on their way to becoming self-sufficient within a media world that is governed by English as its dominant mode of communication.

This will also enable learners to reach a level of proficiency in which a broad range of authentic input will be comprehensible and but help learners to establish a *monitor* that helps to regulate and check the output before it is uttered (Krashen, 1985). Once these requirements are met, and a base is established, incidental learning deriving from extramural English contacts can be a helpful and interesting additional way of language learning.

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Conclusion

8

While a growing number of empirical findings reveal the high level of media-related extramural English contacts in smaller European countries, reliable empirical data for Germany and Switzerland has been scarce. The present study aimed to close this research gap by providing insight into the frequency and forms of extramural English contact by students in their penultimate year in upper secondary education.

To achieve this goal, the large-scale assessment study ‘*Measuring English Writing at Secondary Level*’ (MEWS) included a catalog of questions concerning the frequency of extramural English contact through 10 media categories (music, radio/podcasts, audiobooks, books, newspapers/magazines, movies/TV series, TV shows, online videos, surfing the internet and gaming). In addition, follow-up questions measured in-depth information about the students’ media behavior for the most relevant categories. Students were also tested on their reading, listening, and writing skills and given an extensive background questionnaire. The study collected data from 2,847 students from Germany and the German-speaking part of Switzerland.

The results from the present study demonstrate that, on average, older adolescents in upper secondary education in Germany and Switzerland come into intensive and regular contact with English as a foreign language outside of the classroom. Students regularly engage in several activities, with listening to English music being the most popular. For most students, videos, online posts, and websites in English are also a constant presence in their lives. The contact is mostly passive. If students engage in active behavior, it is mostly via shorter posts on social media platforms.

Students stressed the omnipresence of English online and the possible learning and practice opportunities as important reasons for their media-related extramural English contact. Nevertheless, they also reported choosing to engage in such contacts for their entertainment value, earlier availability, easier access, and the high quality of English media productions.

The frequency and preference for extramural English contacts via various media channels could be shown to run along stereotypical gender lines, with male students being more active on online video platforms and in gaming activities, and female students more likely to be engaged in communication and to read online and offline content in English.

Regarding the socio-economic background, the present study found mixed effects. While for media content in the native language, a high socio-economic background is usually associated with less frequent online and computer-based media exposure (e.g., MPFS, 2017; Waller et al., 2016), a positive effect was found for media content in English (except for computer games). These effects can be attributed to a higher level of cultural resources and a more conducive home environment, which form a specific media habitus that encourages extramural English contacts. However, English-language media content from some media categories, namely the internet in general and social media platforms in particular, were popular among members of all social groups.

In line with the hypothesis, the results also provided evidence for the positive relationship between extramural English contacts and students' reading, writing, and listening skills. However, some methodological limitations concerning sampling procedure and hierarchical structure in the dataset could not be completely controlled for in the present study. The results should therefore be read with caution.

Despite these limitations, the results are encouraging, as they reveal media-related extramural English contacts to be a valuable additional source for English learning and practice. The effects suggest an advantage for male students and children from higher socio-economic backgrounds in terms of possible learning benefits. Students from lower socio-economic backgrounds and female students might benefit less from these incidental learning effects.

Future research should focus on the specific nature and quality of language input deriving from different media channels. In addition, future research should strive to implement experimental study designs to better understand the nature of the causal relationship between media-related extramural English contacts and incidental language learning processes. Future studies should also be interested in including different age groups and learners from diverse family backgrounds and different school tracks. The unique and complex influence of socio-economic

background and gender categories should also be investigated further. Last, more empirical research is needed to investigate the influence of prior knowledge on successful extramural English contact and incidental language learning, as well as the learning strategies students might employ while engaging in extramural contacts.

Overall, the findings of the present study challenge the way we might think about the English language in both Germany and Switzerland. Traditionally, English has been a foreign language for students in both countries, and until recently, contact was mainly facilitated through the educational system, with limited contact to native speakers. The internet has changed that. This omnipresence might also impact peoples' identities as language users. As Kohn (2011) points out, the increased communication between natives and non-natives challenges our perspective of what using and knowing English is all about. In an international environment, native speakers are not the sole owners of the language anymore, and young language users in Germany and Switzerland will likely find themselves being part of an ever-growing global community that regularly uses English as a lingua franca to communicate. Indeed, even though several adolescents in the present sample chose not to engage with English outside of school, the results suggest that English has become an increasingly important part of most students' everyday lives in Germany and Switzerland. Not all students favored all available media channels, but not many seem to be able to escape the impact the English language has on our media landscape completely.

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