

A COMPARATIVE STUDY OF
IMMIGRANT-BACKGROUND AND
NATIVE DUTCH TEENS NETWORKED
LIVES

Aslı Ünlüsoy-van der Baan

Tracing connections of learning

A comparative study of immigrant-
background and native Dutch teens'
networked lives

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Tracing connections of learning

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Leerrelaties traceren: Een vergelijkende studie van
het genetwerkte bestaan van immigranten en
autochtone Nederlandse tieners
(met een samenvatting in het Nederlands)

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ABSTRACT

In an increasingly demanding, diverse and digitally driven society, it is crucially important to understand learning not only as a phenomenon that could be measured and benchmarked by the outcomes of standardised testing, but as a phenomenon that should be understood from a broader sociocultural perspective. In order to fully grasp the complexity of learning in this society, a growing body of literature focuses on the flow of activities, information and resources and on how these are utilized and mobilized for learning using digital technologies, across different contexts. In line with this literature, in this dissertation my claim is that in order to account for the multi-contextual, social nature of learning, an important point of departure should be the study of the social structures that host and shape this engagement. This dissertation takes the view that it is important to put our assumptions, hopes and fears regarding how young people socialize and learn in the highly digitalized world today through the crucible of systematic empirical research.

In order to study learning while also systematically and coherently exploring multiple contexts and to weave together the flux of influences that shape young people's learning today, I adopt a network analytical perspective. Furthermore, I study learning in an ethnoculturally comparative framework, which allows me to explore and compare the learner identities and learning experiences of ethnic-minority populations in the digital era (particularly the Turkish-Dutch and Moroccan-Dutch teens) with native Dutch youth.

In chapters 3, 5, and 6, of this book personal networks are taken as units of observation, measured and analysed employing quantitative and qualitative methods. Using a large-scale survey data ($N = 1408$) we collected information, among other issues, on teens' online networks. We also conducted in-depth interviews with 79 teens; first mapping their personal networks, covering a much wider range of relationships than we were able to with the survey study. We then employed a thematic content analysis to link the interview data with network information. The studies show how the network structures and the resources these offer for learning differ for immigrant and non-immigrant youth. In addition, they reveal how youth with an immigrant background experience themselves as learners and which network factors and network relationships play a role in shaping this experience.

In a conceptual study (chapter 2) we explore how digitalization, or more specifically the digitalization of social connectivities, are enabling people to engage with each other and

with information in new ways. We argue that in order to be able to leverage social media for learning we should first understand what exactly this media can afford. Digitalized social connectivities carried through social media platforms (re)shape our capacities to see, circulate, edit, and archive information, so we ask how these changed capacities could be understood to further the theorization of sociocultural learning.

Based on the sociocultural perspectives on learning, while also considering the intersection of technology, migration and learning, this thesis shows how personal networks shape young people's learning and socialization in particular ways. It is argued that there is not a prototypical 'connected learner', but rather many diverse possibilities of being connected and becoming a learner.

Chapter 1

General Introduction

Digitalization of the Information and Communication Technologies (ICT) along with the rise of the internet and social media have transformed nearly every aspect of life. These transformations have been more noticeable for those who are born before mid-1980's; who can still hear the sound of dial-up internet in their minds and remember the times prior to these technologies becoming commonplace. For youth¹ though, these digital technologies and the concept of online social spaces/apps have always been a part of a broader media ecology. They grew up learning to engage with these technologies and with the world through these technologies; not necessarily as 'self-taught ICT experts', but as ordinary young people engaging with the normal and ordinary tools of everyday (Ryberg & Larsen, 2012).

Reports worldwide reveal that access-gap and gender-gap in ICT use have been diminishing and that the time spent online has been steadily increasing for children and youth (see the reports EU Kids Online, 2009; Global Kids Online, 2017). In fact, since the mid-2000s youth spent significantly more time online (up to 6 hours a day) and less time with traditional media than previous generations (Twenge, Martin, & Spitzberg, 2019). Young people's intense engagement online have raised many questions, particularly aimed at understanding how the digital age affects the nature of socialization and learning: Why are these emerging online, social spaces and networks so attractive? What kind of opportunities and challenges do they present for youth? How are these opportunities and challenges perceived and tackled by youth? And since young people are not a homogenous group there have been also questions regarding how learning and socialization unfold for young people from different backgrounds, with diverse possibilities and interests.

There is already a great amount of literature dedicated to understanding how young people live and learn in the digital era or in the age of information. A big proportion of this literature is decidedly concerned with redesigning formal education in order to better employ new technologies in the existing systems of education. Studies in the tradition of computer-supported collaborative learning or networked learning, for instance, provide a great variety of information about the possibilities unlocked by computers in the classrooms, about distant learning, and more recently about how mobile technologies could

¹'Young people', 'youth', 'teens' in this dissertation refer to a cohort of young people who are born as of the mid-1990s to mid-2000s, a cohort that is referred to as Generation-Z or post-Millennials. See for defining characteristics of generations Dimock (2018), see also for 'youth' as a sociocultural construct Buckingham (2008).

be employed in education. These studies seek to understand how technologies could be implemented to improve learning conditions (e.g., motivation, instruction, assessment) in formal education settings (Stahl, Koschmann, & Suthers, 2006). They inform us regarding how ICT is utilized to connect learners, teachers and resources in novel ways and to stimulate interaction (Goodyear, Banks, Hodgson, & McConnell, 2004) Furthermore, they provide insights about how people build and maintain networks to support their (professional) learning and how networks operate to facilitate knowledge creation (e.g., De Laat & Strijbos, 2014).

Another set of studies describe young people as a new kind of learner of the digital age such as the “digital natives” (Prensky, 2001), the “Net Generation” (Oblinger & Oblinger, 2005), and “iGeneration” (Rosen, 2007). These concepts, especially ‘digital natives’, are frequently used as a shorthand in the media and in education to describe a new generation of learners (Masanet, Guerrero-Pico, & Establés, 2019). However, in academia these prototypes have been heavily criticized for oversimplifying and homogenizing youth’s engagement with media without taking essential variables such as education level, ethnocultural background, gender, motivations, etc. into account (Bennett & Maton, 2010) and for being based on assumptions and beliefs rather than science (Kirschner & van Merriënboer, 2013). These “urban legends”, as Kirschner and van Merriënboer (2013) call them, have stimulated a host of research to “debunk” these claims (e.g. Masanet, et al. 2019). Evidence has already shown that the experience of young people with technology is far from homogenous and is highly dependent on their motivations, possibilities, knowledge and background [SES, ethnicity, gender] (e.g., Prinsen, de Haan, & Leander, 2015; Van den Beemt, Akkerman, & Simons, 2011).

The current research project situates itself in these attempts to enrich our knowledge regarding how youth appropriate (new and traditional) media for learning by building empirical evidence, that partly speaks back to these early prototypes of youth as digital learners. We consider digitalization not only related to the adoption of new technologies, but embedded in a whole set of broader social changes generally associated with globalization, such as the changing nature of communities, increasingly diverse societies, more dispersed and participatory ways of knowledge production, personalized entertainment and consumption (Jenkins, Ito, & boyd, 2016). Studies presented in this book share some common concerns with a growing field of research that explore learning from a broad perspective by focusing on the flow of activities, information, and resources across different contexts in order to get a complete

picture of the complexity of young people's learning experiences today (e.g., Akkerman & Van Eijck, 2013; Erstad & Silseth, 2019; Kumpulainen & Sefton-Green, 2014; Leander, Phillips, & Taylor, 2010).

Recent academic work that have put forward concepts such as 'Connected Learning' and that emphasize a view of learning that is "socially embedded, interest-driven, and oriented toward educational, economic, or political opportunity" (Ito, et al. 2013, p. 4), or "learning studied from the learners' perspective and across different contexts and temporal trajectories" (Drotner & Erstad, 2014, p. 1) or 'Learning Lives' that focus on the "coherence between learning, identity and agency" of individuals as lifelong learners (Erstad, Gilje, & Arnseth, 2013) show the key issues in this emerging literature. Namely, the importance of studying young people's interest-driven practices horizontally within and across school, home, peer groups, and other communities and embedding the development of learner identities within these practices. A common underlying assumption in these studies is that young people are naturally motivated to find resources and connect with likeminded others to explore these interests autonomously.

However, adopting such a holistic approach to learning, as is acknowledged in the abovementioned literature, and the current study, complicates the practice of empirical research considerably. If we are to study learning as an ongoing, multicontextual, interactive and emergent phenomenon where do we begin? How do we set our research parameters? How do we, as researchers, enable the voice of young people as learners to be heard and see their perspectives on what counts as learning? How, when and where do they perceive themselves as learners? Which relationships, contexts and situations do they deem conducive to learning and why? Kumpulainen and Sefton-Green (2014) suggest that in order to "see" connected learning and describe the evidence for this emerging way of conceptualizing learning we should be able to "capture" connections of different kinds.

This dissertation seeks to build upon this line of research and to begin tackling the above questions while applying a social network approach to learning. We propose that personal networks of young people, which can be mapped to include various relationships across different contexts and in turn stimulate conversations regarding the flows of information and resources in the network, are a good place to start exploring the sociocultural situatedness of young people's learning practices and experiences. The basic premise of studying learning through personal networks is the possibility this offers to take multiple contexts that are relevant for the learner into account (Crosier, Webster, &

Dillon, 2012). This approach does not require to actually “follow” learners through different contexts as it is done in some of the recent digital ethnography research examples that address boundary crossing of communication practices from across online spaces and across online and offline spaces (e.g., Gilje, 2012; Vittadini, Carlo, Locatelli, & Murru, 2014). Rather, it allows the researcher to take a step back and make a snapshot of the social connections (that may be online or offline, close or distant) which embeds the learner and her/his learning relationships. Furthermore, a qualitative approach to this network methodology allows the participants to voice how their relationships may function as learning resources, how the particular compositions in their networks may be enabling or limiting for their learning and socialization in particular ways. This is one of the ways to “capture” connections of learning of individual learners.

There are three essential elements inherently connected in this research that I would like to introduce her further:

- New learning paradigms that are triggered by global changes,
- Young people from different ethno-cultural backgrounds whose learning experiences are assumed to vary from each other,
- Personal networks of these youth as units of observation and analysis to demonstrate how these new paradigms for learning unfold.

Before continuing with the project description in detail I will establish our understanding of these three elements. I will finish with an overview of the specific research questions tackled in the following chapters.

Changing paradigms of learning

Our understanding of learning is framed mainly by the sociocultural approach that describes learning as an intentional (not necessarily conscious or rational), emergent, socially constructed and culturally embedded process that is integral to our everyday lives as we engage in various social practices mediated by different cultural tools (Cole 1996; De Haan, 1999; Kumpulainen & Renshaw 2007; Vygotsky 1978; Wenger, 1998; Wertsch, 1998). Within this perspective learning is seen as inseparable from the socio-cultural context in which it occurs. While this framework is very insightful regarding the nature of learning, contemporary contexts of learning are considerably different than when these ideas were conceived and developed. The change in our social practices and cultural tools, driven by digitalization and globalization, has made certain underlying principles of learning more visible, as I will show below. These

changes also require a renewed attention and an update of how we see these principles and conceive learners.

Vygotsky claimed that our interactions with the 'external' are the starting point of our cognition and higher thinking skills (Cole, 1996). These interactions are always mediated through the available psychological, cultural and material tools (i.e., our senses, language, signs, symbols, items in the physical surrounding) (Cole & Wertsch, 1996). We are, and our learning is too, always informed by the tools available to us while we (inter)act with the world. Yet in the digital era we are still at the early stages of exploring and understanding what the digital innovations might mean for our learning, since the impact of these innovations in expanding core human features (communication, socializing, collaborating, learning) is so significant and the speed with which these technologies evolve and are adopted in our everyday practices is so overwhelming.

Taking learning (as well as cognition or knowledge) as a social phenomenon means that it cannot be confined to the individual mind or be understood as a process of individual transformation only. Rather we need to see learning as distributed among the individual minds and bodies of people and among people and cultural tools or artefacts (Hutchins, 1995). This distributed notion of learning has never been more obvious than today considering our reliance on external tools and constant online access in most of our knowledge practices. Today "nothing is collected, analysed or communicated without some 'digital technology' being an integral part of it" (Louis Rosetto as cited in Anderson & Rainie, 2018). This transformation in the ways we engage with information and knowledge production/consumption reveals the paradigm shift from seeing learning as a predominantly individual activity to understanding the essential place of interaction and context in the process of learning (Säljö & Radišić, 2018).

The idea of learning as distributed is inherently related to the social ecologies of learning that host, stimulate and shape these distributions. A learning ecology is defined as a set of "interacting contexts found in physical or virtual spaces that provide opportunities for learning" with each context consisting of a unique configuration of the activities, material resources, relationships, and interactions that emerge therein (Barron, 2006, p. 195). This perspective directs our attention to the multiplicity of contexts young people simultaneously engage in, observe and create on a daily basis, their activities within and across, and the social, symbolic, and material resources characteristic to these contexts (Kumpulainen & Sefton-Green, 2014). The traditional contexts of learning such as schools, homes, neighbourhoods are now layered with online environments, such as online social networks and chat groups. Loose affinity groups based on

interests (e.g., creating wiki's), 'crowds' that participate in collective (knowledge) creation (e.g., crowdfunding projects) exist alongside traditional communities and social formations (e.g., classmates, families) (Haythornthwaite, 2011). Young people learn and socialize as they form and engage in all these contexts and social relationships.

Recognition of the multiplicity and complexity of the learning ecologies consequently requires an update of how we see learners. The conceptualization of young people as learners in a particular context (in-school, out-school, online) as it is done in the majority of learning and education literature so far, fails to recognise them as learners and as "whole persons" and the complexity of their learning experiences (Akkerman & Van Eijck, 2014).

The idea behind learners as "whole persons" should also be extended to include identity markers such as ethnicity, gender, age, social-class that undoubtedly also play a role in forming and accessing learning ecologies. In the current research these identity markers are taken into account, especially ethnicity as an indicator of being of migrant origin or native Dutch. It is our assumption that the new learning paradigms are shaped not only by the digitalization but also by migration that mark the increasing mobility and interconnectedness of our time. We assume that the learning experiences/ecologies of youth from migrant backgrounds are particularly compatible and informative regarding the new learning paradigms since we expect the learning ecologies of migrant youth to be comprised of multiple global and local communities and to reflect new forms of (cultural) connectedness. Below we explore the particular relevance of migrant background further.

Immigrant youth: Alternative resources, languages, identities of learning

Migration is by no means a new development; however, the volume, geographical spread, diversity and complexity of international migration is assumed to have grown greatly over the last couple of decades (Czaika & De Haas, 2014). Today, migration and digitalization cannot be conceived separate from each other. People immigrate (and travel) knowing that regular, spontaneous contact with their families near and far is possible as well as the threshold to acquiring new contacts or accessing required information is considerably lower with new ICT. People cross borders in pursuit of exploring the world, better life prospects, or safety as they have always done. However, crossing geographical borders equipped with new technologies that keep them connected is a significantly different experience than without the access to

these technologies. People who migrate or travel experience the possibility of being engaged with their families, work and/or broader communities without having to share the same space. Diminescu (2008) argues that the continuity of relationships is transforming the figure of the uprooted migrant into the “connected migrant” (p. 572). This shift in the way migrants and migration is ‘imagined’ is clearly linked to digitalization; however, it is not only about the ability to maintain relationships on the personal level. It is also about the broader social dynamics that migration puts in motion: Creating contact zones of worldviews, cultures, and customs.

Being a migrant is a state that is defined by being at the intersections of various diverse social and cultural spaces, multiple identifications, while negotiating the meanings of existing cultural paradigms, changing or recreating them (De Haan, 2011). Migrant youth grow up and learn informed by multiple cultural traditions. Being ‘connected migrants’ they can ensure continuity of social relationships and can rely on resources and social networks relatively removed from their immediate local social environments (De Haan, 2011). The personal backgrounds, communities and networks of immigrant youth provide them with diverse linguistic resources, forms of cultural knowledge and different social roles as compared to non-immigrant youth (Lam & Smirnov, 2017). Yet, these particular conditions and different “assets” inherent to being from a migrant origin are rarely recognized or utilized in formal educational settings (Watkins & Cho, 2018). Conversely though most research concerning immigrant origin youth and learning is situated in formal education settings where these young people are often considered “at risk”.

The research agenda concerning youth from migrant backgrounds are largely defined by factors relevant for their public participation and integration such as employability, as well as their well-being in a new society (e.g., Todorova, Suarez-Orozco, & Suarez-Orozco, 2008; Verkuyten, 2001). While these insights are valuable for tracking the public participation of minorities and how this changes overtime, they remain limited in providing a bigger picture of the learning ecologies of these young people, or answering how they experience learning or perceive themselves as learners in the digital age. What is largely lacking is an approach that can reveal in which social networks, drawing on which resources, inspired by whom do immigrant youth learn and what do they value. In other words, we need to contextualise the connectivities of the “digitally connected migrant” youth (Ponzanesi & Leurs, 2014).

We argue that a study of learning ecologies of immigrant-background youth offer us an important opportunity to better understand them. How do the

network structures that embed social relationships and the resources these offer for learning differ for immigrant and non-immigrant youth? How do immigrant background youth experience themselves as learners and which network factors and network relationships play a role in shaping this experience? How do the learning strategies networked view of learning resonate new conceptualizations of learning. This approach would not only enrich our understanding of new learning paradigms considerably but also add to our knowledge regarding the diversity of learners.

At the same time, it also presents a considerable methodological challenge “of tracking (or tracing) the processes of connectivity”, a challenge which is also widely recognized in the emerging learning research I have mentioned before in this chapter (Kumpulainen & Sefton-Green, 2014, p. 11). Below I will describe more in detail how the study of personal networks is a particularly relevant methodological approach to address some of the challenges that new learning paradigms that take connectivity as a core principle pose.

Personal networks: Connecting more than just people

How we relate to people in the digital age is considerably different than previously. The idea of networked individualism captures these differences neatly: In the past, personal networks used to be mainly defined by small, densely knit local groups, and communication was primarily face-to-face and location-dependent. Now, individuals are much less constrained by geographical boundaries, and even though traditional social spaces defined by, for instance, kinship relationships, neighbourhood and work remain important, they are no longer the only sites for socialization (Rainie & Wellman, 2012). While this idea nowadays reflect the personal networks of most individuals, historically connectivity to dispersed and multiple communities has always characterised networks of migrants as argued above.

Prior to digitalization and social media opening up virtual spaces for learning ecologies of learning also consisted of clearly identified, often closed and hierarchical, geographically bounded and specialized communities and contexts (Brown, 2001). People learned (and continue to do so) in densely knit communities (e.g., families, sports teams), with similar others, with whom they shared a common purpose and history, as well as a common place and time. These ‘communities of practice’ continue to have an essential role for learning, for providing sustained interaction, mutual engagement, coordination and the convergence needed in terms of shared values and focus (Wenger, 1998). Yet, due to digitalization are these ecologies not only also reproduced and continued

as part of individuals' online networks, they also became just one of the contexts of learning and socialization the digital domain can afford next to offline communities. Our technologies nowadays reflect and can accommodate our "innate human propensity to be social and live in groups", that is why our social lives take place simultaneously here and now as well as online (Crosier et al., 2012, p. 238).

Online social networks are frequently credited as places for information discovery (e.g., Singla & Richardson, 2008; Song & Lee, 2014) and for social interaction, such as giving and receiving feedback, sharing resources that are inherently relevant for learning (e.g., Ünlüsoy, de Haan, Leander, & Völker, 2013). Networking platforms enable a variety of unconventional social configurations that facilitate various forms of knowledge production. For instance, Haythornthwaite (2011) describes that collaborative activity online moves along the dimensions of "lightweight and heavyweight" engagement or in other words crowd-based and community-based knowledge practices. Lightweight knowledge practices, based on the engagement of a wide range of individuals, do not require a close collaboration between participants, and participation could be partial, temporary, and anonymous. The possibility to improve a translation online, to add a photo or a review of a certain location on an online map, to express one's opinion using hashtags on twitter, to fund a project or financially support a content creator are some of the ways in which people form crowds to contribute to the production of certain content or artefacts. In contrast online social formations that have more of a "community weight" rely on personal involvement and resemble more face-to-face communities in terms of building of status positions, rules and conventions. Professional online collaborations (such as students working on school projects) are often of this kind. These distinctions are indicative of the diverse ways people can be connected to each other digitally and engage in knowledge practices online.

One way to bring these diverse, online and offline multi-contextual connectivities of young people coherently and systematically together is to study their personal networks. Personal networks, otherwise known as ego-centric networks or ego-networks, consist of connections between a particular central social actor (ego) and other actors (alters) with whom an ego enjoys a specific type or types of ties (e.g. emotional closeness, information sharing, economic exchange, etc.). Network analysis may take the connections between alters also into account (Crossley, Bellotti, Edwards, Everett, Koskinen, & Tranmer, 2015). Personal networks taken as units of observation and analysis

enable us to sketch the ‘social circles’ a person is involved in. It is essentially a social cartography work to understand the patterns of interaction and separation people engage in and the kinds of social capital they poses. An ego-network lens is very suitable for, but, to the best of our knowledge rarely adopted in learning research (for exceptions see Pataraiia, Margaryan, Falconer, Littlejohn, & Falconer, 2014; Schreurs, van den Beemt, Moolenaar, & de Laat, 2019).

Through applying a network perspective in this dissertation I am able to see the social and material relationships that stimulate learning for these teens and understand them in the context of their everyday social practices. If ‘connectivities for learning’, as I call them in this dissertation, are socially situated and constructed, they are shaped by cultural norms and values as well.

In order to refer to these diverse aspects of connectivities we have coined the term ‘Networked Configurations for Learning’ (NCL) (De Haan, Leander, Ünlüsoy, & Prinsen, 2014). As a concept, the NCL allows us to describe “the particular online and offline connections of divergent sociocultural individuals and groups; the historical geographies of these individuals and groups and their histories of mobility; the development of culturally and socially informed places for learning, including digitally shaped places; and the affinities of individuals and groups in so far as these affinities are also articulated in relation to sociocultural and geographical histories” (De Haan, et al., 2014, p. 23). The idea of NCL together with a network analytical lens enables me to understand how young people’s personal networks enable them to access to resources, promote opportunities and experiences for learning across different settings in a comparative way.

Wired Up Project

This dissertation is a part of a broader, multidisciplinary research project called “Wired Up” (see www.uu.nl/wiredup). Bridging approaches from the humanities and social sciences, the scope of the project covered a wide range of issues from identity construction, self-representation online to learning relationships in personal networks. The primary aim of Wired Up was develop new conceptual tools and an innovative methodological approach that would allow us to monitor, evaluate and assess the socio-cultural specificities of the interaction between youth and digital media in a comparative perspective (migrants versus native Dutch, Turkish and Moroccan migrants in the Netherlands versus Mexican migrants in the USA, female versus male). One of our goals within this larger goal was to provide an empirically-supported,

nanced understanding of how learning and identity practices of Dutch youth and youth from migrant backgrounds are shaped by digitalization.

Previous studies from *Wired Up* focused on how issues of identity, gender and ethnicity are negotiated and articulated between online and offline worlds (Leurs, 2012; Leurs & Ponzanesi, 2014); how different kinds of networks orient teens to identity resources that can empower them (Prinsen, De Haan, & Leander, 2015); and provided a detailed overview of media use patterns covering issues of global and local orientations, access and use of online and offline resources, and online network formations, among others (Hirzalla, de Haan, & Ünlüsoy, 2011). The work of Koen Leurs explored specifically how Moroccan-Dutch youths “participate in and appropriate digital spaces in order to convey their belongings across multiple axes of identification such as gender, sexuality, diaspora, religion and youth-culture”; his work convincingly shows how youths from migrant backgrounds “constantly create and connect new passages between their Dutch, Moroccan-Dutch, Muslim, diaspora and youth cultural belongings” (2012, p. 353-354). The study of networks as sources of identification and empowerment by Fleur Prinsen and colleagues (2015) distinguished different types of network configurations that enabled youth different strategies for connectivity. The study broadened the discussions on networked identity, by showing how migrant background youth reproduced their largely ethnically homogenous networks online while also using the online domain to seek new contacts or “to shift and redraw community boundaries in order to fulfil their identity needs” (2015, p. 25).

The current dissertation focuses on the combined and interrelated effects of migration and digitalization on the learning experiences and perceptions of youth. The overarching questions that guide the studies in this dissertation are: What are the implications of the new forms of connectivity for how we should understand and study learning? (How) Do young people perceive the learning potential in their online networks? How do young people utilize (online/offline; human/media) resources for learning? How do background characteristics play a role in a) shaping personal networks (online and offline), b) utilizing resources? How do networked configurations for learning shape learning opportunities for youth?

The central ambition of this study is to capture Network Configurations for Learning as “the particular online and offline connections of divergent sociocultural individuals and groups” in a ethnocultural comparative framework (De Haan, et al., 2014, p. 23). By taking a comparative perspective on the personal networks and their patterns of access and use of information resources

of Dutch and immigrant background youth in the Netherlands, my aim is to not replicate existing stereotypical conceptualizations of youth or objectify these groups in terms of already established concepts. Instead I mean to explore and show the many ways young people can be a learner in today's complicated world informed by their ethnicity, gender, age, interests, motivations, technologies and resources they have access to. It is through this comparative perspective I empirically explore the claims from relatively recent learning paradigms (such as connected learning). While three of the four empirical studies presented in this book adopt a comparative perspective I also explore more in depth the case of Turkish-Dutch teens as learners. This empirical work also substantiate my analyses and reconsiderations of the assumptions of well-established notions of learning derived from sociocultural learning theory in light of digitalization.

GENERAL OUTLINE

Chapter 2 – Rethinking the notions of sociocultural learning theory in the digital age

Chapter 2 is an exercise in thinking about classical notions of learning in the digital era. Our point of departure is a widely acknowledged idea that online social networks, as ever expanding and shrinking collections of nodes and links, allow forms of interaction and learning that are fundamentally different from other media that 'carry' our interactions. So, we wanted to understand, first, how this new media is different. What are our affordances for communication and interaction when we are online, connected to each other through technology? How are these digital sites opening up new ways of interaction? Building upon the work of Castells (2004) about Network Society and of boyd (2010) about the 'bit-based nature' of digital environments we focus specifically on the affordances 'visibility, scalability, flexibility, and persistence' that significantly shape new possibilities to interact and, as such, to learn.

Next, we look at these affordances from a perspective of learning. The sociocultural views on learning were developed in an era when the current influx of technology and our newfound, expanded affordances were hard to imagine. The original works were based on and took into account dyadic learning relationships and communities of practice, but not, for instance, the crowds that scale-up potentially worldwide that also impact learning today. So, we ask for each affordance how they challenge the established ways we understand learning from a sociocultural framework (e.g., what does it mean that the

information we ‘post’ online, such as status updates, remain accessible for a lifetime?). We argue that the changing social dynamics today have consequences for the earlier concepts of teaching and learning. Earlier theorizations could not possibly anticipate the way our communication technologies have evolved and immersed in our everyday practices, but the core ideas are still relevant, robust and flexible at the same time to lend themselves for new insights. The chapter is based on literature review and no empirical data is presented.

Chapters 3 & 4 – Insights from the survey data

In Chapters 3 & 4 we tap into the large-scale survey data collected for the broader Wired Up project. The survey was conducted across seven secondary schools in the Netherlands (N = 1408) and it covered a broad range of issues aimed at understanding the influence of digitalization in teens’ lives. The survey instrument is created as part of the Wired Up project and the whole instrument is presented in Appendix A. For the processes of survey creation, establishing reliability and validity, the sampling strategy and the general findings based on the survey instrument please refer to the White Paper (Hirzalla, De Haan, & Ünlüsoy, 2011).

Chapter 3 - Learning potential in youth’s online networks: A multilevel approach

In the first study (n = 1227), our aim is to understand the structure and composition of online personal networks of teens in the Netherlands and to explore how teens use and perceive these networks for learning. We ask the following questions: (How) Does youth from different ethnic backgrounds differ from each other regarding the compositional and structural characteristics (i.e., homogeneity and density of networks, relationship characteristics) of their ego-networks? Which personal attributes along with online network characteristics can predict typical network activities associated with the learning potential in online social networks? And can these network characteristics predict the perceived learning potential in online social networks?

The chapter contains detailed descriptions of the online personal networks of teens in a comparative framework. It also shows how online network activities and, what we called, the Perceived Learning Potential in the networks are predicted by ego-level and network-level variables. In the multilevel regression analyses conducted for this study we use several personal attributes of the participants (i.e., ethnicity, school level, age and gender) (i.e., ego-level

variables) and several network characteristics, among others, homogeneity, density, geographical dispersion, and type of relationship (i.e., network-level variables) as predictors of network activity and perceived learning potential. The large sample size of the study combined with the analysis strategy allow us to draw broad conclusions regarding the ways in which young people structure and utilize their online social networks and the extent that this is comparable across different groups. The study also provides statistical evidence that studying online network activities merely based on the individual learners' characteristics is insufficient.

Chapter 4 - Navigating information: An ethno-culturally comparative study of teen's learning ecologies

In the second study (n = 962), our objective is to explore how teens navigate their learning ecologies in order to address various learning needs and which resources they prefer in this process. Again using the survey data, we present an overview of teens' preferences regarding information resources and how their personal network contacts, the Internet, and traditional (printed) resources are used to access different kinds of information. We address the following questions:

- How often do teens spend time on various new and conventional media?
- Which resources do teens utilize as they search for information on various interests?
- Which resources do teens utilize as they engage in digital production?
- When online in which language(s) do teens search for content (e.g., stories, instructions, music, animation, etc.)?

We study the above mentioned issues (i.e., media use habits, information seeking habits to address interests, information seeking habits in the production of digital user generated content, and information seeking habits in terms of linguistic choices) in a comparative perspective and check for each question whether ethnicity, gender, education level and age can predict the ways youth engage with resources, conducting a series of logistic regression analyses. The study shows how the information landscape is influenced by different background variables.

Chapters 5 & 6 – Insights from the Social Network Interview

The information in Chapters 5 and 6 are based on the Social Network Interview (SNI, see Appendix B). SNI was geared more specifically towards this study within the wider Wired Up project. An explorative pilot analysis of the interview data was done with the material of 10 cases of each of the groups and reported in Lecluijze (2012) and published in Lecluijze, de Haan, and Ünlüsoy (2015). In Chapters 5 and 6 I present descriptive quantitative analyses that characterize the personal networks of the participants (e.g., network size, density, and further characteristics of networked relationships), but more importantly I present qualitative analyses of the in-depth interviews about learning experiences as related to the networked relationships of Dutch, Moroccan-Dutch and Turkish-Dutch teens.

Chapter 5 - Challenging ideals of connected learning: The networked configurations for learning of migrant youth in the Netherlands

In Chapter 5, we present a detailed comparison of personal (online and offline) networks of the participants. We depict the networks of Turkish-Dutch, Moroccan-Dutch and Dutch teens in detail here and ask the following questions: How can the (possible differences between) online networks of immigrant (Turkish-Dutch and Moroccan-Dutch) and native Dutch youth be described, as related to their offline networks in terms of: the kind of relationships they contact (friends, family, acquaintances), the homogeneity of their networks (in terms of age, gender, ethnicity), the geographical spread, size and density of their networks? What (variety of) relationships and sub communities are indicated by youth in their networks that are relevant for their learning? What goals they pursue with these relationships and communities? (How) do issues of identification and belonging play a role here? What learning opportunities are perceived by these youth especially through their online connectivity? (How) do they perceive the internet as a space to explore? What possible boundaries do they experience when exploring the internet as a means for their learning, and how do they deal with them?

In this chapter, the main argument is that the new learning paradigms and the idea of a digitally connected and competent learner associated with these new paradigms requires a fine-tuning in terms of which resources and communities these learners have access to. We show distinct learner profiles of the three

ethnic groups of youth participated in the study. Based on the way youth engage with their near and far connections, in-person and virtual communities in their networks we introduce the notion of the “Networked Configurations for Learning” (NCL) and further elaborate the idea in comparison to existing ways to look at young people’s social arrangements for learning (e.g., communities of practice or affinity spaces).

The special status of this chapter within the manuscript, as a collaborative work of the Wired Up research team, should also be noted. I am not the first author of this chapter. However, the analysis of the network (interview) data, of which I was chiefly responsible, has significantly furthered the argument leading to the notion of NCL introduced here. The questions tackled in this chapter have been extensively discussed among us since the start of the Wired Up project and not only during the production of this specific chapter. Therefore I am also responsible of this work and feel authorised to use it as part of this book.

Chapter 6- Expanding the notion of global learning: Turkish-Dutch teens’ networked configurations for learning

This is a follow up study of what we present in Chapter 5. Here, we apply the idea of ‘Networked Configurations for Learning’ (NCL) as introduced in our previous work, to better understand the learning experiences and practices characterized in the personal networks of Turkish-Dutch youth and to show an alternative case of who a global learner might be. We present here how ethno-cultural influences, personal networks, individual characteristics and interests together shape Turkish-Dutch youths’ learning and socialization experiences; emphasizing the voice and perspectives of these teens. We argue that the study of personal network configurations provide a much needed fine-tuning for prototypical models for learning in the 21st century that largely view individual interest and agency as keys for shaping learning. We question whether it could be taken for granted that all young people have (an) interest(s) that they are passionate about; and what if developing individual interests is a collective endeavour and not an individual one in a particular culture? We show that the criteria for evaluating the value of a personal interest may not always stem from the individual alone, but from the collective(s) that the individual is part of.

Chapter 7- Discussion

The final chapter starts with a summary of the findings. I then move on to discuss the relevance of studying learning in the context of personal networks, the limitations and implications of this research project for practice and future studies.

Chapter 2

Rethinking sociocultural notions of learning in the digital era: Understanding the affordances of networked platforms

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² Author contributions: A.Ü. did the initial literature research and wrote the paper. K.L. and M.d.H. extensively contributed to the writing process and edited the article. *The study is conducted as part of the Wired Up research project designed by Mariette de Haan, Sandra Ponzanesi & Kevin Leander.

Abstract

To understand the affordances that networked platforms offer is a good place to start rethinking our notions of learning. The paper discusses how social connectivity has changed, arguing that networking and networks have become foregrounded in how we perceive and experience our (digital) social worlds. Our aim is to understand the nature of networked structures, and the networked practices that these have enabled, in order to shed light upon how they 'work' for learning. While making use of the concept of affordances, the paper discusses a selection of four affordances of digital networks (visibility, scalability, flexibility and persistence) and argues how these impact upon opportunities to learn through social media. The paper finally critically reflects on how sociocultural theories of learning are in need of expansion and revision, given social changes involving the rise of social media, but it also shows how this perspective leads the way in pointing to new challenges for theorizing learning.

Introduction

The evolution of the Internet from a static platform mainly for presenting and archiving information to a dynamic and social one has enabled over four billion people worldwide to interact with each other (Internet World Stats, 2018; Song & Lee, 2014). Millions of individuals as well as companies, governmental and non-governmental organisations and communities contribute to social networking sites such as Twitter, Facebook, and LinkedIn. These actors communicate through their online profiles unconstrained by geographical distances, crossing social and cultural boundaries with relative ease compared to the pre-internet era.

ICT-supported and digitally-networked forms of participation and interaction have significant consequences not only for how we stay in touch or communicate, but also for how we learn. Digital platforms enable a common ground for interaction that is not only open and low-threshold but also defined by digitally networked structures that allow particular kinds of connectivity. Digital networks, as ever expanding and shrinking collections of nodes and links, allow forms of interaction and learning that are fundamentally different from other media that 'carry' our interactions. The hypertextual structure of digital networks and their capacity for constant reconfiguration, for instance, have important implications for rethinking the connectivity or the kinds of social interaction that underlie most of our thinking about learning. How to best

leverage technological advancements to create meaningful learning experiences has been a central question against the backdrop of these developments. Yet, we have only begun to consider how these socio-technological changes relate to our development and learning as individuals and as societies more fundamentally, and how we should rethink earlier concepts of learning and instruction.

In this paper, we argue that understanding the affordances offered by networked platforms is a good place to start rethinking concepts of learning. Our aim is to understand the nature of networked structures, and the practices that these have enabled, in order to shed light upon how they work for learning.

Situating ourselves in sociocultural approaches of learning, we ask what these new insights about networks mean for how we should conceptualize learning. While classical theories of learning have focused on individuals and their internal psychological processes – informed by behaviourist, cognitivist, information processing and other models – sociocultural approaches to learning have emphasised the social and distributional nature of learning (Cole & Wertsch, 1996; Vygotsky, 1978; Wertsch, 1985). From a sociocultural perspective, learning is explained by accounting for the complex relationships between history, culture, tools, communities and individuals. Most of the theoretical concepts in sociocultural theory on how learning happens, are based on observations of in-person interactions, dyadic relationships or small groups (e.g., Elbers, 1996). However, since social media altered interaction dynamics significantly, it is necessary to carefully evaluate the underlying assumptions of these concepts. The types of connectivities and possible interactions afforded by social media necessitate ‘a social media-age rethinking of Vygotsky’ (Churcher, Downs, & Tewksbury, 2014, p.33).

In the following, we reflect on how social connectivity has changed, arguing that networking and networks have become foregrounded in how we perceive and experience our (digital) social worlds. We discuss this issue while making use of the concept of affordances. How can we think of new learning spaces, shaped by social media, by considering the affordances such spaces offer to learners? A detailed consideration of select affordances will demonstrate how these affect opportunities to learn through social media. We see these affordances not merely as characteristics of technology itself, but as complex socio-technological practices that have evolved over time through use of these technologies. Finally,

we return to sociocultural theory to evaluate how the new affordances of social networks impact the way we conceptualise theory itself.

Affordances of new networked connectivities

Digitally networked spaces create new forms of connectivity. Hypothetically, we are able to connect anytime, anywhere and to almost any information or to anyone (boyd, 2010). These connections are not only interpersonal, but they can also entail ‘following’ public figures, news, companies, NGOs, concert and art venues or political parties and receiving regular updates from these resources. By enabling such diverse forms of connection, digital spaces that enable social networking also facilitate observing, tracking, maintaining connections, content consumption, production and reproduction, contesting ideas, and organizing and mobilizing resources, among other things. These characteristics make Social Networking Sites (henceforth SNS), inherently relevant for learning. In particular, SNS create new possibilities for interactive or more collective forms of learning due to new possibilities to share, solve problems collectively and generate more transparency.

We see affordances as simultaneously reflecting the inherent features of a technology, as well as how people interact with and interpret these features. We understand affordances as “properties of the world defined with respect to people’s interaction with it” (Gaver, 1991, p. 80 as cited in Graves, 2007). To define what we mean by digitally networked practices, we refer to the services provided by SNS. These sites “allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (boyd & Ellison 2007, p. 211). Currently, SNS are also defined by a fourth point, the use of social plugins, or social media buttons that allow the user to ‘like’, share content, comment and interact with others on the third-party websites ranging from online news portals, to online shopping sites or weblogs. Together these four points reflect our understanding of SNS – that is, any and all websites designed mainly to maintain social relationships and that enable the above-described services.

Sociologists have argued that our social systems and the way we function in these systems have changed due to the increasingly digitally networked state of

the world. Although most of these arguments apply to the society as a whole, they are equally applicable to more specific network formations, such as those formed on SNS. In Castells' work (2004) on the network society the advent and global spread of 'networks powered by microelectronics-based ICTs' signifies the start of a new kind of social structure. He argues that networks as a form of organisation influence all domains of social, cultural and economic life around the world, as well as processes of power, production and participation. Castells claims that networks are advantageous forms of organisation – in comparison to hierarchical forms – because of their flexibility, scalability and survivability (Castells, 2004, p. 5). Castells (2004), in seeking to understand the changes societies have undergone after the information technology revolution, argues that networks now have become the main and most efficient form of social organization, over, for instance, the more vertical, hierarchical organization of the industrial society. In his argument he stresses the vital role of ICT's in enabling an infrastructure in which networked systems can flourish. The extension and augmentation of human interaction is empowered by information technologies, which are increasingly diffused throughout "the entire realm of human activity" (Castells, 2004, p.7) but also able to reconfigure and reprogram communication networks. Networks are thus essentially flexible and endlessly reconfiguring.

Castells is relatively brief in his explanation of the core qualities of social networks he considers relevant: flexibility, scalability and survivability. Flexibility refers to the ability of networks to "reconfigure according to changing environments, keeping their goals while changing their components". Scalability is the capacity of networks to "expand or shrink in size with little disruption". Lastly, survivability indicates networks' lack of a centre: Networks "can operate in a wide range of configurations", they "can resist attacks on their nodes and codes because the codes of the network are contained in multiple nodes that can reproduce the instructions and find new ways to perform" (Castells, 2004, pp. 5-6). Networks are self-organizing, pervasive, adaptable systems: A meta-level organisation that is larger than the sum of its components. Castells describes these qualities based on an abstract notion of social, technological, economical systems organized and supported by digital networks.

boyd (2010) has examined different aspects of social network sites, primarily from an ethnographic perspective, while conceiving SNS as a genre of

“networked publics”. She understands networked publics as (imagined) collectives that are restructured by networked technologies, and inhabit a particular networked ‘space’. Networked publics are particular forms of publics, structured by technology, which means that they have particular characteristics. In other words, networked publics are shaped by particular affordances of the network technology. We draw on her work not only to extend what Castells says about the affordances of networks, but also to expand this discussion from a more ethnographic perspective. Boyd’s ethnographic perspective, often related to the production, distribution and consumption of information from literacy research, offers important insights that have implications for individual learners, while Castells’ perspective is much broader and refers to the nature of social structures more generally.

Although boyd talks about the ‘bit-based nature’ of digital environments, focusing more on the nature of information rather than the nature of networks, her goal is to show how the properties of bits inform the particular networked dynamics of these ‘publics’. Others have also identified the affordances of social media technologies in different domains, such as Leonardi and Treem (2012), who identified how these technologies allowed individuals and organisations to alter conventional practices and other forms of computer-mediated communication in business and organisational settings. They identified four affordances – visibility, persistence, editability and association – based on a systematic literature review of social media use in organisations.

Below, we present a selection of the affordances of networked technologies, we consider especially relevant for the new socio-technological contexts for learning: Visibility, scalability, flexibility, and persistence. While this is not an exhaustive list of such affordances, these four dimensions significantly shape new possibilities to interact and, as such, to learn. Since affordances are inherent features of the technology as well as how people interact with and interpret those features, and since such interaction is continuously generating new socio-technical practices, it is impossible to pinpoint the precise affordances of digitally networked practices. Moreover, the networked structure is only one way to evaluate how digital technologies work for learning. Yet, we believe that thinking through the affordances of networked technology is a fruitful tool to reconsider notions of learning heavily based on social interaction, given their implications for the form these interactions are able to

take. We introduce these dimensions and outline various compatible interpretations from the literature, and then discuss what these dimensions allow learners to do within the context of learning, when possible with empirical examples.

Visibility

What we can see in a physical environment is defined by our visual field and “the spatial and temporal properties of here and now” (Thompson, 2005, p. 35). What we see in social media, however, is always through a screen of a computer or mobile device, and always embedded in the social, physical context in which we are located. Social media reveals connectivities and content, such as (common) friends or interests that are normally not visible in physical settings, thus turning connectivities into explicit, traceable and measurable information (Castells, 2004). Increased visibility into behaviours and (personal) user-generated information also separates social media from other technologies (boyd, 2010; Leonardi & Treem, 2012). A good example is this brief video (WebSonic, 2014), which shows the world map based on the 201.6 billion friend connections on Facebook formed since February 2004. We can see ‘who is connected to whom’ at a scale and level of detail not available prior to social media. The new connectivities and their visibility are crucial to understanding the ‘terms and conditions’ that apply in the contemporary world, to interpret our world and to understand our place in it.

The added value of ‘illustrated connectivity’ is that individuals are now able to see a collection of connections: those with whom they are ‘friends’, ‘friends of friends’ or ‘would like to be friends’ (boyd & Ellison, 2007). This knowledge is not only about a display of connectivity, but also about observing how these people present themselves in SNS – their ideas, preferences and interests as they are shared in-person and/or with a broader audience. Ideas and interests are expressed, lessons learned ‘happen’ and are revealed not only in a much wider social realm than before, but digital technology also provides maps, stats and overviews that show, often publicly, through which relationships and networks these are picked up, shared and appreciated.

What do these changes in terms of visibility mean for learning? The expanded visibility enabled by social media serves a couple of functions fundamentally related to learning. The first has to do with exposure to the vast amounts of

information publicly visible in networks. Thompson (2005) observes that our ability to acquire information about others and symbolic content from sources other than our immediate contacts and our access to 'non-local knowledge' is increasingly incorporated into our self-formative process. There is some empirical evidence supporting Thompson's argument, such as anecdotes from students about their use of social media for learning, as reported in Mao (2014), revealing that, on social media, students think they get help from more people than they would offline. Some students also mention the importance of encountering diverse perspectives on life in social media for their personal development (Mao, 2014). Studies that focus on migrant youths' learning and literacy practices reveal that social media indeed facilitates the ability to see information beyond one's immediate localities and connect with people from migrant backgrounds with multiple homelands (e.g. Lam, 2014; De Haan et al. 2014).

Visibility not only applies to content, but also to the resources and relationships that generate or circulate this content. This affords learners the chance to navigate and orient themselves within social media and presents learners with options regarding the kinds of content, people or groups available with which to associate for a given subject (Leonardi & Treem, 2012). Like a sociogram can create insights into the social dynamics of, for instance, a classroom, social media allows learners to see flows of information between different actors at a scale that can expand to the global level (as demonstrated by the video example above) and is available at different levels of detail. Learners can map online networks and explore which actors (individual or otherwise) are most influential in creating connections and bridging between diverse groups of people, or they can see who is excluded, what subjects are trending or which languages are used (Leonardi & Treem, 2012). This helps learners to locate information or communities of interest, but it also helps to understand how knowledge is socially valued and in which communities what knowledge is used or appreciated.

Researchers have argued that mapping information flows, interaction patterns and frequencies also means analysing the characteristics and predicting the processes of networks (Haythornthwaite & de Laat, 2010). It is possible to observe how (personal) network configurations differ from each other and how various network configurations function for knowledge creation and circulation

(e.g. how family-based and dense networks function differently for gathering knowledge than less dense peer networks; see De Haan et al., 2014). For individual learners this means that they have more possibilities to 'see' their own networking potential related to others, which might be used to consciously build their networks to have access to knowledge or learning experiences of their choice.

Scalability

Castells (2004) relates scalability to the easily variable nature of a network's size and spread. Technically scalability is the capacity of a system to accommodate growth (or decline) without hindering the system structure or performance (Bondi, 2000). Multiple variables define the scalability of social media, including how online interactions are spread out according to geographical, cultural or social factors; the simultaneous embeddedness of interactions in both online and offline contexts; and the multiplicity of tools (e.g. software programs, mobile devices, and the infrastructure that connects these technologies) that collectively create and facilitate social media. This multidimensionality draws attention not only to the technical aspects of connectivity, but also to how the content is organised and circulated and how boundaries between aspects or variables cross or overlap.

Kraemer (2014) further complicates the issue of boundaries of geographical scales and social contexts. She shows that the networked spaces and networking practices are of multiple scales that operate simultaneously, while she notes that geographical terms like local, national, or global are being reconstructed by everyday online practices. People's participation in multiple networks on social media transforms how they define and experience the local, regional or the transnational as spatial scales (Kraemer, 2014). boyd (2010) adds to these complications by pointing to the sometimes unpredictable route that social media content take and to how content may scale up unexpectedly in networks and suddenly receive great, sometimes unpredicted or unwanted, attention. She also notes that amplified content is determined by broader collective choices and is not always what individuals would like or anticipate receiving attention (e.g. seemingly insignificant or bizarrely funny content and actions). Scaling interacts with the social practices of media use in ways that can be volatile and beyond the control of individual agents.

What do these changes in scalability and the multidimensional aspect of network scales mean for learning? In conventional learning settings, content is often prepared for a specific population, keeping in mind the duration of the lecture or meeting and the capacities of the location (e.g. the available technical equipment). If this content, such as a lecture presentation accompanied with slides, is digitised and shared on social media, the 'original' parameters relevant for the offline context may become barely discernible or even irrelevant. What applies instead of the 'original' parameters is the capacity of digital networks to scale the content up and down, and simultaneously operate on different scales. Online, this content can potentially find its way to a global audience and it can be appropriated to be used in other contexts. It can be made popular by others who take interest in the subject, who refer to or comment on it and share it within their personal networks. Learners 'make' the content travel as they share or search for it, and through this trajectory they make it available for multiple other interested individuals. Online content crosses communities, digital infrastructures and online and offline spaces.

Scalability weakens spatial, temporal and even cultural boundaries; automated translation functions can even reduce language barriers. Scalability makes online content and communities – as well as the learning opportunities these might provide – relatively 'independent' from familiar space-time constraints. Through sharing and seeking content related to a common interest, people find each other, collaborate, discuss, provide support or organise events more easily than before (Dabbagh & Kitsantas, 2012). People are also able to assist each other with on-demand guidance, support or information at multiple scales (Leander et al., 2010; Rainie & Wellman, 2012). There are many examples that display the reach of content and people across the globe for help and support, teaching and learning from each other. Tutorials on YouTube from cooking to photo editing, for example, can come from and reach to anyone, anywhere and stir a conversation through public commentary.

Flexibility

According to Castells (2000), flexibility is 'essential for managing tasks in a world as volatile and mutable as ours' (p. 695). He compares centralised, hierarchical forms of organisation with networked systems supported by ICTs. The former tend to be rigid, and effective distribution of resources and execution of tasks are highly dependent on hierarchy and central organisation. Networked

systems, according to Castells, are rooted in the ideal of free and open technical innovation and are built on a decentralised, multi-directional and open infrastructure. The resulting systems are flexible and are able to coordinate purpose and decision-making while adjusting in a de-centralised way, thus preventing collapse. They can easily shrink or grow and enable people to autonomously operate in variable conditions. Likewise, SNS can easily shrink and grow, as these online networks are open for anyone to join or leave freely.

When navigating online networks, the hypertextual and thus decentralised, multi-directional structure enables users to explore non-linear and non-sequential paths in the discovery of digital content (Cousin, 2005). This virtual, digital network space is overwhelmingly rich with content. It is growing each day, so users can explore it forever, encountering new information on any possible subject. Users can, however, 'tame' this vast space according to their preferences, which is also an aspect of flexibility. They can organise and prioritise contacts and/or content, taking on the role of curator, or change the interface and certain design aspects of their network page (e.g. Dabbagh & Kitsantas, 2012). Using personalisation, users interact with a system that processes their information and can reconfigure itself and 'learn' from this interaction (e.g. Castells, 2004), although it would be naïve to claim that social media services and content are entirely controlled by their users, given the commercial nature of the companies providing these services (e.g. Facebook).

How does the flexibility of networks work for learning? The flexibility of network systems in general and social media in particular, induces relatively 'open' learning settings, in which learners are not set to follow a prescribed path as in conventional learning environments. The hypertextual structure of the internet offers multiple exit and entrance paths to users' learning interests (Cousin, 2005). Through clicking on links and navigating the internet learners encounter different content, ideas, and worldviews which can make the learning experience relatively more heterogeneous (Cousin, 2005). This also puts pressure on learners to make sense of and take a position in the midst of multiple perspectives. Learners can, however, design their online network profiles such that the most interesting and relevant content and updates from prioritised connections are readily available (Dabbagh & Kitsantas 2012). Personalisation ensures that learners receive and can access content that is most important for them, but perceiving the consequences of flexibility solely

from the individual learner's perspective is insufficient, as networks always involve multiple other users (learners) and 'smart' software that co-determines the content and shapes the environment. In this sense, social media is not a 'background "upon" which human activity is played out', but rather provides spaces that provoke learners to think, act and interact (Leander & McKim 2003, p. 212). Social networks have the potential to be provocative spaces in which learners are challenged to approve or dismiss the visible information, or to evaluate and react (individually or in groups), which makes such networks important for stimulating thinking or discussion.

Persistence

The last attribute we address, persistence, is technically more related to the nature of digital content and to bits as the 'building-blocks' of this content. Social media is communication written in digital code, and this directly affects the persistence of social connections and networks. The 'writing' becomes interface content, which is everything that a network user would see once they log in to their account, including texts, photos and videos, but also connections like friendship requests. Beyond the surface, this bit-based content travels through the grid between user accounts. Unlike the ephemeral character of face-to-face interactions, the content of digital networks is recorded and, often by default, publicly displayed (boyd, 2010). The content persists when and where it was posted, so the content is accessible asynchronously. As time goes by, social media accounts thus turn into personal archives of the continuities and discontinuities of our digital lives, relationships, interests and preferences as we construct them online.

Persistence does not, however, mean that the content or the connections remain unchanged or anchored in time and space to the point when and where they were posted: social media content is also editable and replicable in nature. An online conversation thread could potentially go back years, and it is possible to read all of it and see how the conversation evolved or search for a specific dialogue within it. It is also possible to multiply the conversation by copying and pasting it somewhere else or to edit its text or its form by assembling and mixing the text with visuals, for example. Online memes – digital artefacts that often use text, visuals, icons, popular culture references or quotes – are good examples of editable and replicable online content. Memes often circulate on social media, and they are reinterpreted and modified by those who use them

(Knobel & Lankshear, 2007). Although we are aware that editability and replicability afford different possibilities for users, and therefore could be treated as separate affordances, we foreground persistence, and discuss them in this relationship here, because both relate to the idea of how content endures over time, how modification and re-interpretation (in editing processes) and repetition (in copying processes) function together.

How does the persistent content of networks function for learning? Social media content such as comments to a post, conversation threads developed among peers or retweeted content altogether constitute a personal history. Not only does this content provide clues about the current interests of the learner, but also about his/her progress, collaborations and transformations of ideas, experiences and self-expression over time. This aspect is also directly linked to memory. Through social media technologies users receive nearly continuous collections of memory cues, which might lead to individuals actively managing their memories in the near future (Davies, et al. 2015). Davies and colleagues (2015) describe a number of scenarios of how social media technologies might reinforce learning by triggering or aiding memory during gaining a new skill (language learning) or solving a problem.

Editability and replicability have different implications for learning. Editability allows learners to take their time crafting a message before it is posted online, as is the case in stand-alone editing on a computer. In social media settings, however, learners can change or edit content even after publication (Leonardi & Treem, 2012). Sometimes multiple people can simultaneously work on the same content, and all changes are automatically logged for others to see, as in wikis. Content replicability ensures that the content is easy to disseminate and find online. One-click plugins make replicability on social media even easier, and this allows learners easily to gather information from different resources.

Editability and replicability are valuable capacities, because they make possible active and creative engagement with the content, which combined with the relative short cycle of editing-publishing and re-editing, offers unique opportunities for reflection on content, for the curation of content assembled and for the expression and circulation of ideas. This may also complicate the distinctions between copies and authentic content (boyd, 2010), making it easier for learners to create deceptive messages or commit plagiarism. This is an important challenge for learning (especially in formal settings) that entails

issues of credibility and authenticity of information and the accountability of individuals.

Discussion: How do these affordances challenge us to rethink sociocultural theory?

Acknowledging the core hypothesis of sociocultural theories – that the psychological make-up of individuals is largely based on and mediated by their observations and participation in common activities and practices of the culture – we can assert that, likewise, when people engage with social media, it becomes part of their psychological make-up. This seems especially valid for the younger generations of learners who are born into the world surrounded and operated by these technologies and who thus have long personal histories with them, especially during formative learning periods. The existing models of learning, formulated in an era without these technologies, do not do justice to the affordances these offer to learners, nor to the prospects for how new technologies and networks are transforming individuals as learners. As we have argued before (in Ünlüsoy et al., 2013), to understand new forms of widely distributed activity, a network perspective on learning is useful and provides a fruitful expansion of activity system approaches. While activity or functional system approaches to learning have served a significant role in conceptualising system-wide mediation in processes of learning and identity (e.g. Barab, Barnett, Yamagata-Lynch, Squire, & Keating, 2002; Cole & Engeström, 1993; Prior, 1998), forms of activity involving new media and technologies pose challenges for systems approaches. Below, we elaborate on these claims by rethinking sociocultural theories on learning from the perspective of the affordances of digital networks.

Visibility as an affordance of digitally networked platforms, translates into different practices and levels of ‘seeing’ and access, signifying that we not only have multiple possible connections available, but also that our connections to each other become explicit, traceable and measurable structures when they are replicated online. For instance, a video clip of a tutoring session placed on YouTube would be one out of many that are available for individual learners when they would navigate their networks. And learners would be able to see these kinds of learning options by the access they have of how they are connected to others online. As argued, this expanded affordance in practice

multiplies the options of learners and allows them to make more conscious choices for particular resources and relationships.

The notion of visibility has been written about in sociocultural and practice theory in different ways, including the idea of transparency and opaqueness of learning within the realm of apprenticeships. Lave and Wenger (1991) focus on processes of learning and their relative visibility, particularly concerned with relative (in)visibility as a sociocultural concern. Generally speaking, a rich learning environment could be conceived as one in which formerly invisible processes, relationships, and resources are “materialized”—are taken out of the realm of either private knowledge or abstracted ideas and put into material form. SNS expose a great deal of information that would otherwise only be accessible to particular social circles, with certain forms of expertise or within certain shared geographical locations. Visibility also occurs through discussions of social groups engaged in knowledge-making, and these discussions may appear in many different modalities (e.g. writing, video, images). In face-to-face social practices, or those discussed in Lave and Wenger (1991) involving craft apprenticeships, such discussions were more localised to specialised communities, less recorded and less present in multi-modal forms. Visibility and accessibility go hand in hand.

New challenges for learning are less concerned with invisibility, however, much more focussed on the problem of how to manage and organise an overwhelming flood of resources. In networked learning, new capacities for curating resources (e.g. locating, organising, making selections) are key. A shift from an information scarcity model to an information overload model has taken place (Jenkins, Ito, & boyd, 2015). New critical problems of invisibility have also arisen with social media such as monopolisation of media channels by a few media monopolies (e.g., Google and Facebook) (Taplin, 2017) or algorithms that track people’s online preferences and habits and accordingly shape their media-content with suggestions (such as on YouTube) (Narman & Atiquazzaman, 2015).

Scalability allows the network in which a resource is located to shrink and grow, scaling up and down. Being easily scalable weakens a network’s spatial, temporal and even cultural boundaries. In practice, this movement allows learners to share and seek content or networked communities with similar interest more readily than before. Scalability is perhaps the greatest challenge

for sociocultural theory with respect to learning, which has tended to associate learning with individuals or small craft communities, and less so with entire institutions. While learning-on-the-move studies are proliferating, many of which draw from sociocultural inspiration (e.g. Sefton-Green & Erstad, 2017), the highly scaled-up learning community is largely unexplored, as is the idea of the ways in which learning scales up and down, and what these different scales and their movements might mean for a social and cultural view of learners who are changing in relation to a network.

As with the discussion of visibility, we believe that the dimension of scalability shifts the problem for learners from the earlier formulation of context (e.g. determining the 'situatedness' of information within a context) toward a newer, more complex and more open problem of 'moving' information and knowledge across multiple scales. 'Scaling' knowledge through new tools and networks permits learners to (re)consider knowledge across temporal and spatial scales that were previously inaccessible. How do some actors or agents appear at one scale and then disappear at another? The learning process of scaling does not eliminate the need for the more basic processes of contextualisation, but it greatly complicates this process by multiplying the number of relevant contexts and requiring learners to consider what kinds of effects might move across contexts (e.g. Lemke, 2000). The process of scaling-to-learn may also be described as a new social practice of learning in networks, involving understanding the myriad ways in which scaling is possible, including through spatial information on maps, network analysis, analysis of big data, historical analysis of particular moments and information archived online.

Flexibility allows media to travel and creates infrastructure that is decentralised, multi-directional and open. When navigating online networks, a decentralised and multi-directional structure enables users to seek, explore discover media in a non-linear and sometimes unexpected way. The flexibility of social media environments also makes it possible for a particular learning video to appear as a suggestion for one learner, while another learner might encounter it relatively randomly – through a completely unpredictable path. Learning thus becomes unexpected and unpredictable – emergent. This is in contrast to earlier images in sociocultural theory, where learning and teaching have been presented as relatively manageable and designable.

Flexibility challenges schooled versions of learning, and perhaps the 'schooling' of sociocultural theory, as much or more than any other dimension. While the idea of separating the practice of learning from any necessary or required practice of teaching has been formulated for a number of years (e.g. Lave & Wenger, 1991; Maier & Valsiner, 1996), reconsidering the 'object' of learning as shaping a particular direction seems fundamentally necessary for thinking about mediation. However, with networked media, the specific endpoints for a learner's engagement are often more diffuse, changeable and difficult to manage or contain by either the learner or the mentor. The openness and multi-directionality of networks affords, and even encourages, divergence. Such forms of divergence may come into conflict with schooled desires for convergence, where students' journeys are directed towards teacher endpoints or designs for learning. Flexibility creates learning situations that are much more improvisational, more given to emergence, and more given to lines of flight away from prescribed directions and towards unpredictability. Thus, the outcomes of learning are more difficult to determine, and the possible lateral connections can be at once rich, broad, and messy. This may be a poor fit for more settled and systemic views that assume learning is a form of preparation for known forms of activity (e.g. labour). What networked activity amounts to, in learning, can only be seriously reduced if we measure such learning by a pre-network, modernist perspective on what is known and where such knowledge is located.

Persistence allows, for instance, a particular YouTube video that was publicly available at one point, and later deleted, to be linked through and archived in personal online spaces. Such personal and collective archives serve important functions as external memories for learners and can function as extensions of culturally organised memory, which in sociocultural theory is opposed to natural memory (Vygotsky, 1978). Instead of just extending the operation of memory beyond the biological dimensions of the human nervous system and becoming collectively shared tools and signs, these digital archives become mediated memories characterised by an almost continuous presence that potentially changes the memory work of individuals (see also Säljö, 2012 for a similar argument).

What does it mean to have ongoing access to a record of one's life or learning pathways? The dimension of persistence relates to sociocultural theory in that

the historic production of personhood – what Holland and Lave (2001) call ‘history in person’ – is now made available as an online, ever-present resource for reflection, consideration and connection to the present. Through social media technologies, users receive nearly continuous collections of memory cues, which are already leading individuals to actively managing their memories. A concrete example of this is Facebook’s ‘On this Day’ feature, which was implemented in early 2015. With this feature, Facebook users are presented, through an algorithm, with something they had posted ‘on this day’ one, two or perhaps several years ago (the ‘Year in Review’ is an annually available tool with a similar function). This representation is offered up to the Facebook user as something they can decide to publicly re-post or not. As a memory prompt, the technology has no real ability to discriminate between preferred and deprecated parts of one’s past: all past postings are considered fodder for nostalgia. Some popular media reports of reactions to ‘On this Day’ have included traumatic reactions to past photos of friends who have since committed suicide, marriages that have ended in divorce or pets that have died (Dzieza, 2015). Important for the study of memory and social media, none of these postings and associated memories were ‘called up’ by the individual person or their social relationships. Rather, memory – as nostalgia – functions via the application and its algorithms. Persistence thus does not mean that the archives of the past cannot be re-interpreted and even revised – the label itself is perhaps misleading, as persistent archives in networks are most interesting not merely because they are present, but also because they are editable. The capacity to have access to, but also to combine and edit records of the past opens up possibilities for learning and identity work that could not have been imagined by those developing sociocultural theory with a more static and linear view of history and the movements of people over time.

Across the affordances we have discussed (visibility, scalability, flexibility and persistence) we have approached the potential of social media for learning rather optimistically, focusing on the increased possible connections or options available or the flexibility in different available roles as a learner. We are also aware of the many challenges in perceiving and using the pedagogical capacities created by social media. Perhaps the most important developmental process or threshold for learners to cross in leveraging social media for learning is perceiving how these affordances function. It is crucial, however, that the

broader social context, including formal schooling, acknowledges and supports the use of these affordances (Day & Lyod, 2007). The (over)abundance of content in social media can also be a constraint on learning – there may be real limits to the possibilities of diversion we have discussed previously. The possible use of (mis)information (e.g. rampant reports of ‘fake news’) and misrepresentation of one’s expertise further complicates the notion of learning in networked spaces. Another significant issue concerns the old and newly defined social divides amplified by the use of these technologies (or the lack thereof). For willing or non-willing non-participants of social media, the possibilities to be seen and heard in the offline world are significantly reduced (Castells, 2000). Despite social media being open to participation, it is not and has never been independent from the biases and inequalities of offline spaces, including the divisions around gender, age, race and socioeconomic status (boyd, 2010).

Conclusion

We are still at the early stages of understanding how learning is afforded by new digitally networked practices and how the evolution of the Internet is shaping and redefining the possibilities for ‘self’ formation. Creating more insight into how this might work is of key importance for the learning sciences, particularly as we start to realise that many of our theories are still based on learning in environments and settings that deviate fundamentally from these digitally networked practices. Our contribution to this question is inspired by analyses of the socio-technological affordances offered by networked platforms. Looking at how the ‘nature’ and characteristics of digital networks have enabled digital practices that can be leveraged for learning leads to the more general question of how the Internet enables new ecologies for learning, and thus how we should rethink our conceptualisations of learning and teaching. The changing social fabric has particular consequences for prior concepts of teaching and learning that are based on how particular types of social relationships mediate learning, as in the case of sociocultural approaches of learning. It might be less relevant for concepts of learning based on, for instance, attention or memory without such explicit theorisation of the relationships between the social fabric, learning and cognition.

Although we have pointed out how earlier notions of sociocultural theory are limited for the task of imagining the learning that takes places in digitally networked spaces, our analyses has also pointed to continuity in theory formation. The idea that digital networks are easily scalable and weaken a network's spatial, temporal and even cultural boundaries – and thus in contrast with the bounded nature of a one to one tutor-tutee or a classroom situation – is in fact a continuation of the earlier critique that our theories of learning tend to ignore how learning extends and is distributed beyond particular settings of learning and teaching (Salomon, 1993).

Our analyses also show the relevance and robustness of a sociocultural perspective on learning, as for each of the affordances it is possible to point to new challenges for learning that derive directly from how digitally networked structures allow or obstruct certain practices that are key for learning. By pointing out the capacity of networks for constant (re)configuration or their hypertextual and horizontal structure, for instance, it not becomes clear that models for learning and teaching based on hierarchically organised and fixed interactive structures do not represent what goes on in these digitally networked learning ecologies, which yield new challenges for learning in coping with divergence, improvisation and unpredictability. Sociocultural perspectives remain relevant for insight into how new social infrastructures pose new challenges for learning, and we hope our analyses can point the way for new considerations.

Chapter 3

Learning Potential in Youth's Online Networks: A Multilevel Approach

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³ Author contributions: A.Ü., M.d.H., and K.L. designed the research. A.Ü. collected data in collaboration with colleagues and research assistants. A.Ü. analyzed the data, wrote the paper, M.d.H., and K.L. supervised the research, edited the text and B.V. gave advice regarding the design and analysis of network data.

* The study is conducted as part of the Wired Up research project designed by Mariette de Haan, Sandra Ponzanesi & Kevin Leander.

Abstract

Networked learning is currently gaining more attention in the study of digital learning. Little attention has been paid to informal networks outside educational institutes. The current study contributes to this knowledge gap by researching the personal online networks of both immigrant and native youth in the Netherlands while focusing on how youth experience these networks in terms of learning. We mapped the online, personal networks of youth from various ethnic backgrounds and education levels living in the Netherlands. We investigated how these networks mediate learning according to participants' perspectives and whether all youth populations make equal use of their networks' learning potential. We applied an ego-network approach and collected information from 1227 participants (aged 12-18) regarding their online network contacts (e.g., age, gender, location) (in total 6135 contacts) and their interactions. Multilevel regression analyses were conducted respectively to measure the impact of individual and network-characteristics on network activities and to see whether network activities predicted perceived learning potential. The results support the relevance of a network perspective for the study of online learning. The divide between the variances of our two dependent variables - network activities and perceived learning potential- underpin that if we want to understand how young people learn in digital environments, merely looking at the individual level is not enough. Furthermore, the study showed that dense networks, with similar others and strong bonds with online contacts were fostering the perceived learning in networks, although certain patterns also significantly differed per group.

Introduction

Youth around the globe frequently visit Social Networking Platforms (SNPs) such as Facebook, MySpace, LiveJournal, Reddit, YouTube, Twitter, etc. This rich variety of SNPs, the increasing technological possibilities to access them -mobile or otherwise- and demographics regarding online activities indicate the popularity and significance of these platforms in young people's lives (e.g., Madden, Lenhart, Cortesi, Gasser, Duggan, & Smith, 2013). Youth often make use of SNPs for social purposes; they replicate their existing offline social relationships on these platforms, but also meet new people and make connections beyond their local communities (Ito, et al., 2010). In terms of socialization SNPs provide a space for young people to safely explore their peer culture, to give and receive feedback regarding digitally constructed self-representations, and to show and seek affection, affirmation and acceptance (Larsen, 2007). These networked spaces are as varied as their friends' profile pages, profiles pages of political parties, sports' and fandom clubs and so on.

While youth explore SNPs they are often exposed to a wide range of information and a variety of resources which are claimed to be indicative of the learning potential that SNPs offer (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2006; Jones & Steeples, 2002; Lankshear & Knobel, 2006).

Studies that make an explicit connection between learning and networking platforms often focus on formal learning e.g., virtual learning environments, online distant courses (e.g., Hodgson, McConnell & Dirckinck-Holmfeld, 2012). Studies that focus on youth cultures and learning often include the role of SNPs, but again mostly focus on how the academic learning is enriched by utilizing SNPs (e.g., Erstad, 2005; Erstad, Gilje, Sefton-Green, & Vasbo, 2009; Kumpulainen, Mikkola, & Jaatinen, 2013). These studies show that youth use SNPs and other Internet knowledge facilities (e.g., wiki's) often for school-related learning and that schools increasingly employ these platforms to promote and improve collaboration among pupils. However, the potential benefits of SNPs for learning go beyond the fulfilment of academic requirements; emerging online social practices such as the collective tagging of information (e.g., Reddit) or altruistic knowledge sharing (e.g., wiki's) are increasingly common practice for most youth. Youth have more agency than ever to be connected to the world, share ideas and experiences, develop and show expertise in their respective fields of interests (Ito, et al. 2013). Unfortunately, this informal learning potential is hardly acknowledged by educators and parents, while youth themselves increasingly realize that tapping into this potential effectively, is giving them access to self-directed, life-long learning.

Since SNPs are not specifically designed for learning or teaching purposes they lack formal instruction and assessment. There are no clear-cut measures to show that people learn from participating to these online networks. However, there are endless opportunities for interaction with other people and artefacts, and for participation in a wide range of communities that can provide expertise or can serve to explore new interests or knowledge. People can ask questions, give feedback, explore interests, inspire others, create, edit, circulate and comment on all kinds of digital content and artefacts (Lankshear & Knobel, 2006). From the perspective of sociocultural learning theories such environments can provide relevant and valuable learning opportunities (Erstad, 2012; McLoughlin & Lee, 2007).

Sociocultural approaches to learning, in line with Vygotsky's ideas (1978), provide the base to understand learning as a situated and social phenomenon that is inseparable from the sociocultural context in which it occurs (Wertsch, 1998). In this view learning occurs as a result of the interaction between cognition and culture when an individual engages in the culturally defined activities with social others (Lave & Wenger, 1991). Vygotsky claimed that our interactions with the 'external' are the starting point of all internalized or individually appropriated knowledge and skills (Cole, 1996). These interactions are always mediated through the available psychological, cultural and material tools (e.g., language, signs, symbols, items in the physical surrounding) (Cole & Wertsch, 1996). We are, and our learning is too, always informed by the tools available to us while we (inter)act with the world. In the digital era, the notion of mediation gains a new meaning. Digital tools, like any other cultural tools, mediate our self-representation, communication and understanding of the world. However, the networked nature of these tools, as well as the activity systems that build upon them, ask for a rethinking of mediated activity and how new forms of mediation shape individual learning, social change and development (Leander & Haan, 2010). The current study claims that both the SNPs and the technological materials to access these platforms (i.e., computers, mobile phones) are embedded in the contemporary youth cultures as mediators that promote unique learning opportunities.

In order to understand how SNPs facilitate learning from a sociocultural perspective we need to take a closer look at the interactions that are generated by SNPs. Although the technical affordances SNPs offer are crucially important, these interactions depend on and are also shaped by the people who are engaging in the interaction. There are some common elements of online networking platforms that create specific patterns of interactions (boyd, 2008; McLoughlin & Lee, 2007). SNPs require a 'profile' i.e., a personal page with some information about the individual such as tastes, friends list as well as digital artefacts like photos uploaded or shared by the individual. Profile pages are a means for youth not only to exhibit their digitally constructed selves, but also to observe that of others (boyd, 2008). SNPs enable its users to comment on shared items, users can edit these items and communicate about them with others within their network. By engaging in these interactions youth actively contribute and shape the content of SNPs, they gain social and communicative

skills and develop digital literacies (Gee, 2004; Lankshear & Knobel, 2006). The possibilities to share ideas with each other, ask questions, give advice or feedback are abundant in SNPs (Ito, et al., 2010; Jenkins, et al., 2006; Larsen, 2007) and the content of these interactions may vary from the latest 'cute cat video' to promoting an important social cause (Cohen, 2009).

The interdependencies between individuals and their networks also play a significant role in structuring the learning experiences of young people and defining, to some extent, the kinds of online interactions and information flows that take place in the SNPs (Diepstraten, du Bois-Reymond & Vinken, 2006). While in theory SNPs might facilitate rich opportunities for learning, in practice not every person's network is rich in resources; the content of the circulated information, the frequency of interactions may vary substantially between people. And, there is evidence that this difference also is shaped by demographic characteristics such as class and ethnicity (e.g., McPherson, Smith-Lovin & Cook, 2001). We have limited information on with-whom youth interact when they are online in SNPs and how characteristics of the person relate to those of their contacts. This so called 'with-whom' question is important because individuals are influenced by the social groups to which they belong, and the properties of those groups are in turn influenced by the individuals who make up that group (Hox, 2010).

The purpose of this study is to understand how the above mentioned SNP characteristics mediate learning experiences of youth from the perspective of youth themselves. To this end, we provide first, a detailed response to the 'with-whom' question and second, address how these network characteristics again mediate the network interactions considered typical for SNPs, such as keeping in touch, sharing digital artefacts, asking for advice, give feedback and edit and create digital content. Lastly, our goal is to investigate whether these network characteristics and SNP activities together can predict what we call 'perceived learning' in the eyes of the youth themselves. This will be achieved by taking a close look at the networks of youth in the Netherlands and by applying the ego-network methodology as explained below.

Ego-Network Approach

As a method within the social network analysis tradition, ego-networks focus on the individual at the centre of his/her network and map his/her direct

relationships (Alexander, 2009). An ego-network consists of an ego (i.e. the individual) and alters (i.e., contacts) connected to ego, and ties representing the relationships within the network (Borgatti, 1998). The ego-network method conveniently enables the storing of information about network members (e.g., age and gender of both the ego and alters) in the same dataset as information about the ties between the alters and ego (e.g., the regularity of sharing, asking questions, editing artefacts) (Garton, Haythornthwaite, Wellman, 1997). By doing so, it facilitates the analysis of the kinds of interactions that occur between people in relation to personal or network attributes (e.g., girls give each other more feedback or heterogeneous networks have more sharing activity). In order to tackle the ego-network analysis two kinds of data are relevant: the composition and the structural characteristics of networks.

Ego-Networks' Composition & Structure

The composition of ego-networks may cover a large variety of factors to describe the relationship between the ego and alters. It entails information about the similarity between ego and alters regarding socio-demographic variables (e.g., gender, age, and ethnicity) and additional information in line with the research goals such as the role of the alter in ego's life, frequency of meeting with each other, how close the relationship is, if they consult each other and so on (e.g., Garton, et al., 1997; Röper, Völker, & Flap, 2009). Earlier research has documented that people have a tendency to prefer building relationships with others who are similar in certain demographic attributes like gender, age, ethnic and racial background, socio-economic status and education level; a tendency known as homophily (see for an extensive review McPherson, et al., 2001). While the face-to-face relationships are influenced by a range of factors, in SNPs there may be additional or different factors at play.

It is suggested that the online world is creating different dynamics in building relationships (Ito, et al. 2013), also in the domain of learning and socialization. SNPs have rendered some of the traditionally crucial variables such as geographical proximity to a mere detail and it is argued that people are no longer bound to their local communities for socialization (Rainie & Wellman, 2012). Furthermore, traditionally rigid social boundaries (e.g., between celebrities and their fans, politicians and their followers or between people from different socio-economic classes) became easier to cross and the threshold for reaching to others in general is significantly dropped at least in the virtual world

(e.g., Madden, et al., 2013). It is also claimed that shared interests between people, who are otherwise dissimilar, facilitates the formation of a learning tie, here defined as a tie which is perceived by the participants as relevant and useful for their learning (e.g., Ito, et al., 2010 & 2013; Rainie & Wellman, 2012). These claims regarding emerging online networked constellations suggest that people have more flexibility in addressing their social and learning needs. SNPs enable people to choose the topics they want to learn and share, the people they like to communicate with and with control of the pace of communication, so it is argued.

On the other hand there is evidence that the preference for building relationships with similar others still continues on SNPs. For instance, research on friendship ties in MySpace shows homophily trends for ethnicity, religion, age, but not for gender (Thelwall, 2008). Likewise, Singla and Richardson's study about instant messaging (2008) concluded that similarity between people in terms of age, location, and subjects of interest played a significant role in explaining the instant messaging ties. A large scale study among American teenagers showed that teens were more likely to interact with people of the same race and their online practices, online displays of tastes and norms were largely influenced by the people they interacted in SNPs (Madden, et al., 2013). These results show that although online environments bear the potential for widening the life-worlds of youth by creating opportunities to connect with a wider public, as is often argued, youth's networking practices show a tendency to connect with similar others. This has important consequences for the learning opportunities online networks offer: while access to diverse groups is often associated with varied information and a higher learning curve, homogeneous groups are known to circulate similar ideas, messages and artefacts (Haythornthwaite, 2006; Rainie & Wellman, 2012).

Current Study

This study is part of a larger, multi-disciplinary research project that studies identity formation and learning in the modern digital world, both for Dutch youth and youth from different ethnic minorities living in the Netherlands. The ideas behind our focus in ethno-cultural diversity were firstly to investigate whether both minority and majority youth were equally aware and taking advantage of the learning potential in SNPs and secondly to observe whether

minority youth's (or their families') immigration background had influenced the composition and structure of their ego-networks and whether these different network constellations (in terms of migration ties) have an impact on these young people's learning experiences. Besides the ethno-cultural variety, we also took into account various secondary education levels in the Netherlands. Education level was included in the analyses to find out if educational track impacted upon their networks and online learning experiences. In addition we have taken several other socio-demographic variables (i.e., gender, age) and a variety of attributes of relationships which can be assumed to predict network activity and networked learning experiences (e.g., the location of contacts, the frequency they meet each other). All variables that were used are explained in detail in the method section.

Using multiple methods (i.e., survey and interviews) we explored the relationship between the structure and composition of youth's online ego-networks, and their network activities as well as their perception of the learning potential in SNPs. Here, we present a section from our survey, which was the first phase of the data collection of this project. To the best of our knowledge there have not been any studies that attempted to quantitatively measure network activities and perceived learning potential in SNPs over large and ethnically diverse samples of youth. This research forms an initial step to create hypotheses regarding the nature of the (online) ego-networks of ethnically diverse youth groups as well as regarding how these online social structures contribute to the learning experiences of young people. Guided both by the literature on factors explaining the online networks of youth and on SNPs and their assumed learning potential, we took into account a wide variety of personal attributes, compositional and structural features of ego-networks. We investigated how these might impact upon a number of specific network activities that are claimed to facilitate opportunities for learning. Furthermore, we explored whether online network constellations differ among different minority groups and majority youth in the Netherlands. Finally, in line with the assumptions in the literature that was discussed, we investigated whether youth experience their network activities as relevant for their learning by asking for youth's perception of the learning potential in SNP's. The variables that were used are explained in detail in the next section. The following research questions guided our research:

Q1. (How) Does youth from different ethnic backgrounds differ from each other regarding the compositional and structural characteristics (i.e., homogeneity and density of networks, relationship characteristics) of their ego-networks?

Q2. Which personal attributes, compositional and structural features of ego-networks can predict typical network activities associated with the learning potential in SNPs?

Q3. Which personal attributes, compositional and structural features of ego-networks can predict the perceived learning potential in SNPs?

2. Methods

2.1. Sample

The survey was carried out in 2010 among 1408 youth in seven secondary schools in the Netherlands. Of this sample, 1227 participants (87%) who reported to have active online networks were included in this study. Virtually all participants had access to the Internet in their homes (99%). The sample age was 12-18 ($M = 14.4$, $SD = 1.54$). The data set contains information on 6135 network contacts (alters) of 1227 participants (ego). Table 1 shows the distribution of gender, ethnicity and generation, and education level of the participants and the socio-demographic descriptions of alters.

Participants from various ethnic backgrounds were collectively labelled as 'other ethnicities' which consisted of mainly South-American, Middle Eastern, and African participants. Europeans and children from a mix of ethnicities were the smallest groups within this category.

2.2. Instrument and Data Collection

The survey instrument was developed using NetQ survey software (<http://www.netq-survey.com>). It consisted of six sections and served as an exploration tool for a wide range of behaviours, attitudes, preferences of youth's internet use as well as the involvement of others in these experiences. It was validated after a two-step intensive piloting. An initial set of ideas, questions and multiple-choice answer categories were adjusted on the basis of feedback from 15 young people from the target population. They were asked whether the questions and answer categories were clear, whether they missed answer categories and whether they understood the structure of the survey.

Subsequently, the questions and answer categories were refined and were checked again with a group of 20 young people.

Table 1

Descriptive Information of the Participants and their Online Network Relationships

| Participants' (Ego) Characteristics (n=1227) | | |
|---|----------------------------|-------|
| Gender | Girls | 56.1% |
| | Boys | 43.9% |
| Ethnicity & Generation | Dutch | 33% |
| | From Turkish Background | 12.6% |
| | 1 st Generation | 13.7% |
| | 2 nd Generation | 86.3% |
| | From Moroccan Background | 24.4% |
| | 1 st Generation | 18.7% |
| 2 nd Generation | 81.3% | |
| Education | Other Ethnicities | 30% |
| | 1 st Generation | 37.4% |
| | 2 nd Generation | 62.6% |
| Education | Vocational | 54% |
| | Higher Preparatory | 17% |
| | Higher General Continued | 17% |
| | Pre-University Secondary | 12% |
| Network Contacts (Alters) Characteristics (n=6135) | | |
| Gender | Girls | 55.8% |
| | Boys | 44.2% |
| Ethnicity | Dutch | 44.7% |
| | Turkish | 12.5% |
| | Moroccan | 14.1% |
| | Other | 28.7% |
| Age | Younger than 12 | 2.1% |
| | Between 12-18 | 88.2% |
| | Older than 18 | 9.7% |

In the current article we are presenting the data mainly from the network section of the survey. This section was modelled partly after the network section of the General Social Survey (see <http://www.norc.org/gss+website>, 02-10-2011). The data collected in this section measured the backgrounds of the *five most active contacts* (i.e., alters) of each participant. Per network contact the participants answered questions that would describe the person (e.g., How old is [Contact 1-5]? Where does [Contact 1-5] live?) and the relationship (e.g., How often do you meet [Contact 1-5] online? How personal is your relationship with [Contact 1-5]?) and the network interactions with each other (e.g., How often do you [keep in touch/share digital artefacts/ask for advice/give feedback/edit and create digital content/discover new information and websites] with your [Contact 1-5]?).

2.2.1. Measurement of the Dependent Variables

We identified 6 network activity items that involve interactions with contacts. The participants answered per alter the frequency with which they were: (1) keeping in touch (with email, profile pages, instant messaging), (2) sharing/exchanging digital artefacts, (3) editing/creating digital artefacts, (4) asking for advice, (5) giving feedback, and (6) discovering new information, technologies, and websites. Our choice of these activities reflects a sociocultural perspective on learning in which social interaction (keeping in touch), the exchange of tools and resources (sharing artefacts and information), productivity (editing/creating), elements of scaffolding (asking for advice and giving feed-back) are represented. The last item that referred to the 'discovery' of new information was designed to measure youth's perception of whether they experienced the online relationship as a relationship which they considered relevant for their learning. The frequency of each of these activities was measured with a scale: 1='almost never' - 2='monthly', 3='2or3 times per month', 4= '2or3 times per week', 5='daily'.

For our second question we have tested which items predicted network activities in SNPs. The use of the learning potential is defined by the first five network interactions items listed above. In order to have a single outcome variable out of the five items we tested for scale reliability and conducted an Exploratory Factor Analysis (EFA). Cronbach's alpha score for scale reliability was sufficient $\alpha=.82$. EFA resulted in one factor solution. The Kaiser-Meyer-Olkin measure of sampling adequacy was above .80 and Bartlett's tests of sphericity

were significant ($\chi^2(15) = 840.26, p < .001$). So, a composite score per alter, consisting of the average of all network activities was computed as the dependent variable. For our third question we have tested which personal attributes, compositional and structural features of ego-networks were predicting the perceived learning potential (i.e., 'discovery of information'). For this question the network interaction items were used individually as predictors.

2.2.2. Measurement of Independent Variables

The independent variables were measured on two different levels: ego and network. The first level refers to the information about the participants and the second level is about the alters and the overall structure of the ego-networks of our participants.

Ego Level Variables

Gender was a categorical variable with boys as the reference group. *Ethnicity* was measured by parental country of birth (categories were Netherlands, Turkey, Morocco, Surinam, Aruba/Dutch Antilles, and Other (open response)) and languages spoken at home (Dutch, Turkish, Arabic, A Berber language, Papiamentu, English, French, Spanish, Other). *Generation* of the participants was measured by the participants' and parents' country of birth. If both parents and the participant were born in the country of origin they were considered as first generation; if one or both parents were born in the country of origin, but the participant in the Netherlands they were considered second generation. In order to differentiate between a possible 3rd generation migrant and Dutch descent participants we have checked the language they speak at home (i.e., migrant descent youth often continue to speak the 'native language' besides Dutch language) and found no 3rd generation minority participants in our sample. *Age* was measured in years. *School level* was categorical and reflected four main levels of secondary education in the Netherlands respectively 'vocational', 'higher preparatory', 'higher general continued', and 'pre-university secondary' education.

Network Level Variables

We collected information on the *gender* and *ethnicity* of the alters (Dutch, Turkish, Moroccan and Other). *Homogeneity* of gender and ethnicity was based on similarity between egos and alters and the values could vary between '0'-'5' (i.e., between 0% and 100%). For the descriptive/comparative analyses we have

reduced the number of categories to three by leaving '0' and '5' intact and combining the in-between categories in order to reflect the details of ethnic and gender homogeneity concisely. *Age of alters* was collected with an open question; the open information was then categorized into peers (12-18), younger and older generations in comparison to our participants.

Geographical dispersion was based on the alters' location the range of distance varied from '1' to '5': 'the same house', 'the same neighbourhood', 'the same city', 'somewhere else in the Netherlands' to 'outside the Netherlands'. *Type of relationship* captured whether the online network contact was a family member, a friend or an acquaintance. *Off- and online contact* meeting frequencies were measured on a five point scale varying from 'daily' to 'once a month or less'. In offline meeting frequency we have added the category 'I never met this contact in person' to find out any 'only online' relationships. *Experienced emotional closeness* was a question to measure the emotional strength of a relationship. On a five point scale the participants rated the emotional closeness they felt for each one of the network contacts.

Topics they talk about Online conversation topics were captured with a dichotomous (yes-no) 17-item list of topics. The items varied from casual daily issues (e.g. school events, family matters, making appointments) to more specific interests (e.g. how to use new gadgets, fashion and celebrities, history, science, etc.). These items were grouped as socially-driven (9 items) and interest-driven (8 items) subjects for parsimony of analyses. The Cronbach's alpha scores for socially-oriented (9-items) and for interest-driven topics (8-items) were respectively .93 and .94. A confirmatory factor analysis performed with *Mplus* showed the following acceptable fit indices for the two-factor solution in comparison to the baseline model: $\Delta\chi^2 = 29090.52$, $\Delta df = 66$, CFI = .790, TLI = .783 and RMSEA = .056. Finally, *density* was computed by the ratio of alters who actually knew each other to the total amount of possible relationships in each ego-network.

The survey was administered in the computer rooms of the schools. Before the survey sessions, instructors explained the general aims of the survey. During the surveys, the instructors remained present to supervise and monitor the survey process and answer any questions. Most survey rounds took 30 to 40 minutes.

2.3. Data Analyses

The first research question was answered by descriptive and comparative analyses using SPSS software. Chi-square tests of independence were performed to compare the network composition among different ethnic groups; correlation between online and offline meetings with the contacts was reported; analysis of variance was performed for the emotional closeness, topics talked online and density scores to check for differences between different ethnic groups. The second and third questions were answered by Multilevel Regression Analyses (MLA) using MLwin2.02 (Rasbash, Charlton, Browne, Healy, & Cameron, 2005).

With MLA it is possible to study both the influence of individuals *and* the social structures the individuals are embedded in (Hox, 2010). MLA models take into account the interdependencies between people and their relations in a nested structure. In ego-network analysis this structure is such that alter and network characteristics (i.e. level one, henceforth mentioned as 'network-level') are nested under egos (i.e. level two, henceforth mentioned as 'ego-level'). This structure enables us to study the variance parameters *within* ego-networks (i.e. differences per alter) and *between* ego-networks (i.e. differences per ego-network) (for further details refer to van Duijn, van Busschbach & Snijders, 1999).

To prepare the data for multilevel modelling we have centred all ordinal and continuous variables in order to make the effects of these variables more easily interpretable and reduce/overcome multicollinearity issues (Hox, 2010). Multicollinearity occurs when independent variables strongly correlate -we observed this effect for network activity items and meeting frequencies-; this causes inflation of the regression coefficient estimates, overestimating the impact of independent variables on the dependent (Hox, 2010). In this study, due to the large sample size (i.e. 1227 egos and 6135 alters) and the acceptable variance inflation factors (VIF) which were all below 5 and tolerance levels above 0.20 (Williams, 2011), the network interaction items remained intact and were used as predictors for the analysis of third question. In MLA's ethnic groups were compared to each other by contrasting each ethnic group to the other ethnic categories.

We performed the same steps in testing models for both 2nd and 3rd research questions. First, we established that the nested model provided a better fit to the data than a simple regression. A nested structure was confirmed respectively for the 2nd and 3rd research questions [$\Delta\chi^2=534.142$, $\Delta df=1$, $p<.001$; $\Delta\chi^2=2233.76$, $\Delta df=1$, $p<.001$]. We also tested for any third level influences of schools in comparison to the nested model and found no significant value of 3rd level respectively for the 2nd and 3rd research question [$\Delta\chi^2=1.75$, $\Delta df=1$, $p=.18$; $\Delta\chi^2=3.6$, $\Delta df=1$, $p=.06$]. Second, we checked the divide of the total variance of the network activities (2nd question) and perceived learning potential (3rd question) between ego and network levels. We then entered all predictors of network-level and we also tested whether there were significant within level interactions of network composition (e.g., geographic dispersion) with network structure (i.e. density). Non-significant predictors (based on Wald's test) were excluded from the model and we tested whether the model-fit deterioration due to leaving out the non-significant variables was significant. Next, we entered the ego-level variables to the remaining significant network-level predictors and performed the same steps as above. Finally, we checked for relevant random slopes (i.e., unexplained variability between egos in the effect of an alter/network characteristic) and cross-level interactions (i.e., a combined variable of network- and ego-level).

3. Results

Q.1. The first question is answered primarily with descriptive accounts of youth's ego-networks. The overall picture of online network contacts showed a strong preference for friends. The participants named predominantly their peers and there were no differences between different ethnic groups regarding the age of their network contacts. There was a general tendency for same-ethnicity and same-gender contacts. The majority of all alters were local (i.e., from same neighbourhood or city) and they were emotionally close ties. Participants talked about a wider range of socially-oriented topics in comparison to interest-driven topics. These general trends were compared among different ethnic groups in our sample. The results of the chi square test of independence are presented in Table 2 below.

Table 2

Ego-Networks' Composition Compared by Ethnic Groups

| | Dutch Ego-Networks (n=2025) | | Turkish Ego- Networks (n=765) | | Moroccan Ego- Networks (n=1500) | | Other Ego- Networks (n=1845) | | Pearson Chi Square (df) |
|--|--------------------------------|-----------------------------|----------------------------------|-----------------------------|------------------------------------|---------------------------------|---------------------------------|-----------------------------|----------------------------|
| | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | % within Ethnicity (ASR) | |
| Gender & Ethnic Homogeneity | No Same-Gender | 2.5%(3.6) ^a | 0.7%(-2.3) ^b | 1.3%(-1) ^{a,b} | 1.4%(-1.1) ^{a,b} | $\chi^2 = 15.135 (3) p < .01$ | | | |
| | Average Same Gender | 69.4%(7.7) ^a | 52.3%(-6.3) ^b | 53%(-8.8) ^b | 67.2%(4.9) ^a | | | | |
| | All Alters Same Gender | 28.1%(-8.8) ^a | 47.1%(7) ^b | 45.7%(9.2) ^b | 31.4%(-4.7) ^a | | | | |
| Geographical Dispersion | No Same-Ethnicity | 2.2%(-14.5) ^a | 3.3%(-6.8) ^a | 18%(11.5) ^b | 15.4%(8.9) ^b | $\chi^2 = 960.292 (6) p < .001$ | | | |
| | Average Same-Ethnicity | 47.7%(-14.9) ^a | 62.1%(7) ^b | 70.7%(8.9) ^c | 66.9%(6.4) ^c | | | | |
| | All Alters Same-Ethnicity | 50.1%(25.7) ^a | 34.6%(3.7) ^b | 11.3%(17.3) ^c | 17.6%(-12.8) ^d | | | | |
| Relation | The same house | 4.7% (-1.6) | 6.3% (1.2) | 6.1% (1.4) | 5.1% (-.5) | | | | |
| | The same neighbourhood | 34% (-4.8) ^a | 41.7%(2) ^b | 45.8%(6.7) ^b | 35.7% (-2.8) ^a | | | | |
| | The same city | 31.9% (-2) | 36.3% (1.7) | 32.7% (-.9) | 35.1%(1.6) | $\chi^2 = 256.522 (12) p < .05$ | | | |
| | Elsewhere in the Netherlands | 26.7%(13) ^a | 8.2%(-7.2) ^b | 10.8%(-7.7) ^b | 16.9%(-.8) ^c | | | | |
| | Outside the Netherlands | 2.7%(-5.8) ^a | 7.5%(3.2) ^b | 4.6%(9) ^c | 7.1%(4.5) ^b | | | | |
| Geographical Dispersion | Family | 10% (-8.3) ^a | 19.9%(-3.4) ^c | 20.7%(-6.2) ^c | 15.8% (-.2) ^b | $\chi^2 = 86.312 (6) p < .001$ | | | |
| | Friends | 83.5% (6.4) ^a | 74.8%(-2.7) ^c | 74.2% (-4.8) ^c | 78.6% (-.1) ^b | | | | |
| | Acquaintances | 6.5% (1.7) | 5.2% (-.6) | 5.1% (-1.2) | 5.7% (-.2) | | | | |

Notes: * Adjusted Standardized Residuals (ASR) indicates how far the observed count is from the expected count. Ethnicity categories with different subscripts (a, b, c, d) refer to column proportions that differ significantly at the .05 level.

In terms of *gender homogeneity* we observed overall a high preference for same-gender contacts, but this tendency was significantly stronger with more 'completely homogenous' same-gender networks among Turkish and Moroccan participants than in the Dutch and Other participants' networks. Regarding *ethnic homogeneity* we observed again an overall preference for sameness, but in general Moroccan and Other networks were showing more ethnic variation; Turkish and Dutch networks had significantly stronger tendency for 'completely homogenous' same-ethnicity networks (Dutch even more than Turkish).

The results of the chi square tests show differences in several interesting aspects. Regarding the *geographical dispersion* of alters we see that ethnic groups did not differ from each other regarding the number of people they named 'living in the same house' and 'living in the same city'. However, Turkish and Moroccan networks had significantly more contacts 'living in the same neighbourhood' and significantly less contacts 'living in the Netherlands' than Dutch and Other networks. Regarding the network's reach around the globe Turkish and Other networks had significantly more contacts 'outside the Netherlands'. Regarding the composition of *relationships* Turkish and Moroccan youth's networks were comparable in the amount of 'family' and 'friends'; they named significantly more family members and less friends than the Dutch and Other group.

Regarding the frequencies of *online and offline meetings* we found a great overlap. The two meeting frequencies significantly correlated ($r=.44$; $p<.001$). The ethnic groups did not differ in the online/offline meeting frequencies. Only a small number of alters (2.4%) were only met in the online environment and never in person.

Ego-alter relations were mostly characterized as *emotionally close ties*. Turkish youth had overall the most emotionally close networks (65.1%) followed by 'Other' ethnic group (56.7%), Moroccan (48.6%) and Dutch (48.2%). The ethnic differences were significant [$\chi^2=119.61$, $df =12$, $p<.001$]. Participants talked about a wider range of *socially-oriented topics* in comparison to *interest-driven topics*. Among the 9-item list of *socially-oriented* and 8-item *interest-driven* topics the average amount of items egos talked with alters were, respectively, $M=3.6$ ($SD=2$) and $M=1.5$ ($SD=1.6$). Socially-oriented topics are thus more popular in these online relationships. Finally, *the density of relationships* in ego-networks was relatively high in all ethnic groups (Dutch $M=.62$, $SD=.32$; Turkish

$M=.66, SD=.31$; Moroccan $M=.69, SD=.30$; Other $M=.63, SD=.33$). However, the differences were significant ($F(3, 1223) = 3.61; p < .05$).

Q.2. In order to predict the Network Activity (NA) we used the composite score of network interaction items as our dependent variable as explained above (p.8). The variance of NA was divided between 59% for the ego-level and 41% for the network-level. In other words, 59% of network activities were attributed to the differences between egos' and 41% to networks' characteristics. The models we tested and the unstandardized (B-scores) and standardized (β beta-scores) regression coefficients of significant predictors and interactions are presented in Table 3. The significant variables reported in the table below can be interpreted in light of β scores; they indicate the amount of change on the dependent variable (i.e. 'network activity') at 1 standard deviation change on the predictor variables.

The baseline model with no predictors had a *deviance* of 17621.34 with an intercept $B_{0ij}=2.609$, ($S.E. = .042$) network-level variance=.771(.016) and ego-level variance=1.130 (.053). In the first model we added all network-level variables and relevant within level interactions (i.e., interactions between structure (density) and composition (tie attributes)). The model fit improved significantly ($\Delta\chi^2=823.95, \Delta df = 20, p < .0001$). The second model contained significant variables from Model 1 and all ego-level predictors; we controlled for the significance of these new predictors as well as any changes in the significance of network-level variables. We have then removed the non-significant ego-level variables and the model fit in comparison to Model 1 was still significantly better ($\Delta\chi^2=19.175, \Delta df = 2, p < .0001$). Our third model had only significant network- and ego-level predictors and we tested whether random slopes explained the variance of NA between participants. Two random slopes were significant, showing that the *emotional closeness* with alters and the *gender of the alter* carry different weights for different participants. The covariance of alter gender with the intercept was significant and it improved the model significantly ($\Delta\chi^2=5.98, \Delta df = 1, p < .05$); covariance of emotional closeness was insignificant therefore removed from the model. The final model showed the best fit to the data ($\Delta\chi^2=156.623, \Delta df = 6, p < .001$).

Table 3
Predicting the Network Activities in SNPs

| | Model 1 | | Model 2 | | Model 3 | |
|---|--------------|---------|--------------|---------|--------------|---------|
| | B (S.E.) | β | B (S.E.) | β | B (S.E.) | β |
| <i>Fixed Effects</i> | | | | | | |
| Intercept | 2.480 (.052) | | 2.491 (.065) | | 2.447 (.053) | |
| Gender ¹ | .205 (.031) | .07*** | .183 (.032) | .06*** | .180 (.034) | .06*** |
| Age | -.006 (.002) | .02*** | -.006 (.002) | .02*** | -.005 (.002) | .02*** |
| <i>Ethnicity²</i> | | | | | | |
| Turkish | .036 (.053) | | - | | - | |
| Moroccan | -.002 (.05) | | - | | - | |
| Other | .003 (.068) | | - | | - | |
| Geographic Dispersion | -.006 (.016) | | - | | - | |
| <i>Type of Relationship³</i> | | | | | | |
| Friend | .000 (.04) | | - | | - | |
| Acquaintance | .003 (.068) | | - | | - | |
| Offline Meetings | .020 (.011) | .02* | .021 (.010) | .02* | .021 (.010) | .02* |
| Online Meetings | .161 (.013) | 14*** | .158 (.013) | 14*** | .157 (.013) | 14*** |

Network Level Variables

Emotional Closeness .060 (.014) .06*** .061 (.013) .06*** .062 (.013) .06***

Table 3 (continued)

Predicting the Network Activities in SNPs

| | Model 1 | | Model 2 | | Model 3 | |
|---------------------------|-------------|---------|--------------|---------|--------------|---------|
| | B (S.E.) | β | B (S.E.) | β | B (S.E.) | β |
| Socially-Driven Topics | .117 (.012) | .13*** | .109 (.014) | .13*** | .111 (.014) | .13*** |
| Interest-Driven Topics | .037 (.010) | .10*** | .041 (.010) | .10*** | .038 (.011) | .10*** |
| Density | .176 (.098) | .04* | .175 (.098) | .04* | .165 (.09) | .03* |
| Gender ¹ | | | .182 (0.62) | .07* | .178 (0.63) | .06*** |
| Age | | | -.015 (.02) | | | |
| Ethnicity | | | | | | |
| Dutch-Turkish | | | -.160 (.100) | | | |
| Dutch-Moroccan | | | -.089 (.079) | | | |
| Dutch-Other | | | .008 (.076) | | | |
| Turkish- Moroccan | | | .101 (.103) | | | |
| Turkish-Other | | | .164 (.100) | | | |
| Moroccan-Other | | | .063 (.081) | | | |
| Generation ⁴ | | | .045 (.026) | | | |
| School Level ⁵ | | | | | | |
| Higher Preparatory | | | -.020 (.082) | | -.024 (.082) | |
| Higher General Continued | | | -.148 (.086) | .04* | -.173 (.083) | .04* |
| Pre-University Secondary | | | -.272 (.097) | .06* | -.251 (.096) | .06* |

Ego-Level Variables

Table 3 (continued)
Predicting the Network Activities in SNPs

| | Model 1 | | Model 2 | | Model 3 | |
|-----------------------------------|--------------|---------|--------------|---------|--------------|---------|
| | B (S.E.) | β | B (S.E.) | β | B (S.E.) | β |
| Density*Geographic Dispersion | -.103 (.056) | .02* | -.078 (.051) | | | |
| Density * Offline Meetings | -.036 (.04) | | - | | | |
| Density * Online Meetings | .006 (.046) | | - | | | |
| Density *Emotional Closeness | .016 (.046) | | - | | | |
| Density*Interest-Driven Topics | .077 (036) | .03** | .081 (.031) | .03** | .088 (.031) | .03** |
| Density*Social-Driven Topics | .021 (.046) | | - | | | |
| Random Slope | | | | | | |
| Alter Gender | | | | | .202 (.049) | |
| Intercept*Alter Gender Covariance | | | | | -.092 (.039) | |
| Emotional Closeness | | | | | .093 (.012) | |
| Random Effects | | | | | | |
| Ego-Level Variance | .907 (.043) | | .883(.043) | | .863 (.056) | |
| Network-Level Variance | .715 (.015) | | .715 (.015) | | .612 (.015) | |
| Deviance | 16797.388 | | 16778.213 | | 16621.590 | |

Notes Reference categories ¹ 'boys' both for network- and for ego-level measurement, ² 'Dutch', ³ 'Family relationships', ⁴ '1st generation', ⁵ 'Vocational Education'. * $p < .05$; ** $p < .01$; *** $p < .001$

Model 3 shows that the most important predictor of the NA is, logically, the *'frequency of online meetings'* ($\beta = -.14$; $p < .001$); the more youth spend time online, the more likely they would engage in networking activities. Second, we found that the variety of both *'socially-driven'* and *'interest-driven'* topics between ego and alters significantly predicted NA. On the network-level the gender and age of alters were significant, indicating that there was more network activity with female alters, but less with older alters. Finally, on the network level both the *'emotional closeness'* towards the alter and *'frequency of offline meetings'* predicted NA positively and significantly. We have controlled whether the density as a structural attribute interacted with network composition items and found a significant interaction effect with the amount of *'interest-driven'* topics ($\beta = .03$; $p < .01$). This finding shows that other factors being equal there is a higher likelihood to make use of the learning potential in dense networks where people's conversation revolve around their interests.

The significant ego-level variables revealed that girls were engaging in network interactions more and compared to the lowest secondary education level (i.e., vocational) participants from the higher levels (i.e., higher general continued and pre-university) were less likely to make use of SNPs learning potential. Random slopes showed that the variance between the participants was also explained with random effects of emotional closeness and gender of the contacts. That is, there are individual differences in the way people engage in network activities in SNPs with emotionally close or distant, and with female or male contacts. Based on our final model 14% of the variance at ego-level and 8% at network-level were explained.

Q.3. In our model that predicts the Perceived Learning Potential (PLP) the variance was divided between network and ego (46% to 54%, respectively). So, 54% of *'perceived learning potential'* was due to the differences between egos' and 46% to networks' characteristics, which points to the importance of network aspects in shaping the participants views about the learning in SNPs. The baseline model with no PLP predictors had a *deviance* of 19643.604 with an intercept $B_{0ij} = 2.526$, $S.E. = (.036)$, network-level variance = 1.135 (.024) and ego-level variance = 1.317 (.063). Table 4 shows the tested models, unstandardized (B-scores) and standardized (β beta-scores).

Predicting the Perceived Learning Potential in SNPs

| | Model 1 | | Model 2 | | Model 3 | |
|-----------------------------------|--------------|---------|--------------|---------|--------------|---------|
| | B (S.E.) | β | B (S.E.) | β | B (S.E.) | β |
| <i>Fixed Effects / Intercept</i> | 2.(.062) | | 2.585 (.055) | | 2.596 (0.51) | |
| Alter Gender ¹ | .123 (.037) | .04*** | -.021 (.025) | | -.090 (.036) | .03*** |
| Alter Age | -.005 (.003) | | - | | - | |
| Alter Ethnicity ² | | | | | | |
| Turkish | .049 (.064) | | - | | - | |
| Moroccan | .058 (.061) | | - | | - | |
| Other | .050 (.044) | | - | | - | |
| Geographic Dispersion | .018 (.020) | | - | | - | |
| Type of Relationship ³ | | | | | | |
| Friend | -.037 (.049) | | - | | - | |
| Acquaintance | .000 (.083) | | - | | - | |
| Offline Meetings | .042 (.014) | .04*** | .020 (.010) | .04* | .011 (.08) | |
| Online Meetings | .168 (.016) | .13*** | .005 (.010) | | - | |
| Emotional Closeness | .031 (.016) | .03* | -.020 (.010) | .02* | -.018 (.010) | |
| Socially-Driven Topics | .089 (.016) | .09*** | -.018 (.010) | .02* | -.015 (.010) | |

Network Level Variables

Predicting the Perceived Learning Potential in SNPs

| | Model 1 | | Model 2 | | Model 3 | |
|---------------------------|-------------|---------|--------------|---------|--------------|---------|
| | B (S.E.) | β | B (S.E.) | β | B (S.E.) | β |
| Interest-Driven Topics | .071 (.013) | .08*** | .029 (.08) | .04** | .027 (.08) | |
| Density | .112 (.112) | | - | | - | |
| Ego Gender ¹ | | | -.130 (.036) | | -.092 (.036) | .03*** |
| Ego Age | | | .004 (.006) | | - | |
| Generation ⁴ | | | .006 (.089) | | - | |
| Ego Ethnicity | | | | | | |
| Dutch-Turkish | | | -.014 (.055) | | -.004 (.054) | |
| Dutch-Moroccan | | | -.096 (.044) | .08** | -.093 (.044) | .07** |
| Dutch-Other | | | .058 (.042) | | .058 (.042) | |
| Turkish-Moroccan | | | -.081 (.057) | | -.089 (.056) | |
| Turkish-Other | | | .044 (.055) | | .055 (.055) | |
| Moroccan-Other | | | -.037 (.045) | | -.034 (.044) | |
| School Level ⁵ | | | | | | |
| Higher Preparatory | | | -.038 (.045) | | - | |
| Higher General Continued | | | .012 (.047) | | - | |
| Pre-University Secondary | | | .033 (.053) | | - | |

Ego-Level Variables

Predicting the Perceived Learning Potential in SNPs

| | Model 1 | Model 2 | Model 3 |
|---------------------------------|--------------|--------------------|--------------------|
| | B (S.E.) | B (S.E.) | B (S.E.) |
| Interactions in networks | | | |
| Keeping in touch | | .044 (.011) .05*** | .044 (.011) .05*** |
| Sharing/Exchanging | | .319 (.012) .32*** | .319 (.012) .32*** |
| Editing/Creating | | .128 (.013) .13*** | .126 (.013) .13*** |
| Asking advice | | .217 (.011) .22*** | .217 (.011) .22*** |
| Giving feedback | | .235 (.012) .24*** | .236 (.012) .24*** |
| Cross-level interactions | | | |
| Ego*Alter Gender | | | .132 (.050) .04*** |
| Random Effects | | | |
| Ego-Level Variance | 1.132 (.056) | .218 (.013) | .217 (0.13) |
| Network-Level Variance | 1.081 (.023) | .481 (.010) | .481 (.010) |
| Deviance | 18991.875 | 13672.321 | 13663.300 |

Notes: Reference categories ¹ 'boys' both for network- and for ego-level measurement, ² 'Dutch', ³ 'Family relationships' ⁴ '1st generation' ⁵ 'Vocational Education'. * $p < .05$; ** $p < .01$; *** $p < .001$

All network-level variables were entered and the model fit improved significantly ($\Delta\chi^2=651.729$, $\Delta df =15$, $p<.001$). Except for '*density*' all predictors were significant. With our second model we added both the ego-level variables and the network interaction items, which improved the model fit greatly ($\Delta\chi^2=5319.55$, $\Delta df =8$, $p<.0001$). The remaining significant predictors from the network-level were the frequency of '*offline meetings*' ($\beta=.04$; $p<.05$), '*emotional closeness*' ($\beta=-.02$; $p<.05$) and the variety of '*socially-driven*' ($\beta=-.02$; $p<.05$) and '*interest-driven*' ($\beta=.04$; $p<.001$) topics. These results show that a high amount of social topics and a high score in emotional closeness in SNPs are detrimental to PLP.

Due to their design, network interaction items already inherently place the cross-level interactions between participants and alter into the analysis. Therefore it is not surprising to see these variables as the strongest predictors of PLP (respectively '*sharing/exchanging*', '*giving feedback*', '*asking advice*', '*editing/creating*' and '*keeping in touch*'). Regarding ego-characteristics we found that gender of ego was a significant, but negative predictor ($\beta=-.04$; $p<.001$), which indicates that girls report less PLP. The comparisons between the four ethnic groups revealed that as a general trend Moroccan participants scored higher in PLP than the other groups. Although this difference was only significant when compared to Dutch youth ($\beta=-.07$; $p<.001$) and other ethnic categories were not substantially different from each other. For the final model random slopes were tested and we did not find significant random effects of network-level variables. Although *alter gender* was not significant we kept the variable in the model so that we could check cross-level interactions between socio-demographic variables of ego's and alters. The gender interaction was significant and significantly improved the model ($\Delta\chi^2=9.021$, $\Delta df =1$, $p<.01$) indicated that female participants interacting with female alters were more likely to score higher in PLP, even though the fixed effect of ego-gender resulted in significantly less PLP scores for female participants than their male peers. The final model explained 71% of the variance in total, with 45% on the ego-level and 26% on the network-level.

4. Discussion & Conclusions

We set out to study the ego-network compositions of diverse ethnic groups of youth in the Netherlands, how this youth was engaging in network activities and whether they perceived these interactions as relevant for their learning. We

have adopted a sociocultural theoretical perspective on learning. This theory, which is established long before networked technologies became common-ground, is still relevant for its emphasis on the interaction between culture and cognition (Erstad, 2012). However, the current cultural context demands to take the online social interactions into account, since they channel the development of youth's mind and have the potential to facilitate their learning. We have primarily looked at how specific types of interactions in SNPs occur within ego-networks of ethnically diverse youth groups and whether these interactions are interpreted by the youth themselves as relevant for their learning.

Regarding the ego-network composition and structure we found that the most frequently contacted people in youth's networks formed a homogenous group. The location of people was an important factor in the composition of the networks; the majority of alters were living at a small distance from the ego. However, Turkish youth and the 'Other' group had more contacts living outside the Netherlands compared to their Dutch and Moroccan peers. The relationships were dense and typically experienced as emotionally close. Young people are thus taking what could be called their locally based, mainly homogeneous offline communities to the online domain, and prefer to use the opportunities they have to go online to strengthen their offline ties.

This overall trend in ego-network composition support earlier findings that the homophily tendency is still remarkably important also in forming online relationships (e.g., McPherson, et al., 2001; Singla & Richardson, 2008; Thelwall, 2008) and that youth often replicate their offline network in online platforms (Ito, et al., 2010). Furthermore, the homophily effect might be stronger during adolescence and thus be temporary. During this phase 'being similar' allows for a safe exploring of the world as well as for strengthening the feeling of belonging. It may be that the most relevant learning experiences channelled via SNPs during the teenage years are those that evolve around their (immediate) peer culture, its norms and values and is a significant part of youth's identity development and socialization (Larsen, 2007). It is to be expected that their online networks become more individualized and de-standardized later in their life course (Stauber & Walther, 2006).

It should also be noted that not all networks were equally homogeneous; a small fraction of all online contacts were consisting of people that were different from the ego, even in some cases people the participants never met in person. This is remarkable given that these acquaintances made it to the 'top-five' in ego-

networks. So, while similarities prevailed over differences, there was also diversity in youth's networks.

Through detailed comparisons of the various ethnic groups we found that certain patterns significantly differed per group. In general, Turkish and Moroccan youths' ego-network compositions were more comparable to each other. Both were significantly more family oriented, they had most contacts in the neighbourhood, and they were more gender coherent than the Dutch and the 'Other group'. This finding highlighted the importance of local communities for online interactions and may have implications for the learning experiences of Turkish and Moroccan youth. The overall picture indicated that youth's networks consist mostly of close-knit and homogenous groups for all ethnic groups in our sample. Even though from a network perspective homogeneity is often associated with lack of new information, there are also reports that youth with a migration history benefit from homogeneity for upward social mobility (Ryabov, 2009) or academic achievement (Morgan & Soerensen, 1999).

By means of MLA we could differentiate between how individual and network characteristics, and the intersections thereof had an impact on network activities and the perceptions of youth on the learning potential in SNPs. The divide between the variances of our two dependent variables -network activities and perceived learning potential in SNPs - underpin that if we want to understand how young people learn in SNPs, as well as why they opt for the SNPs for learning, merely looking at the individual level is not enough. This result clearly shows empirically that learning is a relational phenomenon and points to the relevance of the study of networks when we want to understand why and how people learn.

In our inquiry for 'network activities' we found that both compositional and structural network characteristics played a significant role in predicting the frequency of these activities. The perceived learning potential was predominantly predicted by network interaction items, indicating the more active the youth are, the more value they deem to their online interactions. Reflecting on Jones and Steeples' statement (2002) that 'learning in networks is a likely result of frequent network activity', this finding confirms that being engaged regularly in network interactions that entail a shared focus (keeping in touch), the exchange of tools and resources (sharing artefacts and information), productivity (editing/creating), elements of (asymmetric) scaffolding (asking for advice) and peer feedback (giving feedback), substantially impacted on the

extent to which youth perceive these activities are relevant for their learning. Thus, the more these activities happened, the more (perceived) learning occurred. However, the effect of gender was contradictory to this straightforward interpretation. Gender was the only consistently significant ego-level variable that predicted both NA and PLP. We observed while girls reported more network activity, they scored less in their report regarding perceived learning potential. This finding indicates that network activities' usefulness for learning is perceived differently across boys and girls. Earlier studies regarding attitudes towards computer use regularly reported gender differences, with boys having more favourable views than girls (e.g., Ian Robertson, Calder, Fung, Jones, & O'Shea, 1995). The gender gap regarding computer use and attitudes towards new technologies is gradually disappearing (Tsai & Tsai, 2010; Ünlüsoy, De Haan, Leseman, & van Kruistum, 2010). However, boys' relatively longer history and comfort in computer use could possibly explain the higher (perceived) learning score compared to girls.

Our results also showed that youth attending the higher educational tracks spent significantly less time with online social networking; however, for perceived learning potential the education level did not have a significant influence. It is possible that the higher the academic demands, the less time youth spend in social networking platforms. It is also plausible that youth within the lower educational tracks need more assistance and seek help from each other on networking platforms to accomplish school-related tasks.

That these activities shape youth's learning experiences through their networked relationships has implications for how we conceive of learning in the digital age. Starting from the idea that learning happens at the interplay of internal cognitive processes and external sociocultural factors, it can be claimed that these external factors are being shaped in different ways. Whereas the standard model of social interaction was formerly focused on one-to-one communication, internet based activity is more based on networked structures that involve particular configurations (scales, densities, internal diversities, and geographical spreads) of participants who distribute and enact human learning opportunities. Moreover, these networked structures distribute and enact connections with non-human resources -tools, information, and representations of all kinds- also structured in relation to the human configurations. Learning processes are necessarily informed by, and change through, these different structures. If the learning for socially-apprenticed

individuals is thought of as the “transformation of persons” (Lave & Wenger, 1991), then learning in socially and materially distributed structures could be re-conceived as the “transformation of networks”.

The study had several important limitations. First of all, based on our data we can neither claim that learning actually took place, nor provide information on the quality or content of the learning processes that happen within these networks. The cross-sectional design of the study offers a snapshot of ego-networks. However, a longitudinal design will provide more insights in how network activities and people’s perception of learning in SNPs and the online ego-network constellations develop over time. Our findings are based on youths’ ‘top-five’ online contacts. It could be argued that due to our name generating criteria of the five most contacted people, we captured mainly locally-based, densely-knit, homogeneous networks, but missed a more varied ‘network picture’. Nevertheless, our findings showed ethnic diversity in network compositions and revealed how network activity patterns and youths’ perspectives on their online learning experiences varied regarding a number of socio-demographic attributes and network factors.

To conclude, in this article we researched the claim that the popular online networking platforms have a broad potential for learning and socialization. It is assumed that in order to tap into this potential effectively, a person needs to have an active ego-network with whom they can regularly exchange information, give and receive feedback. However, it is also crucial that this potential is acknowledged by educators and parents. This recognition is needed to establish more holistic learning experiences for youth in which the divide between school learning and learning that happens throughout life is reduced. There is an increased emphasis on studying meaningful learning experiences throughout the life time, accounting for multiple spaces and places as ‘learning sites’ and for “bridging the binary opposition between formal and informal learning” (Erstad, et al., 2009, p.100). We suggest that one way forward in this line of research is to include online networking platforms as a learning context. The ambition of this paper was to make a start with unravelling the complex relations between network structure, individual characteristics and the learning potential inherent to network interactions. We hope that the findings of our study can contribute to the recognition of the potential and importance of learning this highly networked world.

Chapter 4

Navigating information: An ethno-culturally comparative study of teen's learning ecologies

⁴Ünlüsoy, A., De Haan, M. J., & Leander, K. (submitted). Navigating information: An ethno-culturally comparative study of teen's learning ecologies.

⁴ Author contributions: A.Ü., M.d.H., and K.L. designed the research. A.Ü. collected data in collaboration with colleagues and research assistants. A.Ü. analyzed the data, wrote the paper, M.d.H., and K.L. supervised the research, edited the text.

* The study is conducted as part of the Wired Up research project designed by Mariette de Haan, Sandra Ponzanesi & Kevin Leander.

Abstract

Recent debates regarding young people's information literacy skills revolve around the use and credibility of digital information resources. This study adds to these debates by pointing to the variable but also durable and structural nature of information seeking habits. Drawing upon a social capital notion of information resources, we focus on teen's preferences to fulfil certain information needs and the relative position of online as compared to offline resources, as well as the relative position of seeking information through social actors versus a variety of tools, information, and media that are at their disposal. We also ask language preferences for online content search (e.g., stories, instructions, music) as an indication of the diversity of the cultural-linguistic practices online. With a cross-sectional, large-scale survey we studied the diversity that exists among teens regarding their resource preferences for different learning needs. The survey was designed to cover teens' information seeking habits in different life-domains (e.g., religion, health, homework), contrasting a variety of resources, including offline and online, human and non-human resources. The participants, 962 teens in secondary education ($M_{age} = 14.5$; $SD = 1.58$), were from Dutch, Turkish, and Moroccan backgrounds living in the Netherlands. Although the results confirm the dominant position of digital resources in the lives of teens regardless of their background and irrespective of life-domain, the variation in linguistic choices as well as how youth benefit from digital and non-digital resources show that there are ethno-cultural boundaries in the (digital) information landscape.

Introduction

Wide-scale studies such as *EU Kids Online* (Livingstone, Haddon, Görzig, & Ólafsson, 2011) or *Pew Internet & American Life Project* (Purcell et al., 2012) have already established a decade ago that for teens the Internet has become a dominant resource for information access. With the addition of personalized and mobile apps the online domain became more pervasive in our lives and became a default gateway to resources for teens' information needs (Lenhart, 2015; Livingstone, Mascheroni & Staksrud, 2017). This has spurred a new interest in information literacies, and the need to critically assess how youth gain online information. Illustrative is the recent attention for how new information literacies can be monitored, for instance as related to how apps promote fact- or resource-checking online (e.g., Paul, Macedo-Rouet, Rouet, & Stadtler, 2017) or to how teens' evaluation skills and attitudes regarding the reliability of online resources can be documented (e.g., Mason, Scrimin, Tornatora, Suitner, & Moé, 2018).

This increased attention for information literacy is related to a concern for how online content is spread (i.e. through which underlying mechanisms and by whom). Online content is often not subjected to scrutinizing and fact-checking mechanisms. The internet is designed to indiscriminately accept and spread all content; generated by any agent (public or private) and for any purpose (informing, manipulating, gaining profit, etc.). So, its content consists of everything that is ever placed online, from scholarly articles to (fake-)news and advertisements, to celebrity photos and government policies. Any individual can publish any content, at any given time through one or more social media outlets (Spratt & Agosto, 2017). This causes an ambiguity regarding the reliability of online information.

The underlying mechanisms, digital algorithms, also strongly shape the information environment. For example, by tracking a person's past behavior online (e.g., what they searched, what they liked) the algorithms automatically recommend future actions and content (Tüfekci, 2015). As these algorithms learn about us, which includes all information we put online from our social connections to our shopping habits to our political views, they shape our information-diet by suggesting some content and not others. The impact of this tailored information may get stronger if an individual's network consists of a group of people who "choose to preferentially connect with each other, to the exclusion of outsiders" (Bruns, 2017, p. 3), which creates an isolated cluster (a.k.a. an echo chamber). Within such a cluster or isolated network, content and recommended search results reflect the participants' worldviews, and can act as filter bubbles (Bruns, 2017). If filter bubbles become a defining characteristic of the information ecology for young people, they have minimal chances of encountering alternative views or discovering new content (Rainie, Anderson & Albright, 2017). Moreover, these bubbles might evolve around particular social or ethnic lines and cause ethno-social digital information divides in our societies (Facer, 2011).

To tackle these issues we must not only pay attention to critical information literacy skills, but also keep documenting who has access to what kind of resources and how these resources are utilized, a topic this study addresses. We study the issue of information seeking within a comparative framework by documenting how teens from different backgrounds (ethnic and otherwise) address their information needs. We explore whether teens utilize the variety of information resources around them differently and check if these potential

differences “hold” over various interests, which are typical for teens (e.g., homework, art, pop-culture, relationships, health). In addition, we address how different groups of teens value offline resources next to online resources, both social and ‘non-social’ resources, over these interests. To our knowledge, in the current debates, there is little attention for the variation in teens’ information seeking preferences as such, and the relative position of the internet as an information resource in it. Such a perspective is needed to begin to address one of the root causes of wide variety of information bubbles that is currently developing.

The attention to the ethnic background, or rather to the immigrant and non-migrant populations in this study is *not* to argue that belonging to a certain ethnic group *causes* ways to use information resources. Instead, from the perspective of sociocultural theory we argue that people’s preferences regarding how they navigate and make use of their environment are always informed by their social, cultural, historical context and material reality, and vice versa, that people’s choices to navigate their environment then will impact upon these social realities. The ethno-cultural identity, among and alongside other background variables like gender or age, can be considered as filters that influence people’s perceptions of their environments and shape their experiences within these environments.

1.1. Understanding learning ecologies in a socio-cultural and networked frame

The current study brings socio-cultural and networked learning approaches together to understand contemporary learning ecologies. We consider learning from a sociocultural perspective which sees the development of mind as “the interweaving of the biological development of the human body and the appropriation of the cultural/ideal/material heritage which exists in the present to coordinate people with each other and the physical world” (Cole & Wertsch, 1996, p. 252). This perspective provides the ground to understand our cognitive functions and learning processes as inseparable from the social context and the broader socio-cultural worlds in which they occur. A key element that characterizes the interconnectedness of mind and culture is mediation. Vygotsky (1978, in Wertsch, 1998) claimed that the mind interacts with culture through mediators, that is, the tools of the mind (i.e., language, signs, and symbols) as well as physical instruments, and this interaction eventually leads

to the formation and development of higher cognitive functions such as logical reasoning or decision making. Learning is an emergent process, an integral part of our everyday lives as we interact with each other, with the materials in our environment, and as we participate in collective activities (Wenger, 1998).

Given the central role of mediation in learning, “mediated activities” are natural units of observation in sociocultural approaches, and typically dialogues between dyads, often with clearly divided roles (e.g., parent and child, teacher and student) during a learning task are considered as empirical examples of mediated activity (Wertsch 1998). However, contemporary social practices where communication and collaboration are embedded in digital technologies require a rethinking of mediated activity. Today, mediation occurs in more dispersed ways than face-to-face interactions. The new tools of information and communication enable people to engage with each other in loose and shifting communities and to communicate over greater distances, in greater speeds, while extending to multiple media platforms and crossing social, cultural and national boundaries (Leander & de Haan, 2011). Networked structures are essential to the new mediated activity and their configurations of, for instance, scales, densities, internal diversities, and geographical spreads should be considered to fully understand learning opportunities they generate (Ünlüsoy et al., 2013).

A network perspective, as embedded in socio-cultural approaches to learning, accounts for the emerging complexities of mediated activity and emphasizes the connections between contextual elements, perceptions and experiences of learners and interactions between learners and resources. The importance of digital tools in the process of learning stems from their capacity as (material) information resources, which also function as catalysts that create and foster social connections, collaboration and communities (Goodyear, Banks, Hodgson, & McConnell, 2004). In other words the internet is not only considered as a medium to engage with information, but as a mediator through which our relationship to information (and to each other) is shaped (Livingstone et al., 2017). In sum, learning from a network perspective covers learners’ relationship to the totality of relationships and material resources they have at their reach (Ünlüsoy et al., 2013).

1.2. Teens from immigrant and non-migrant populations and their information resources

The personal backgrounds, communities and networks of immigrant youth provide them with diverse linguistic resources, forms of cultural knowledge and

different social roles as compared to non-immigrant youth (Lam & Smirnov, 2017). In a study about media use among students from various ethnic minority backgrounds in the US, Louie (2003) observed different linguistic and content preferences related to ethnicity. For example, youth from Dominican, Central American, and Mexican backgrounds preferred predominantly Spanish-language media while Chinese youth followed English-language media more often than they did Chinese-language media. In another study by Lam (2014) Chinese immigrant youth in the US were observed to use both Chinese and English in their social media interactions and the bilingual nature of their interactions enabled them to access both an overlapping and distinct range of resources to serve their interests. A study of the online information search behaviour among African American and Caucasian American teens showed that, for example, African American females were most likely to search for health-related information online, while Caucasian males were least likely (Jackson et al., 2008). However, the literature is less clear on how, apart from differences in the themes and linguistic preferences, these preferences and boundaries relate to more structural social or relational ecologies relevant for learning.

An explorative study of personal network configurations of immigrant and non-immigrant teens in the Netherlands points out that such more structural configurations might differ for different youth. It revealed that their online and offline networks differed in composition. For instance, while teens from immigrant backgrounds have either local or international contacts, more family members and more contacts who are older than them in their networks, Dutch youth's networks consist of more peers and fewer (extended) family members while their networks are spread out in the Netherlands (de Haan et al., 2014). These networks provided access to different kinds of information resources related to the specific networked configurations they were part of. For instance, Turkish-Dutch youth had more access to media information from their homeland Turkey, while Moroccan-Dutch youth had more access to Dutch-based and ethnically informed platforms that spread information on issues of migration. However, this relative small-scale study does not pay attention to the variety that might exist in information seeking behaviour across groups of teens.

Overall, the research literature makes evident that ethnicity is a relevant factor in describing the resources youth consult online and suggests that this impacts upon their learning ecologies. This variety is likely related to what matters to young people, how they pursue their interests, and what kind of (network) resources they benefit from in the process. However, the literature provides little information on how these concerns and needs for information might be

related to specific ecologies for learning, for instance, in terms of the kind of resources youth prefer and in what context, and how these again might be socio-culturally specific.

1.3. Conceptualizing information resources, the design and research questions of the current study

We understand the issue of resource preferences not as an isolated phenomenon, or a random set of actions, but as habits of information seeking that is relational, durable and structural. Information resources as we use it here, are a combination of the social-actors with whom young people are directly in-contact as well as a variety of tools, information, and media that are at their disposal. Our approach is inspired by the notion of ‘social capital’ by Bourdieu (1986), defined as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (p. 248). However, in our definition we consider that the “assets” of social capital (e.g., access to knowledge, information and, relationships) are now being distributed by digital networks, independent of the class and social status that once controlled these assets (Lin, Cook, & Burt, 2001). We make a distinction between online social contacts and offline (i.e., face-to-face) social contacts as personal social networks of young people consist of both kind of ties.

The design of our survey enabled us to study teens’ resource preferences from two perspectives: *a)* when teens are only seeking information to find out more about their interests (e.g., health, news, homework), and *b)* when they are searching for information to create online content (e.g., to upload a video or post a commentary). In other words, we distinguished between information seeking patterns that may lead the teens to be more knowledgeable about an interest (irrespective of whether this interest was related to digital or non-digital social worlds) and information seeking patterns that may lead the teens to develop digital skills and generate digital content. Additionally, we have asked about the language of digital resources. Our interest in the linguistic choices teens make as they search for digital content assumes that language is indicative of the diversity of their online cultural-linguistic practices. The questions we address are:

1. Information seeking habits to address interests (Appendix A, Section 4).

- A. How frequently do teens search for information on interests such health, news, homework, etc.)?

- B. Which resources do teens utilize as they search for information on these interests?
 - C. How does their resource choices compare to each other (i.e., human versus non-human resources; digital vs traditional media resources)?
 - D. Do the background characteristics (i.e., ethnicity, gender, education level and age) predict the choice of using an information resource per interest?
2. *Information seeking habits in the production of digital user generated content (Appendix A, Section 4).*
- A. From which resources do teens learn about diverse digital skills that enable them to produce user generated content (e.g., photos, profile pages, videos)?
 - B. Do the background characteristics (ethnicity, gender, education level and age) predict the choice of using a particular information resource for learning about digital content production?
3. *Information seeking habits in terms of linguistic choices (Appendix A, Section 4).*
- A. When teens search for online content (e.g., stories, instructions, music, animation, etc.) what is the language of their go-to websites?
 - B. Based on the ethno-cultural background of the participants do teens differ from each other regarding the language of the websites they choose and who has more variation across languages online?

2. Methods

2.1. Sample and Procedure

The sample consists of 962 participants, on average 14.5 years old ($SD = 1.58$; range: 12-18). The distribution of demographic characteristics of the sample is presented in Table 1. The survey was carried out during 2010. A stratified sampling strategy was followed to form a sample with substantial groups of respondents with a native and migrant background. To this end, we randomly selected schools in ethnically-diverse regions in the Netherlands and derived our sample from seven schools that agreed to participate in the study. This sample of Dutch and second generation immigrant youth can be considered relevant and representative for populations in welfare countries that have a history of accepting migrant populations and that are digitally well connected, such as countries in Western Europe and the United States. The participants accessed the survey digitally, using the computers in their school. At least one research assistant was present during

the filling in of the survey to respond to questions and aid participants when necessary.

The data collection was conducted conform to the general ethical research principles (i.e., informed consent was collected through the schools and parents were informed regarding the participation of their children). The research was also given clearance by the Ethical Review Board of Utrecht University, Faculty of Social Sciences.

Table 1
Participant Information (N = 962)

| | | NL | TR-NL | MA-NL | Total |
|---------------------|--------|-------|-------|-------|-------|
| Ethnicity | | 46.7% | 17.6% | 35.8% | 100% |
| Gender | Girls | 53.2% | 53.3% | 52.6% | 53% |
| | Boys | 46.8% | 46.7% | 47.4% | 47% |
| Secondary Education | Lower | 78.6% | 65.1% | 73.8% | 74.5% |
| | Higher | 21.4% | 34.9% | 26.2% | 25.5% |

Note. The ethnic background of the participants is referred to as NL for Dutch, TR-NL for Turkish-Dutch, MA-NL for Moroccan-Dutch. *There are many levels of Dutch secondary education system. Here, the “Lower Level” is a combination of various categories of secondary vocational training (called VMBO: Voorbereidend Middelbaar Beroeps Onderwijs). The “Higher Level” is a combination of general secondary education, preparing either for vocational higher education (HAVO: Hoger Algemeen Voortgezet Onderwijs) or university level (VWO/Gymnasium: Voorbereidend Wetenschappelijk Onderwijs).

2.2. Measurement Instrument and Variables

We make use of Section 4 of the Wired Up Digital Questionnaire. To ensure the reliability and validity of the instrument we tested the survey extensively before it was conducted. Information on the development, piloting and implementing of the survey and a full overview of findings are presented in a research report (Hirzalla, de Haan, & Ünlüsoy, 2011). We aimed to identify and describe trends of (mainly internet based) media use among young people.

Within the information seeking habits theme there were three sets of variables that we analyzed. The first set of variables, which correspond with research questions 1. A to D, were derived from a matrix question that combined a list of eight topics (i.e., homework; music, movies, & celebrities; local events & news; shopping; health; making money; religion; literature, art, theatre & science) that broadly reflect various interests relevant to young people's lives with a list of five resources that provide information on these topics: "A book, newspaper or magazine"; "My parents or a teacher" ; "Would ask 'offline' friends or contacts" ; "Would ask 'online' friends or contacts" "Search on Internet", as well as the option "I do not search for this". The matrix question created 48 dichotomous variables (8 topics x 6 options). This design enabled the participants to indicate (1) whether they would search for information or material about different topics, and – if so – (2) which means they would use for their search. The data collected, therefore, is not primarily about actual searching behavior among our participants, but rather about their predispositions or preferences. The participants could select up to three types of resources that they would use for each topic or, in the case they would not search for this topic, indicate their lack of interest. Those participants who reported that they did not search for an interest were excluded from further analysis for the related research question.

The second set of variables, which correspond with research questions 2.A and B, were about the resources teens use to learn digital skills such as "creating a social network profile page", making, editing, down- & up-loading "photos", "music", "videos", "personal blog or website". These items, unlike the previous set of questions, were specifically related to practices in online spaces. In a matrix of options, the participants could choose between "Through a print resource", "Via the in-built help links", "Tried out for myself without guide or help from someone", "Asked to friends, parents offline", "Asked to friends, parents online", as well as the option "never done this". The matrix question created 30 dichotomous variables (5 digital skills x 6 options). The participants could select multiple responses or indicate that they had not yet developed one (or more) of these skills. Those participants who opted for the last category indicating that they did not have the digital skill were excluded from further analysis for the related research question.

The last set of variables, which correspond with research questions 3.A and B, addressed whether the websites youth used to seek online content or materials (specifically for photos; other visual materials (e.g., pictures, memes, gifs); videos;

stories, poetry, other literature; informative texts (e.g., instructions); music; animation) were reflecting the diversity of their online cultural practices. The link between ethnicity, culture and the digital content was established by asking about the language of the website. The options were Dutch, English, another language or their mother-tongue. The language of the websites was used as a proxy for whether these websites could be considered in any way ethnically-culturally specific. The matrix question created 28 dichotomous variables (7 types of online content x 4 options for language). The participants could select multiple responses.

Ethnicity (Dutch, Turkish-Dutch, and Moroccan-Dutch), gender, school level and age of the participants were used as the predictors in all analyses. The first three variables were categorical; age was the only continuous variable.

2.3. Data Analysis

The first and second research questions regarding “Information seeking habits to address interests” and “Information seeking habits in the production of digital user generated content” respectively, were analysed with descriptive analyses followed by multivariate binary logistic regression analyses. For the binary logistic regression analyses all assumptions (i.e., dichotomous dependent variables, independent observations, no multicollinearity, and large sample size) were met.

The third question “Information seeking habits in terms of linguistic choices” was tested for the mean differences between the three ethnic groups in terms of their choice for language of a website with MANOVA. Individual mean differences across the three ethnic groups and seven items of online content were compared with Tukey’s *b*. All analyses were conducted using SPSS software, version 22.

3. Results

3.1. Information seeking habits to address interests

Here, we answer how teens address their interests or information needs, which resources they choose and how do these choices compare to each other in terms of human versus non-human resources; digital versus traditional media resources, and whether background characteristics predict the information resource choices.

First, our participants sought information about the eight interests or information needs. Figure 1 below shows the percentage of the participants

who searched information about the listed topics. The Figure indicates that the topics we selected were considered relevant for information searching for most of the teens we surveyed.

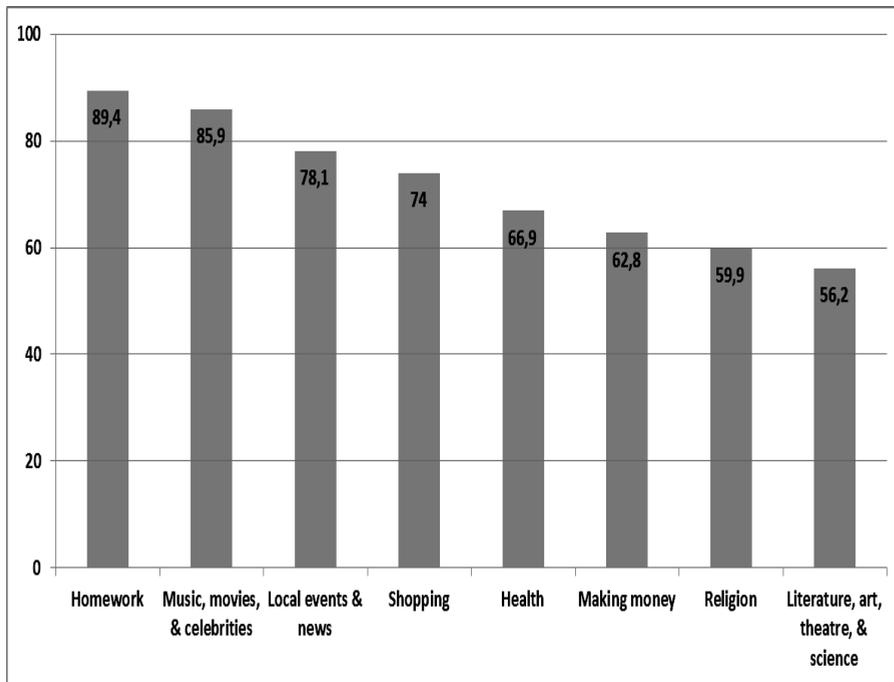


Figure 1. The percentage of seeking information on the given topics (N = 962)

Second, Table 2 below shows the frequencies of information resources per interest. Online resources (e.g., Google, Wikipedia, etc.) were by far the most popular choice across topics. Yet, for different topics the resource preferences were slightly different. The adults (parents and teachers) were the second popular information resource. The teens turned to them mainly for “homework”, “religion”, and “health” issues. Print resources followed as third for information on “literature, art, theatre, and science”, “music, movies, and celebrities”. Friends (online and offline) were the two least chosen categories as information resources. Given the general popularity of chatting and networking with friends online as revealed above in the first question it was surprising to see that these conversations were rarely considered as resources of information. So, we can conclude that digital resources suppress all other type of resources for every interest teens want to address. Yet, these were not the only resources. The adults in teens lives also guide and aid teens with

information. Print resources have not diminished from the lives of teens either. However, peer-to-peer interaction (online or offline) hardly seemed to “count” as accessing information in general.

Table 2
Preferences for Resource Use per Topic (in %)

| | Print Resources | My parents or teachers | Friends (offline) | Friends (online) | Online Resources |
|---|-----------------|------------------------|-------------------|------------------|------------------|
| Homework (<i>n</i> = 860) | 12.2 | 43.6 | 13.4 | 18.7 | 44.4 |
| Music, movies, & celebrities (<i>n</i> = 826) | 22.9 | 3.9 | 15.9 | 17.6 | 60.9 |
| Local events & news (<i>n</i> = 751) | 19.3 | 18.8 | 37.7 | 20.1 | 30 |
| Shopping (<i>n</i> = 712) | 16.3 | 17.3 | 18.4 | 11 | 54.8 |
| Health (<i>n</i> = 644) | 17.9 | 36.3 | 11.8 | 7.9 | 49.7 |
| Making money (<i>n</i> = 604) | 14.6 | 21 | 19.2 | 12.3 | 50.7 |
| Religion (<i>n</i> = 576) | 18.9 | 40.3 | 10.6 | 8.7 | 42.9 |
| Literature, art, theatre, & science (<i>n</i> = 541) | 26.4 | 16.8 | 11.6 | 11.3 | 52.3 |
| Total | 18.5 | 24.7 | 17.3 | 13.4 | 48.2 |

Note. The participants were enabled multiple choice to indicate their top three resources per topic. Most of the row sums of percentages, therefore, exceed 100. The last row with the totals indicates on average how much a resource was preferred across topics.

Last, binomial logistic regression analyses of the 48 dependent dichotomous variables (8 interests x 6 information resources) were performed to see whether background characteristics (ethnicity, gender, school level and age) predicted selecting a type of resource for a given interest. Not all models revealed

statistically significant results, the significant model comparisons are presented in Appendix B. For example, we found no significant differences related to background variables in the use of print-resources in none of the interests. For some resources, the differences were observed only on a limited number of interests, but they revealed interesting results. For example, Dutch teens had 1.5-1.7 times higher odds than their Turkish and Moroccan peers to rely on their “parents and teachers” as information resource for homework. On the other hand, Turkish and Moroccan teens had 3.5 - 3.3times higher odds than Dutch teens to rely on their “parents and teachers” as information resource for information on religion.

We observed the most consistent differences for every interest in the category of use of online resources and below we will present all findings related to this category. Ethnicity and school level were two main factors that determine the use of online resources.

The main effect of *ethnicity* significantly differed only between the Dutch (also the reference category) and Moroccan-Dutch teens. Turkish-Dutch teens’ use of online resources did not significantly differ from their peers on any of the topics. Holding all other predictors constant, Dutch youth were more likely to use online resources for all topics except “homework”. Ethnicity was not a significant predictor for searching information on homework. The (inverted) odds ratios indicated that the probability of Dutch youth using online resources were between 1.61 - 2.31 times higher in the given topics than their Moroccan peers.

School level was the second predictor that revealed consistent differences. Teens in the higher levels of secondary education had between 1.55 – 2.12 times higher odds of using online resources for nearly all interests, except for “making money” and “religion”.

Age was also a significant predictor. For four topics -“ local events”, ‘shopping”, “making money”, and “health”- one point increase in age resulted in 1.11-1.18 higher odds for using online resources. For all other topics age was not a significant factor of online resource use.

Finally, significant *gender* differences in using online resources were observed only for “health”, “popular culture” and “high culture” themes; girls were 1.54-1.75 times more likely to use online resources than boys for these interests.

Taken together, these results reveal that the tendency to search information online across the various interests is highest in Dutch teens and for teens in higher levels of secondary education. Gender and age differences are only apparent for a limited number of interests. However, it should also be noted that the highest pseudo R-square statistics reported is .115 indicating that there is at best a weak relationship between the predictors and the outcome variables. In other words, the explained variance of resource preferences by background characteristics is very small.

3.2. Information seeking habits in the production of digital user generated content

We also wanted to know what resources youth had consulted in the process of learning certain digital skills necessary to produce user generated content (e.g., digital materials such as photos, videos, or profile pages) as we were interested if resource use under this condition might reveal a different pattern in comparison with the general ‘topic based’ condition. In this general condition, we explored how the various resources we distinguished were utilized “in general” given teens’ interests, while this question asks how youth weigh their resources when they learn to produce online content or master certain digital skills.

We first checked whether our participants generated the kinds of digital content we listed in questionnaire. Figure 2 below shows the percentage of the types of content that the participants create. Figure 2 indicates that for most of the teens we surveyed, the digital skills and materials we listed were considered relevant.

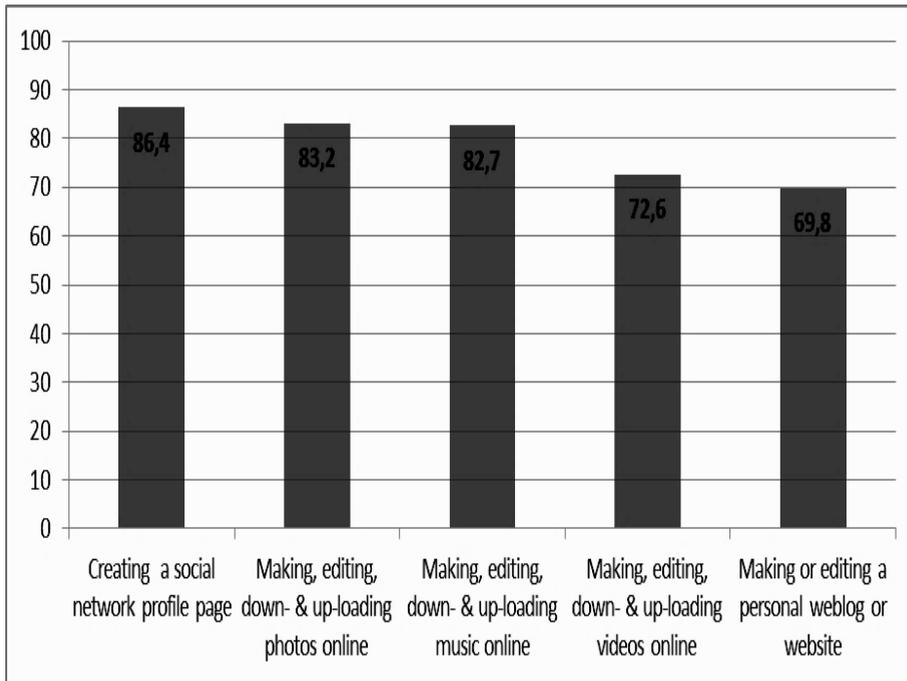


Figure 2. The percentage of cases who do engage in digital activities (N = 962)

Then, we checked which resources teens use to learn about particular digital activities as presented in Table 6 below. Our goal is to shed light on how teens find resources for their learning under this condition. The participants clearly preferred to learn activities on their own, by trying them out, while seeking help from offline contacts was a distant second choice. This shows us that the digital productions are mainly learned in digital environments with the help of online resources. Offline resources are less preferred for teens learning in digital environments. Also, interestingly, youth make relatively infrequently use of their online connections for learning these online skills.

Finally, binomial logistic regression analyses of the 30 dependent dichotomous variables (5 digital skills x 6 information resources) revealed whether background characteristics of the participants predicted the preferences for resource use as they learned the listed digital activities. The only significant difference observed was in the use of “print resources” for “making or editing a personal weblog or website” and for “making, editing, and down- and uploading photos online”.

However, given the very small percentages for print resource use, as shown in Table 3, these differences were not meaningful, albeit statistically significant.

Table 3
Preferences for Resource Use per Digital Activity (in %)

| | Print Resources | In-built "help" function | Offline contacts | Online network contacts | Self by trial and error |
|---|-----------------|--------------------------|------------------|-------------------------|-------------------------|
| Creating a social network profile page (<i>n</i> =831) | 1 | 6 | 23.9 | 12.8 | 62.8 |
| Making, editing, down- & up-loading <i>photos</i> online (<i>n</i> =800) | 1.6 | 5.6 | 18.9 | 10.3 | 68.4 |
| Making, editing, down- & up-loading <i>music</i> online (<i>n</i> =796) | 2.3 | 5.2 | 32.3 | 16.1 | 53.9 |
| Making, editing, down- & up-loading <i>videos</i> online (<i>n</i> =698) | 2 | 6.4 | 18.2 | 11.3 | 66.6 |
| Making or editing a personal weblog or website (<i>n</i> =671) | 4 | 6.9 | 24.4 | 13.3 | 57.7 |
| Total | 2.1 | 6 | 23.5 | 12.7 | 61.8 |

Note. The participants were enabled multiple choice to indicate their top three resources per topic; most of the row sums of percentages, therefore, exceed 100. The last row with the totals indicates on average how often a resource was preferred across topics.

3.3 Information seeking habits in terms of linguistic choices

The last question was created to understand the diversity of their online cultural practices. We used the language of the website as an indicator of access to culturally varied online content. There were seven different types of online content (e.g., music, informative texts, and animations) and four language options.

To get a general impression, we first created a sum of all different content (minimum 0, maximum 7) and checked in which language websites teens searched for this content. Dutch language websites suppressed the rest of the options; teens seek on average 4.76 ($SD = 1.78$) different kinds of content in Dutch. For English websites, the average amount of content they search was 2.28 ($SD = 2.59$). For websites in another language and in mother-tongue the average amount of content they search was less than one (respectively $M_{another-language} = 0.66$, $SD = 1.56$; $M_{mother-tongue} = 0.96$, $SD = 2.06$).

Analysis of variance showed a main effect of ethnicity on the choice to go to English websites ($F(2, 959) = 27.80$, $p < .00$, $\eta_p^2 = .055$); to another language websites ($F(2, 959) = 12.41$, $p < .00$, $\eta_p^2 = .055$); and mother-tongue websites ($F(2, 959) = 39.99$, $p < .00$, $\eta_p^2 = .055$). There were no significant differences in the general use of Dutch websites. Post-hoc analyses using Tukey's HSD indicated that both Turkish and Moroccan teens used English websites significantly less than Dutch teens (respectively the mean differences were $M_{TR-NL} = -1.35$, $SD = .22$, $p < .001$; $M_{MA-NL} = -1.12$, $SD = .18$, $p < .001$). However, Turkish and Moroccan teens visited websites in another language significantly more often than Dutch teens (respectively the mean differences were $M_{TR-NL} = 0.62$, $SD = .14$, $p < .001$; $M_{MA-NL} = -0.39$, $SD = .11$, $p < .001$). Also, visiting websites in mother-tongue was higher for Turkish and Moroccan teens than Dutch teens (respectively the mean differences were $M_{TR-NL} = 1.16$, $SD = .17$, $p < .001$; $M_{MA-NL} = 0.88$, $SD = .14$, $p < .001$).

To sum up, ethnicity had an impact on the language of the website choice of teens. Since the online spaces they visit are linguistically different from each other, we can infer that the participants do seek and encounter online content that might reflect varied cultural perspectives. First, all youth consulted websites in the Dutch language, which means that irrespective of their ethnic background, youth living in the Netherlands consult online resources that can be characterized as "Dutch". However, next to this common preference, teens also made significantly different linguistic choices.

Our results show that the media habits of teens in the Netherlands, their resource preferences for "consuming" information or generating content are in important ways similar. The new, digital, online spaces are prominent information resources in the lives and learning ecologies of teens from all backgrounds. These online spaces often function as a primary resource for information that young people explore on their own. The conventional, print-

based media, such as books, magazines, manuals are much less preferred in general, by everyone. The individuals with whom teens communicate online and/or offline, the ‘social information-resources’, are addressed for specific interests. The learning process of producing, editing and sharing digital (user-generated) content happens online for all teens and most teens rely on trying it out for themselves more than any other resource available to them. However, our overall conclusion is that these similarities across groups in how and where they search for information are not an indication of a homogenous internet culture where background characteristics are a mere detail as we will argue below.

4. Discussion & Conclusions

As indicated in our introduction, there is a rise in studies that pay attention to the critical assessment of information online (e.g., Paul et al., 2017; Mason et al., 2018), which acknowledge the dominance of Internet as a general gateway to information (and misinformation). While it is essential to understand and reinforce conditions that would foster sourcing and fact-checking, understanding how different social and demographic variables correlate with and predict the resource preferences remains important too. Our findings seem to indicate that teens, regardless of their ethnicity, gender, school level and age prefer digital resources predominantly. Yet the study also reminds us that teens employ these resources marked with ethno-cultural and linguistic boundaries. We observed that the internet is embedded in the lives of teens as a convenient information resource, given the frequency of its use. For all eight interests we distinguished, teens most frequently -but not solely- turned to the Internet to find out more about these interests. The internet as a primary resource for teens everyday information needs is a finding that aligns with earlier research (Lenhart, 2015; Livingstone et al., 2017). What our study adds to this knowledge about how digitalization shapes information seeking is that most teens primarily rely on digital resources (and themselves) for producing digital content. Self-reliance, that is figuring out how the online site or app works to participate in digital production (e.g., editing and uploading a video) was by far the most reported option (or resource), at the cost of relying on social others or information resources outside the internet. In other words, teens engage in the production of digital content using digital resources and relying on their own capacity as well as the self-explanatory mechanisms of the digital tools they

used. Although it was chosen by much less participants, 'offline contacts' was the second important resource for participating in digital production, implying that the possibility to observe others performing digital production was also valuable for some. This finding suggests that other resources -especially printed manuals, but also digital manuals (or the built-in help functions) become redundant for digital production once teens are immersed in a digital environment.

While our data clearly confirms the digitalization trend for all youth, this finding does not indicate necessarily that teens access the same information ecology. As stated earlier, their information ecologies are defined by earlier interactions with technologies, for instance, due to algorithms that track user behavior, search terms, or the language used might reveal different results. To make our point clear, while a library search with the same keywords would reveal the same result for any learner, the internet is far less predictable because even the same keywords may reveal a different pool of results depending on the location and past searches of the learners. In this regard the internet as a digital resource should be considered more than a medium, but as a mediator that shapes our engagement with information (Livingstone et al., 2017).

Despite the omnipresence of digital resources, there were notable differences when teens reported resource preferences about their interests, when we consider both their online and offline resources, as well as when we study this for a variety of different domains of interest. Their choice for information resources were clearly tailored to not only to their needs, but these needs were also specific depending on their backgrounds. For example, while all participants looked for information on school-related tasks (e.g., homework) the odds of Dutch teens consulting adults for information about their homework were significantly higher than their Moroccan and Turkish peers, whereas Turkish and Moroccan teens consulted adults regarding information on religion much more than Dutch teens did. This finding suggests that the choice between 'asking offline contacts' versus 'searching online' is informed by how much knowledge of their offline contacts youth assume as related to the information that is available online. It could be that Dutch teens assume that their parents have insights based on their own experience with the Dutch education system, whereas teens with an immigrant background, whose parents may not have attended school in the Netherlands, may assume that this is not their parents' area of expertise. A different example from our results show that teens from

higher levels of secondary education consulted digital resources, more for 'homework' or 'literature, art and science' than their peers from lower levels of secondary education. In this case the level of education defines what kind of digital resources are employed. Although the differences we described here were statistically small, this finding shows that information worlds are specific. They vary depending on different background characteristics such as ethnicity and vary per information domain. The results suggest too that online search behavior also depends on how reliable offline resources are and reliability of offline resources might vary per information domain.

Another way that background can impact resource preferences is the linguistic choices teens make as they search the internet. Teens' linguistic choices while looking for different content online indicate access to different, ethno-culturally specific learning ecologies. This linguistic diversity we observed reveals that youth from different ethnic backgrounds access partly diverse information-landscapes. The ethno-culturally defined online places, which appear to be exclusive, enable teens from immigrant backgrounds to connect to their roots or to immigrant communities. On the other hand, using English, as Dutch teens preferred more than their immigrant-background peers, enables teens to access to a more globalized stream of information. In each situation, teens' learning ecologies expand differently.

These findings are in line with and confirm earlier findings that searching the internet in multiple languages opens new learning ecologies where language is the key for access (e.g. Lam and Smirnov (2017), and that information search behavior is dependent on background characteristics (e.g., Jackson et al., 2008; Lam, 2014). However, the merits of our study lays in showing that resource preferences are not something that can be considered as independent of particular thematic information needs, and that these information needs also are shaped against the background of other available resources. The choices related to information seeking are also shaped by the background characteristics of the person and his/her perception of the available resources. We suggest that these results imply that information seeking behaviour depends upon and builds a particular kind of 'social capital', which forms a specific kind of learning ecology for teens. For instance, accessing the internet in different languages could be considered from a social capital perspective. Given that the content language on the Internet is predominantly English (Internet World Stats, 2017), access to English content, which Dutch teens were

more likely to do, might expose and enable them to a richer variety of resources associated with a particular form of social capital. On the other hand, accessing similar content in a language other than English, as the Turkish and Moroccan teens probably did in this study, may enable a different linguistic and cultural perspective on the issue being searched. In terms of social capital, accessing content in different languages (other than the dominant web-language English or the dominant local language Dutch) might indicate access to another culture, other news, information and perspectives. This capital may function to build, maintain or empower relationships within the immigrant groups (Lam & Smirnov, 2017). This finding essentially indicates that the social capital of the immigrant and Dutch teens is different in terms of the kinds of networks they can access, the human resources they rely on, and in terms of material resources (i.e., online spaces via their digital tools) they can access. More specifically, our study shows that this social capital is highly variable, and dependent on the interaction between particular thematic interests and the total availability of both offline and online resources.

Our results should be considered with these limitations in mind: First, the survey approach is an insufficient method on its own to entirely understand learning ecologies, or how teens navigate and utilize them. A survey cannot easily chart the wider range of influences, other than background characteristics, that shape the motivations and choices of teens as they address their information needs. Second, during the time we took the survey computers and laptops were the main hardware for accessing the internet, and MSN messenger was the most popular application for chatting. Currently, newer applications have replaced older ones and mobile technologies have, for many teens, replaced the role of computers as gateways to the internet, at least for networking and chatting purposes. However, we argue that it is reasonable to assume that our conclusions on the variety in learning ecologies do not depend on the specificity of internet technologies. It is expected that the prominence of the internet as an information resource in the lives of teens will continue to be relevant and possibly intensify. The internet will also remain a place where ethno-cultural identities are explored and expressed. Empirical data on how teens benefit from digital resources in ways that reflect their social and cultural backgrounds and personal preferences is relevant, regardless of the devices they use to access information.

In terms of the practical implications of this study the following can be said. Our results suggest that youth's information seeking preferences may lead them to coexisting but not intersecting learning ecologies. While we cannot claim that these learning ecologies are characterized by information bubbles we ask to what extent (if at all) these teens are aware of each other's information resources and the resulting flow of information? It might be that the lack of understanding regarding where and what kind of information will lead to a lack of understanding across different ethnic groups or lead to specific inclusion or exclusion processes, serving to create cultural and linguistic echo-chambers. From another perspective, the attraction of familiar online spaces with a familiar language and recognizable cultural values is understandable and perhaps necessary. These spaces are potentially very valuable for learning, because they function and are perceived as information resources that are accessible and low-threshold. Also, they provide safe havens for the exploration and expression of individual and collective identities (Leurs, 2012), which might provide significant learning processes.

Given this development, the responsibility of educational institutions such as schools, being the actual, physical spaces where young people come together daily become more key. Their task of addressing and discussing the different learning needs of teens becomes more complex. Despite this complexity, schools can serve as an important platform where teens can show each other the different paths and various learning ecologies they have entered. Schools will have the function, more than before, of a meeting ground where the varied networked configurations for learning of youth from diverse backgrounds can become shared and addressed.

Chapter 5

Challenging ideals of connected learning: The networked configurations for learning of migrant youth in the Netherlands

⁵ De Haan, M., Leander, K., Ünlüsoy, A., & Prinsen, F. (2014). Challenging ideals of connected learning: The networked configurations for learning of migrant youth in the Netherlands. *Learning, Media and Technology*, 39, 507-535. doi:10.1080/17439884.2014.964256

⁵ Author contributions: M.d.H., K.L., A.Ü. and F.P. designed the study. M.d.H. and K.L. wrote the article with input from A.Ü. for the method and data section. A.Ü. and F.P. collected data in collaboration with colleagues and research assistants. A.Ü. and F.P. analyzed the data.

* The study is conducted as part of the Wired Up research project designed by Mariette de Haan, Sandra Ponzanesi & Kevin Leander.

Abstract

New infrastructures that dramatically change our possibilities for knowledge production and learning have also brought forward ideals on 'new' connectivity. Two important ideals of connectivity are that of the individual who tailors his or her knowledge among expansively dispersed resources, and the ideal of access to multiple, diverse resources that provide individuals rich learning opportunities. In order to better understand what cultural norms are implied in our ideals of connectivity, we argue, they must be tested in the crucible of empirical data through the analysis of the actual socio-technical practices of different social and cultural groups. Through a combination of ego-network analysis and a qualitative, in-depth discursive approach, we analyse the networked learning practices of three ethnically different groups in the Netherlands. We comparatively describe Dutch youth as 'unrooted' learners, Moroccan-Dutch youth as 'routed' learners, and Turkish-Dutch youth as 'rooted' learners. We propose the idea of the Networked Configuration for Learning as a means to contrast the learning opportunities individuals and groups have in relation to particular offline and online connections, their historical geographies, the development of learning 'places', and particular learning affinities.

Idealized notions of connectivity and learning for the 21st century

It is commonly acknowledged that information and communication technologies have created new infrastructures that dramatically change our possibilities for knowledge production and learning. Along with these new possibilities for learning and connectedness, we have also generated new ideals that create vision for the new information society and yet also, at times, become confused from with the lived reality of this society in everyday practice. For instance, in the ideal information society, people are optimally networked so that resources are equally available, shared and voiced, and participation possibilities are maximized. However, we have only limited knowledge of how these ideals match with every day social practices of connectivity. At the same time, these notions of optimal connectedness and participation are marshalled by new paradigms of learning. These paradigms provide an alternative to traditional proprietary models of knowledge production, and are based on open knowledge production models in which knowledge production and sharing happens through decentralized and distributed networks. These networks are available independent from time and space barriers, and owned by many, rather than revealing information through linear systems from one central point

(Peters, Besley, & Araya, 2014). Along with this open knowledge production it is argued that a wider variety of resources over greater distance is available for learners. In line with this many have pointed out that learners in the digital age have or need to have global orientations and need to learn to juggle the contradictory frameworks that come with this wider variety.

However, until relatively recently, we have only begun to look for an empirical base of the social practices that sustain these ideals, and develop alternate claims that counter-pose to the ideal. Just as the ideal of civic participation has stumbled upon older issues of race, class and ability in realizing full community participation in the information society (Baker, Hanson, & Hunsinger, 2013), we might ask if we can find empirical grounds for these idealized digital connectivities for learning. Are these ideals perhaps based on too simplistic notions of unbounded and unproblematic access to communities and knowledge networks? Do they sufficiently account for how particular social formations in which knowledge and information is shared are formed, for instance, taking into account issues of identification, of geography, and of diverse histories? Are these ideals perhaps more realistic for some and not for others?

In this paper we begin by reviewing some of the ideals that have been brought forward on 'new' networks, networked configurations for learning and knowledge building, focusing especially on scholarship from the learning sciences. We analyse the presumptions on which these ideals are build and also present a selection of studies that can provide us with, partly empirical, knowledge of digitally networked configurations and how these work for learning. We move into an empirical analysis of knowledge networks among immigrant and non-immigrant youth from our research, to provide insight into the variety of digitally mediated networked configuration as well as sociocultural nature of these configurations.

Our aim is to contribute to a critical appraisal of the ideals of new forms of networked learning through an empirical examination of the digital practices of ethnically different groups of young people in the Netherlands. This comparative perspective is not used to make an argument around ethnically specific connectivities. Rather, our goal is to point out the diversity that exist in networked configurations for learning while seeing these configurations as socially, culturally and historically formed in which ethnic factors play a role next to, for instance, gender, age or specific youth or media cultures.

2. A review of the literature

2.1 Ideals of connectivity

Two important sets of ideals of connectivity that have developed over time are, in the first instance, the ideal of the individual who tailors his or her knowledge among expansively dispersed resources for learning, and in the second instance, the ideal of the availability of a wider variety of resources over greater distance that provide individuals rich learning terrains for their traversals. Following, we briefly sketch these ideals as configured sets of ideas and vision, as assembled discourses.

Globally dispersed, highly individualized networks to pursue tailored knowledge

What distinguishes contemporary social knowledge arrangements from those of the past, is that knowledge production happens more at geographically and temporarily dispersed sites. In the knowledge society, individuals are still working, living, gathering knowledge and making decisions as part of densely knit, homogeneous locally based communities, but, at the same time, find themselves in highly individualized, locally and globally dispersed networks, which provide them with unique knowledge opportunities to solve particular problems (Farrell, 2006).

The same can be argued for the processes by which this knowledge is acquired. Whereas earlier learning happened in clearly identified, closed, geographically bounded and specialized communities, in which learning meant to observe and practice in close supervision of a master, learning possibilities in the knowledge society are far more individualized, happen in accordance with personalized network structures which are spread out over different geographical scales and a variety of relationships that might be rather different from each other and include, for instance, online tutoring with people at the other side of the globe or the possibility to set up a knowledge base together with people that have as many nationalities or ethnic affiliations as you can imagine.

The notion of 'connected learning' Ito and colleges have introduced as an alternative for traditional, standardized, place based education tunes into this idea of connectivity. Learners have more agency than ever before to connect to the world, share ideas and experiences, develop and show expertise in their respective fields of interests (Ito, Gutiérrez, Livingstone, Penuel, Rhodes, et al.

2013). Likewise, Ito states that connected learning can be an alternative for pushing scarce and static knowledge from centre to periphery. Learning processes start from individuals that pursue knowledge and expertise they care deeply about, supported by a network of friends and institutions creating a 'dynamic, distributed, participatory, networked knowledge universe' (Ito, 2012). The idea of connectivity that is implied is one in which information is maximally available and the of process knowledge sharing implied is one in which knowledge does not move from authorized hubs or centres to individuals, but instead, is pulled from a variety of places and individually resourced. The profile of the learner that is implied here is highly agentic, driven by individual needs and interests, and pursues his or her learning in individualized and tailored-to-the-need networks.

Multiplication of available and diverse resources for learning in new networks

The idea of optimal networking has lead scholars of education to assume that diversity and cross-disciplinary work will move up in the agenda of education in the 21st century. Globalization has led to an explosion in the variety of sources of information available, to greater community heterogeneity and to participation in multiple, overlapping communities, although these effects vary considerably depending on local conditions (Weisner & Lowe, 2005). Whereas this diversity earlier has been typically associated with the socialization of immigrant youth, today all youth have the possibility to be exposed to a multitude of different resources, and a network of relationships that connect them to multiple different others that can be meaningful for their formation. For instance, Cousin (2005) argues that what is typical for learning in cyberspace, is the endless navigating possibilities, the unexpected turns and directions, and the potential for heterogeneity in learning experiences.

Many have stated that living with the heritages or simultaneous presence of multiple, diverse communities creates particular challenges. For instance, the learning that takes place in culturally heterogeneous settings becomes more centred around the comparison, confrontation, and translation of traditions, as well as on the ability to move through multiple sociocultural worlds and build multiple repertoires (e.g., De Haan 2011). However, although the idea of optimized networking and heterogeneity seems to inspire many scholars of

education, this relationship has not been explored in detail, and empirical work in this area is only beginning.

Both set of ideals have in common that they are based on notions of connectivity that are relatively abstract and removed from actual social networked configurations. In addition, so far, in formulating these ideals, there has been little attention for the variety in digital connectivity that might have important consequences for learning opportunities.

While we do not as yet have many empirical studies to examine or test ideals of connectivity in practice, there is initial work that can inform us about the specific form online connectivities can take in practice. Equally importantly, from a range of scholarship, conceptual work has been done from which insights can be generated on specific networked social configurations and their supports for learning, including work that considers learning from the perspective of participation in communities.

Below, we review and synthesize insights from a range of studies that analyse such networked structures with the goal in mind of understanding how these structures impact learning opportunities in the digital era. The networked perspective on learning that we take contrasts with a perspective on learning as individual information processing. From a sociocultural take on learning which sees learning as part of whole activity systems that include culture, community, tools, and symbols (Vygotsky, 1978) learning can be considered a networked phenomenon that covers the totality of relationships and resources individuals have at their reach (Jones & Steeples, 2002; Ünlüsoy, et al., 2013). Cognitive individual processes are intertwined with the structures of the social relationships and available artefacts that support that individual or group of individuals. In this vision on learning, social configurations for learning, as well as the nature of resources these provide, are an inherent part of 'learning', next to the individual information processing side which is not the explicit focus of this paper.

2.2 What do we know of digitally formed social configurations for learning?

In sociocultural theory the learning of individuals has been often conceptualized as related to the qualities, forms, and extent of community participation of the individual, arguing that learning is a matter of growing into the intellectual lives of others and becoming member of a (knowledge) community (Rogoff, 1990).

Brown and Campione (1994) developed the idea of a community of learners as a didactical concept in which classrooms function as communities in which advantage is taken from the expertise of all of its members, as an alternative for a teacher-centre approach in which knowledge is one-sidedly transferred. Others have developed notions of informal learning that are explicitly linked to becoming a member of a community, such as the idea of a community of practice (Lave & Wenger, 1991) or the idea of Intent Community Participation (Mejía-Arauz, Rogoff, Dexter, & Najafi, 2007).

Gee's (2005) idea of 'affinity space' makes perhaps the clearest contrast with the idea of a community of learners within this tradition, building up his argument around the rise of digitally mediated spaces for learning. Affinity spaces can be seen as a form of social affiliation in the digital era in which a kind of learning happens that is contrasted to school learning. In affinity spaces people relate to each other primarily in terms of common interests, endeavours, goals, or practices. Typically, these spaces are temporal, and highly unstable in terms of who participates, since interests and goals may well change and develop. Experts and novices share the same space although they might have different roles and responsibilities at different moments in time. Individual learning as well as learning to use and contribute to distributed knowledge are both active. Innovation, and transformation, rather than passing on established knowledge seems to drive learning processes. Typically, these affinity spaces encourage and enable people to use dispersed knowledge, that is, knowledge that is not actually at the site itself, but at other sites or in other spaces. The concept of affinity space, in contrast to the idea of connected learning, for instance, points to the social configurations where learning is enabled. Gee points to the fact that although learners come together in these new social configurations based on their interests, new forms of belonging and community formation develop. Learners are described both as travellers who are occasional visitors, as well as community members who invest in the newly established communities.

Yet from another angle, scholars have raised the contrast between the advantages of densely knit communities, that enable a common infrastructure for learning and the sharing of common knowledge base, versus the benefits of more individualized and geographically dispersed networks, in which the availability of many diverse relationships is stressed.

Generally, social network studies have argued that more individualized and geographically dispersed networks, mark the growth of the availability of many diverse relationships that provides people with the possibility to extend their knowledge manifold beyond their local communities, to make bridges to other communities. However, as a study by Benner on 21st century knowledge guilds shows, such long distance and dispersed relationships are not enough to realize knowledge innovation and to function as creative and productive knowledge centres. One of the problems the new 21st century knowledge guilds in Benner's study faced, was their isolation and a concern for finding a social world in which they can share their knowledge needs and problems (Benner 2003, as cited in Farrell 2006). Benner is making an argument for the importance of common knowledge, or a common learning infrastructure for the development of new knowledge. Densely knit communities in which we develop close relationships with similar others, or gather around a common purpose provide us with the sustained interaction, mutual engagement, coordination and the convergence in terms of shared values and focus, which is needed for collective and focused growth and learning according to a 'community of practice' idea as described by Wenger (1998). It seems thus that both types of ties or networked relationships, which in terms of social network theory are referred to as strong and weak ties, have different functions for knowledge production and learning, also in digitally supported social configurations (see also Ünlüsoy, De Haan, Leander & Volker, 2013; Haythornthwaite, 2011). But it is important to note that, as Gee's notion of affinity space also shows, that some of the notions that have come up as important characteristics of sociocultural learning, have certainly not disappeared in these new digital configurations for learning.

Haythornthwaite (2011) does not explicitly refer to the notion of community or affinity spaces, but makes the argument that online social configurations for knowledge production can be very different when it comes to how much people invest in the formation of online communities. Some configurations, or knowledge projects are more impersonal and the personal contribution of the individual is less visible. Not all networked based configurations are affinity spaces, or in her terminology, they do not all have 'community weight'. While paying particular attention to the interpersonal connections involved in online productions or projects, she distinguishes two different forms of online collaborations that have a different 'weight' in terms of the involvement and affiliations of people. 1) Crowd sourced collaborations such as Wikipedia, which

involve tasks such as the proofreading of texts (e.g., <http://www.pgdp.net>) are called 'light' because they do not require knowing other collaborators or working closely together, are often anonymous, and depend on more 'institutionalized' structures that allow a relatively anonymous participation. Engagement can be partial, temporarily, and the barriers to 'get in' are minimal.

2) Community sourced online collaborations, such as those that develop in special interest communities online, in contrast, are 'heavy weight'. These involve community formation in terms of the building of status positions, rules and conventions. They can be considered more 'personal' as they are based on mutual visibility, require knowing and working more directly with others, and ask commitment to the goal of the project. With this typology Haythornthwaite adds the dimension of more institutionalized social configurations in which, as is the case in general in social institutions, knowledge production is massive, impersonal, and happens according to certain institutionalized rules. In the digital age, like affinity spaces, these institutionalized configurations have become more temporal, and unstable and allow the participation of many, changing contributors.

As these contributions make clear, digital connectivity comes in plural, and is highly specific. The learning potential or conditions for knowledge production it generates, depends on specific configurations of the networks such as density and dispersion, but also on the so called community weight of digital collaborations. Interestingly, in many of these studies issues of affiliation and belongingness play a crucial role, which demonstrates the importance of the community aspects of online learning relationships. However, if (digital) connectivity is highly particular, and if communities matter in this respect, the question must be raised what learning communities are available for specific individuals or group of individuals. In other words, this raises the issue of how we need to think of diversity in the connectivities of people and the potential differences in their learning potential that follow from these. In order to shed some light on how specific connectivities might work out differently for what learning opportunities are created, we adopt a comparative approach. While studying the online ego networks of three different ethnic groups of youngsters in the Netherland, we are interested in analysing the specific shape of their networks, as well as how these might form unique profiles for their learning.

3. A study of the online learning networks of different social and cultural groups

3. 1 Research questions and methodology

In order to shed more light on the issue if and how the specific connectivities youth develop online provide them with specific learning opportunities, we are interested in how youth of a different ethnic origin might develop specific connectivities, and how then these relationships are exploited for their learning. Drawing on a perspective of learning as a networked phenomenon, we have combined a quantitative approach in which we are mapping the structures and composition of these online networks (as well as their 'whole' networks) (our question 1) with a discourse analytic approach in which we asked youth to interpret how these network structures, and the relationships and communities they provide function for their learning (our questions 2 and 3).

1. Structure and composition of their online networks as related to their offline networks. How can the (possible differences between) online networks of immigrant (Turkish-Dutch and Moroccan-Dutch) and native Dutch youth be described, as related to their offline networks in terms of: the kind of relationships they contact (friends, family, acquaintances), the homogeneity of their networks (in terms of age, gender, ethnicity), the geographical spread, size and density of their networks?

2. Networked online communities for learning.

2a. What (variety of) relationships and sub communities are indicated by youth in their networks that are relevant for their learning? What goals they pursue with these relationships and communities? (How) do issues of identification and belonging play a role here? 2b. Offline/online dynamics: And how do they see these communities or relationships positioned in relation to what their offline communities can offer them? 2c. What learning opportunities are perceived by these youth especially through their online connectivity?

3. The experience of the internet as a ((un)bounded) place for learning. How do they perceive their online networked practice 'as a whole'? (How) do they perceive the internet as a space to explore? What possible boundaries do they experience when exploring the internet as a means for their learning, and how do they deal with them?

3.2 Sampling and procedure

A total of 79 Social (Ego) Network Interviews were conducted with youth from Native Dutch (25), Moroccan-Dutch (29) and Turkish-Dutch (25) backgrounds in the Netherlands. Participants for the Interviews were recruited from a representative sample of migrant youth in the Netherlands between 12 and 18 years that had participated in a large-scale survey on the use of new media (Hirzalla, De Haan & Ünlüsoy, 2011). From this larger sample a stratified sample was drawn from two participating inner-city schools (Rotterdam and Den Bosch) (for further details on this procedure, see Prinsen, De Haan & Leander, in press). The interviews took, on average 1,5 hour and the students received a voucher for their participation.

3.3 The social network interview: mapping learning relationships

In order to map the social networks of these youths that are considered by them as relevant for their learning, we are drawing on Ego Network Analyses. Social Network Analyses is a perspective and a method that focuses on relational properties of social phenomena rather than focusing on aggregating behaviour (Haythornthwaite, 2011). These relations are the result of the interaction of any kind between different actors in a network. Within this tradition, ego-network analysis focuses on (a group of) individuals and the mapping of her/his relationships, in contrast to whole network analysis that involves the mapping the relationships in one particular network (e.g. of a classroom).

The Social Network Interview we designed consisted of two parts. Part one was a name generator, in which the names and background information (type of relationship, age, gender, location of residence) of important relationships were evoked and processed with help of VennMaker software (Schönhuth, Gamper, Stark, & Kronenwett, 2009). We asked "Can you name a minimum of 20 and a maximum of 30 people that are important to you?" We made sure that youth included people that they considered important for their learning with prompts as, 'people that provide you with advice', 'people that provide you with important information' or 'people with whom you exchange a lot of information'. We asked youth if these people were contacted both offline and online, only offline or only online. In order to calculate the density of their networks, youth indicated who among their contacts knew each other.

This information from the ego network interviews was then imported into NodeXL software so that a visual representation of the network could be generated including the clustered position of alters, as related to each other and the respondent, see for an example the network part of figure 1 to 3 (see for

further details, Prinsen et al., 2015). These visualizations supported the further questioning in part two, that was directed at in depth questioning focused on how they identified the different parts of their networks and what role these play for their learning with questions as 'Are there people or groups of people in this network with whom you undertake activities in which you want to become better?' 'Can you tell me about these activities and how you learned them?' 'What role did these contact or communities play in your learning, also given the other options you have, in particular offline options?' and 'how do you deal with the fact that you have multiple online communities? The instrument was piloted first with 4 youth to check for their understanding of the questions and was redesigned where necessary. The interviews were taken in Dutch, as all youth were fluent in Dutch by two of the authors and trained research assistants.

3.4 Analyses

In order to both map out the composition and structural characteristics of these networks (question 1), and to investigate whether there were significant differences between the three groups in this respect, we used Chi-square tests for goodness of fit to compare the groups on the proportions of alters per compositional characteristic that we considered relevant: relation (i.e., family, friend, acquaintance), age-group (i.e., younger, same age, older), gender, ethnicity, location (i.e., at home, same neighbourhood, same city, different city, abroad). For age group, gender and ethnicity we calculated the proportion of 'people who are the same in this respect'. We did this both for their online and offline network, while also comparing their online networks with their offline and combined (total) networks. This allowed us to see how particular their online connectivity was in relation to their overall connectivity. With respect to the structural characteristics (the size and density of the networks), a one-way between groups analysis of variance was used to compare the scores between the three different groups.

For the qualitative discursive analysis (question 2 and 3) the following procedure was followed. The voice files collected were all transcribed verbatim. An explorative pilot was done with the material of 10 cases of each of the groups and reported in Lecluijze (2012). Based on the outcomes of this pilot, a more focused analysis was done including all the respondents. Research questions 2 and 3 guided this part of the analyses.

4. Results: Networked configurations of Native Dutch, Turkish-Dutch, and Moroccan-Dutch youth

Before we present qualitative information in which we show how youth perceive and strategically use their online networks, we focus on the differences and similarities in the composition, size and structure of their online networks as related to their offline networks (our question 1). By “composition” we intend type of relationships, ethnic homo- or heterogeneity, and gender, age, and location of contacts. In Table 1, 2 and 3 an overview of the results of this analysis is presented. In interpreting these data, it should be noted that technical access was not an issue as all three groups had full internet access at home. While focusing on the statistically significant differences between the three groups, the results (Table 1) show that in immigrant youth’s online networks family members play an important role as compared to native Dutch youth. Family members are more present in immigrant youth’s only online networks, whereas for Dutch youth, this category consists typically of friends.

While looking at where their online contacts are located *geographically* (Table 2), it is evident that all three groups connect online with people who live relatively close by (in their neighbourhoods and in their cities). However, the results also show a difference in how they use technology to build networks across space. Immigrant groups show both a more local (neighbour and city) and a more transnational online connectivity, as compared to the Dutch youth whose online networks are more ‘national’. Within the immigrant group, Turkish youth’s networks are divided between local and transnational levels, while Moroccan youth’s network reach a middle level (city and nation).

We also specifically analysed to what extent their online networks were homogeneous in terms of age, ethnicity and gender. Even if the overall image is that all youth’s online network contacts are homogeneous, there were also some striking differences in this respect (Table 1). The networks of Turkish youth were somewhat more ethnically homogeneous and more gendered. This ethnic homogeneity rises for all three groups in their only online contacts. Further, what is typical of the online connectivity of both migrant groups, is that they have fewer same age contacts, as compared to the Dutch group. Among the only online contacts Dutch youth have more peers while immigrant youth have more older contacts mostly family members who live abroad). As can be seen from Table 3, migrant youth’s networks are bigger in size, while also being relatively dense, as compared to native Dutch youth’s networks (as can also be seen in the

examples of a typical Turkish-Dutch network picture in figure 2 and of a typical Moroccan network picture in figure 3).

These differences between the 3 ethnic groups were significant based on ANOVA's, $F(2,1761) = 55.60$, $p < .001$ (size) and $F(2, 1761) = 68.80$, $p < .01$ (density). As a next step, we will now combine the network data presented with our analyses of the discourses of these youth, as they interpreted their own network data in the second part of the interview.

Table 1.
Overview of Characteristics of Network Contacts of all three groups in %

| | Only Online Network Contacts (n=153) | Both On- & Offline Network Contacts (n=1012) | Offline Network Contacts (n=599) | Total Network Contacts (N=1764) |
|--|--------------------------------------|--|----------------------------------|---|
| | Dutch-Turkish-Moroccan | Dutch-Turkish-Moroccan | Dutch-Turkish-Moroccan | Dutch-Turkish-Moroccan |
| Type of relationship Network Contacts | | | | |
| Family | 31.2 - 78.5 - 61.9 | 29.9 - 45.6 - 42 | 78 - 76.7 - 82 | 45.7 ^x - 60.6 ^y - 57.5 ^y |
| Friends | 56.2 - 19 - 33.3 | 64.5 - 51.9 - 57.3 | 16.2 - 18.2 - 14.4 | 48.2 ^x - 36.1 ^y - 40.5 ^y |
| Acquaintances | 12.5 - 2.5 - 4.8 | 5.6 - 2.5 - 0.7 | 5.8 - 5.1 - 3.6 | 6 ^x - 3.3 ^{x,y} - 2 ^y |
| Homogeneity Network contacts | | | | |
| % Same ethnicity* | 93.5 - 92.6 - 90.5 | 79.7 - 83.4 - 76.8 | 92.2 - 92.6 - 93.6 | 85.1 ^x - 88.3 ^x - 83.6 ^x |
| % Same gender* | 56.2 - 54.4 - 69 | 69.1 - 80.9 - 69.4 | 49.7 - 61.4 - 56.4 | 62 ^x - 70.6 ^y - 64.7 ^{x,y} |
| % Same age | | | | |
| Younger | 0 - 7.6 - 0 | 1.2 - 3.5 - 2.7 | 6.4 - 8.5 - 16.4 | 2.8 ^x - 5.8 ^{x,y} - 7.5 ^y |
| Same | 78.1 - 44.3 - 54.8 | 78.4 - 71.7 - 83.2 | 26 - 29.5 - 25.2 | 61.2 ^x - 53.9 ^y - 60.7 ^{x,y} |
| Older | 21.9 - 48.1 - 45.2 | 20.4 - 24.7 - 14.1 | 67.6 - 61.9 - 58.4 | 35.9 ^x - 40.3 ^x - 31.9 ^y |

Notes. * percentages indicate the amount of same ethnicity and same gender as the ego. In the 'Total Network Contacts' column each different superscript letter denote significant differences in proportions at $p < .05$ across ethnic groups in network composition based on Pearson Chi-Square comparisons.

Table 2.

Geographical Spread of Network Contacts and Mode of Communication in %

| Location | Both On- & Offline Network Contacts | | | | Total Network Contacts (N=1764) |
|-----------------|---|---|--|--|------------------------------------|
| | Only Online Network Contacts (n=153) | Offline Network Contacts (n=599) | | | |
| | Dutch- Turkish - <i>Moroccan</i> | Dutch- Turkish - <i>Moroccan</i> | Dutch- Turkish - <i>Moroccan</i> | Dutch- Turkish - <i>Moroccan</i> | |
| Home | --- | 7.7 – 7.1 – 7.7 | 25.4 ^x – 38.1 ^y – 33.6 ^{x,y} | 13 ^x – 16.2 ^x – 16.5 ^x | |
| Neighborhood | 0 – 1.3 – 21.4 | 29.9 – 58 – 44 | 16.2 – 35.8 – 24.4 | 23.6 ^x – 42.4 ^y – 35.6 ^z | |
| City | 15.6 – 2.5 – 11.9 | 35.8 – 19.4 – 31.4 | 30.6 – 13.6 – 20.4 | 32.9 ^x – 15.1 ^y – 26.3 ^z | |
| Elsewhere in NL | 68.8 – 10.1 - 19 | 26.2 – 4.2 – 10.9 | 27.2 – 0 – 12 | 29.1 ^x – 3.7 ^y – 11.8 ^z | |
| Outside NL | 15.6 – 83.5 – 45.2 | 0 – 11.3 – 6.2 | 0.6 – 12.5 – 9.6 | 1.1 ^x – 22.3 ^y – 9.8 ^z | |
| I do not know | 0 – 2.5 – 2.4 | 0.3 – 0 – 0 | --- | 0.2 ^x – 0.4 ^x – 0.1 ^x | |

Notes. In the 'Total Network Contacts' column each different superscript letter denote significant differences in proportions at $p < .05$ across ethnic groups in network composition based on Pearson Chi-Square comparisons.

Table 3.

Overview of Network Size and Relationships' Density between 3 Ethnic Groups

| | Turkish-Dutch | | | Moroccan-Dutch | | | Total |
|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|
| | Networks | | | Networks | | | |
| | <u>Min.-Max.</u> | <u>Mean (SD)</u> | <u>Min.-Max.</u> | <u>Mean (SD)</u> | <u>Min.-Max.</u> | <u>Mean (SD)</u> | |
| Network Size | 14-29 | 22.01 (4.20) | 12-35 | 23.45 (6.77) | 11-35 | 25.28 (5.59) | 23.74 (5.59) |
| Network Density | .37-.85 | .56 (.12) | .50-.98 | .65 (.14) | .42 - .88 | .62 (.12) | .37- .98 .61 (.13) |

Notes. The differences in network size and density between ethnic groups were significant based on ANOVA comparisons; respectively $F(2, 1761) = 55.60, p < .001$; $F(2, 1761) = 68.80, p < .01$.

Dutch youth: 'unrooted' learners?

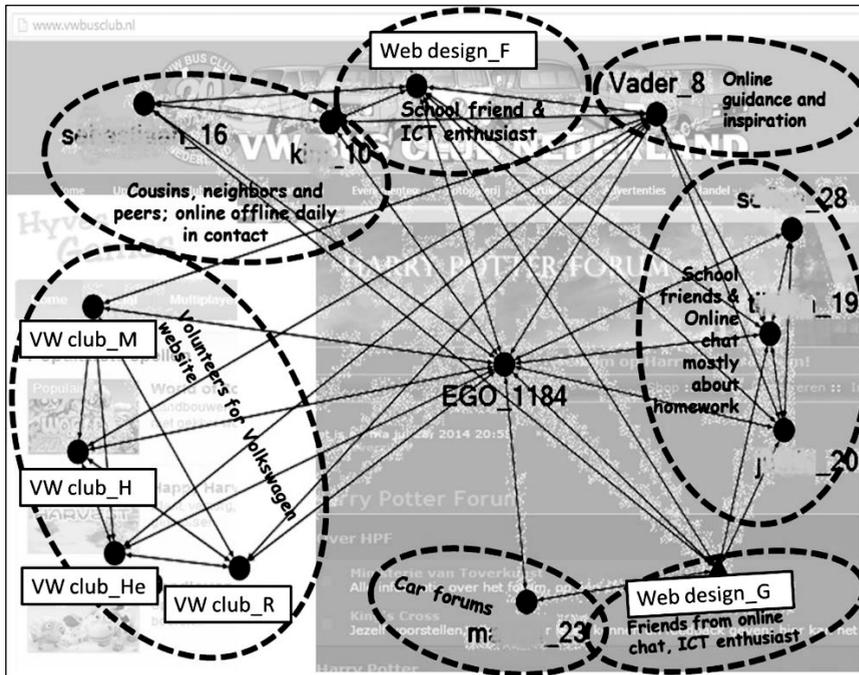


Figure 1. Online network of a Dutch boy Rens who connects up online with the 'Volkswagen-club'

Online connectivity as related to offline: the creation of alternate spaces with old and new friends: The most significant way in which Dutch youth uses the internet to enhance their learning opportunities with others is through creating alternative learning spaces with their emotionally close friends that are based close to them around specific *themes and interests* (76% of our Dutch respondents did this). These online spaces function for them to create more specialized or focused spaces with a selected group of friends with whom they share the same interest or affinity. An example of such an online hub of friends is the 'Volkswagen-club' a Dutch boy Rens mentioned, a fan club of friends that has both an offline and online presence as can be seen in Figure 1, which represents a typical network of the Dutch youth given the relatively open network structure in which peers play a dominant role. Rens learned to know the five 'Volkswagen-club' friends in his network when he started to help out with the club's website.

Online learning opportunities: 'unrooted' learning as a side effect of sharing interests: Almost half of the native Dutch youth (48%) also became a member of

new online communities that stand relatively apart from their offline connections to search out specific interests or based on an explicit desire to learn something. As these connections are not linked to any histories or geographies of identity, these contacts might geographically be spread out widely. In these online spaces, specialized knowledge is created and participation and membership evolves around this knowledge. Nevertheless, these online spaces can form important communities in which bonds are created around specific knowledge and codes of behaviour. For instance, the same Dutch youth Rens identified a 'community' of two online friends whom he met online and with whom he shared an interest in web design (Figure 1). Their common interest in web design and ICT in general makes this small community more meaningful to him, than his 'regular' offline friends. Even if one of them lives in Belgium, they form a long-term community with whom he experiences a close bond partly based on their common techno-linguistic competence "They (the other friends) *also do all sort of things with web design, we use more programming language and expressions that other persons might not know.*"

Most Dutch youth don't see the sharing of interests with these contacts primarily as a learning experience. Learning is perceived as a side-effect as is demonstrated in the example of a Dutch youth Willy who interacts with people from all over the world around a YouTube channel focused on Harry Potter. He creates or assembles specific content such as movies, text messages, or reacts on content or messages of others. He explains that he learns from this participation, but not purposefully: "*I just play with people from all around the world, mostly just around three o'clock or something when American people can play, then I play with them, talk a little [...].I play the game, I talk a little with other people, then you learn automatically.*" Some youth also reported to learn specific language skills from this kind of online participation as a side effect of their collaboration with kids from different parts of the world.

The participation in these communities makes their learning 'unrooted', that is, more independent from specific places. This also was the case for the learning that goes on with their emotionally close friends who live nearby but travel elsewhere as the following example of a Dutch youth shows, who explains that he can help his friends to install software in their computers using remote desktop access software independently from where they are:

Martijn (13 year-old boy): "*I do that for my friends, so I let them install a new program on their computers and then I can 'log in' on their computers via my*

computer and if they don't know how to do something I help them. So even when I'm at home and they are for example in America, I could help them".

The experience of total connectivity and boundaries: the internet as an open space for learning: Dutch youth experience the internet mostly as a space that is relatively open, and that allows them both to stay in touch with known others or to meet new friends irrespective of the boundaries of time and space, mostly within the Netherlands, but also across national boundaries, such as with youth in Europe (Germany, England, Greece) or in the USA. They don't report any specific boundary issues or 'crossing' problems. As the quantitative analyses also showed: their learning happens in a mostly peer based space that is relatively 'loosely' networked. This network structure with its many different 'hubs' matches with their more individual connectivity, in which many different interests and hobbies are enabled, for instance around specific technologies, video games or fandom. For Dutch youth, the internet offers a space to 'unroot' from primary socialization spaces and to reorganize their learning according to their individual needs, specific preferences and affinities.

Turkish-Dutch youth: 'rooted learners'

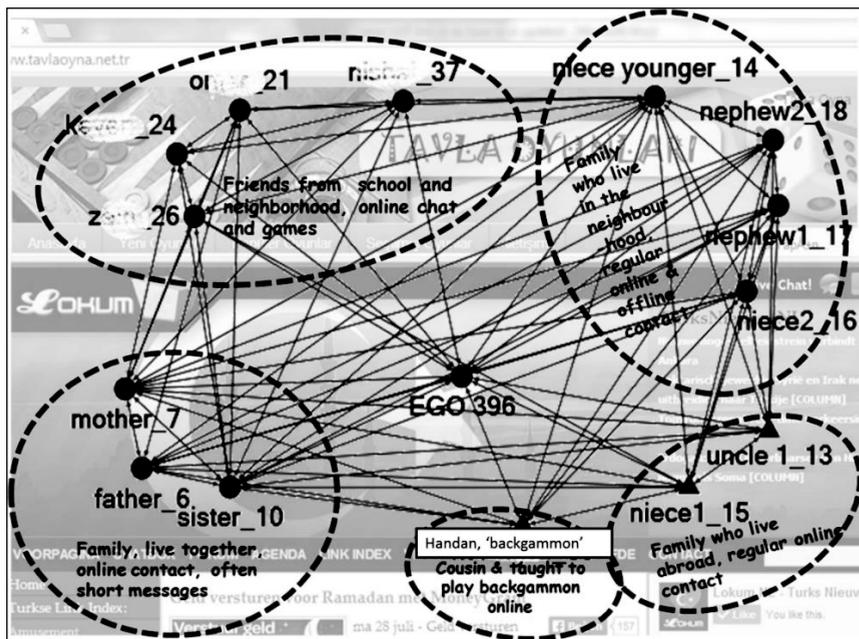


Figure 2. Online network of Ersin, a 15-year-old Turkish-Dutch boy who learned to play Backgammon online from his cousin in Turkey

Online connectivity as related to offline: collective interests embedded in the Turkish community Although for Turkish youth, as was the case for the Dutch youth, the internet is integrated in their daily practice, rather than forming online communities to search for specific interests, they used the internet to support their offline interests or activities, such as sport, school or music preferences. What is striking comparatively is the collective, though gendered, nature of the interests they pursue. They did not identify often with specific, individual interests. For instance, most Turkish boys were engaged in fight sports such as karate, taekwondo and boxing. Most of these boys also visited YouTube to watch fragments of fight choreography (e.g., Bruce Lee movies), fighting tournaments or street fight videos.

Girls similarly overall reported similar interests, of which online window shopping and online fashion design was the most prominent. However, these affinities were not used to form online communities in which the sharing of this information, or learning relationships developed. Furthermore, the online places they search for information would often be hosted in Turkey or have content related to Turkey. For instance, boys who are interested in football would search out Turkish websites about football, such as Fanatik (a Turkish sports newspaper) or they would visit web-sites that stream Turkish TV-shows and Turkish soap-operas. In line with this, many Turkish-Dutch youths' learning experiences were related to family values, or to Turkish traditions. An example of this is Ersin's account on how he is inspired by his cousin in Bursa (in Turkey) to follow traditional family values such as loyalty to his parents, hard work and investing in family property:

Ersin (15 years-old boy): "[My cousin] is actually someone who does not look like me, but who inspires me. He has a good life although he did not have a lot of money. He has, how should I say that, he has worked a lot, worked a lot, gave it to his parents to pay for the house [...] Therefore, later when I have a job, I will also give a part to my mother, I also want to take care of my parents. He also inspires me since he is not such a boy who hangs around outside and who goes out, he often helps his parents, he planted trees for example."

Online learning opportunities: learning as a by-product from being engaged in family based (transnational) networks When our Turkish respondents reported about their learning experiences, the prominent role they gave to learning from the older and more experienced people from their own ethnic community was striking, both in their offline and online learning. As in the example above, they reported about family members as models, as sources for identification, both in the Netherlands and elsewhere. Furthermore, in contrast to the Dutch youth who formed specific online "places" that are thematized around particular

interests, knowledges or affinities, the learning of these Turkish-Dutch youth seemed to primarily evolve around a densely connected ethnic network, that, as the quantitative analyses already showed, extends to Turkey and other immigrant countries in Europe in which family is relatively heavy represented.

Even if Turkish youth did not seem to have a learning goal when interacting with these contacts, keeping in touch with these connections provided them with learning opportunities related to life in Turkey and to Turkish culture. An example of this was Ihsan, a Turkish-Dutch boy who learned to play 'tavla' (backgammon) online from his niece who was living in Turkey. Even given the widespread use of this game, 'Tavla' is seen as a typical Turkish family pastime, and as such learning Tavla was part of being socialized into Turkish family life at distance. As the following example shows, social networking sites enable socialization in family traditions and transnational cross-generational learning. The example shows how Ihsan has learned Tavla from his niece Handan, who lives in Turkey, also visible in his network picture in figure 2.

Ihsan (15 years-old boy): "I used to play a lot of tavla [...] Interviewer: And how did your cousin help you? Did it happen over MSN? How did she explain to you? I: It was on the website on Facebook when we started to play. There you can talk to each other. [There she thought me] the tactic of the game, how you should set your tiles and so".

In addition, the contact with family members, and friends of family members who live in other migration countries provided important learning experiences that brought them in contact with other life worlds (though not other ethnic worlds). These transnational networks often provide important language learning opportunities, or serve to create a comparative perspective on life between Netherlands and other countries of the Turkish diaspora in terms of economic chances, school experiences, teenage life, youth cultures, and gender roles.

The experience of total connectivity and boundaries: the Turkish community and Turkey as a place of reference for online connectivity The connectivity of Turkish-Dutch youth appears to be 'rooted' in and seamlessly fitting with the shapes and boundaries of their own ethnic community. Their online connectivity centred around already formed offline communities and tend to follow already established social configurations, which partly point 'back' to their Turkish roots. In line with this, Turkish youth reported to be cautious with engaging in new online contacts, although this did occasionally happen, but rarely outside their own ethnic community. Thus, Turkish online learners do not typically match with the image of the 'connected learner' who searches out his/her individual

interests online. Their online learning seems more collectively inspired than individually, and 'rooted' in a particular community, associated with Turkey and the Turkish diaspora.

Moroccan-Dutch youth: routed learners?

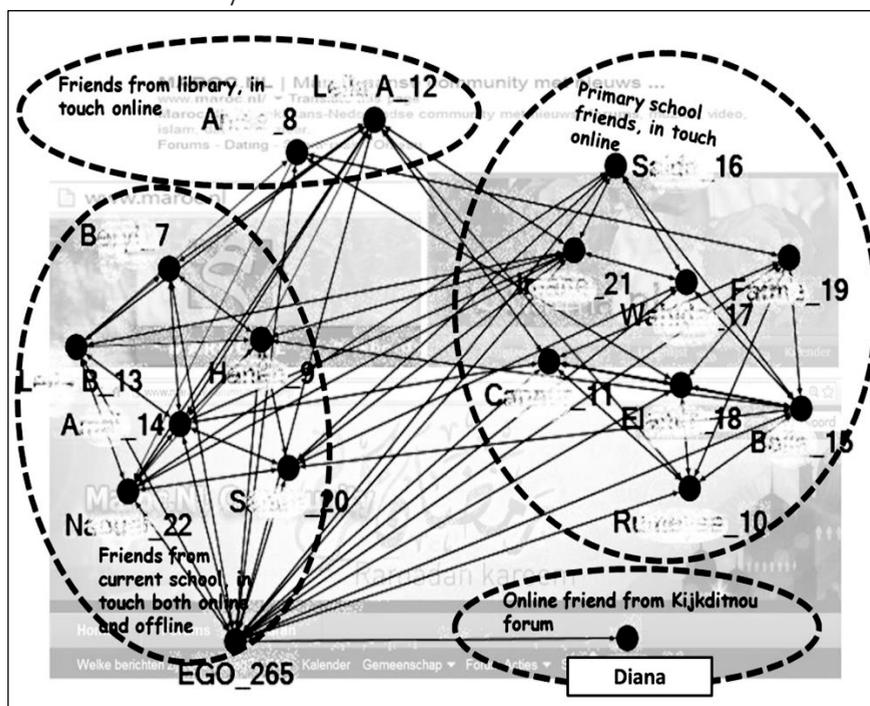


Figure 3. Online Network of Shayda, a 14-year-old Moroccan-Dutch girl who learned how to talk on 'inter-ethnic' online fora

Online connectivity as related to offline: alternate socialization on migrant platforms In contrast to the more consumerist attitude of the Turkish-Dutch youth vis-à-vis media content, Moroccan-Dutch youth in our study were more active producers of media content, for instance through uploading videos, commenting on and writing stories on webfora or writing sport reports for sport club websites. For Moroccan-Dutch youth the internet seems to serve as a welcome alternate socialization space to ask the questions they cannot ask offline, to learn about topics that are 'taboo' in many of their offline worlds and to search out the people they are not allowed to meet offline. Connecting up with others online is particularly relevant for Moroccan-Dutch girls who often connect with Moroccan-Dutch boys online, something that is against the norms of their traditional community. Their online learning takes place in a peer-dominated world, which they sometimes consciously, cut off from older family

members' control by for instance having several different accounts (one accessible for family, and one private), or using the accounts of friends. Social networking platforms, especially, function as an alternate space to escape the norms from their traditional offline community as the following example of a Moroccan-Dutch-Dutch girl illustrates. She explains how the social networking technology (in particular, the platform 'Hyves') enables her and her friends to create a world for themselves, outside of the vigilance of their parents.

Mumina (15 years-old, girl): *"They (parents) do not really know with whom I talk, that uhm, they would not approve on that[...] They, in our religion, in our culture we are very modest[...] I can talk to boys but not much more, interacting with them, outside or, especially when he (father) does not know them... Interviewer: Is it hard that you cannot tell your parents everything? M: "Uhm no actually not, no because I know how they would react so I rather keep it to myself, that's actually normal for every Moroccan-Dutch girl" [...] I: Do you have the feeling that this [opportunity to meet boys] is something Moroccan-Dutch girls did not have before, something they can do now because of internet? M: "Yes I think so actually[...] I think that if this possibility was not there, there would be another way, meeting persons outside or something, but that would not have been as easy as Hyves".*

The content they search for is *not* typically hosted by websites based in Morocco, or by websites that give information on Morocco. Instead, they are more interested in information that informs their lives as second generation migrants, and are active users of 'ethnic' websites such as www.marokko.nl, a forum for Moroccan-Dutch immigrants, or www.chaima.nl, a website tailored for Moroccan-Dutch migrant girls or young women in the Netherlands.

These "ethnic platforms", which are massively visited by Moroccan-Dutch youth and are typically 'always on' media can best be described as massive online market places, where people can hang out, and in which many different corners exist in which specific topics including, for instance, Islam, (ethnic) pop art, news, fashion, makeup and hairstyle issues, and topics related to their school homework are discussed.

Online learning opportunities: finding things out about being a migrant in generation based platforms and networks Although our Moroccan-Dutch did not report to turn to these 'always on' platforms specifically for learning purposes, they did report many different learning experiences related to their participation on these platforms, for instance on issues of marriage, religion, especially as related to how to behave as a young migrant who is connected to his tradition, but who needs to re-invent traditional norms and values in order to make them work in new contexts. Primarily, these online-only contacts are

established with peers from the Moroccan-Dutch community based in the Netherlands, but a few of our Moroccan-Dutch respondents also reported on cross-ethnic learning experiences that followed from these online encounters, as was the case with Shayda, a Moroccan-Dutch girl, who became friends with a Dutch girl she met on a forum (Kijkdatnou.nl), a political discussion forum. The network of this Moroccan-Dutch girl, shows how Dionne is not connected to the other connections of Shayda, due to the fact that they met online without having any prior affiliation (Figure 3). She talked a lot with Dionne on the forum, and appreciated this contact because they have the same interests, and even if they have never met in person, she feels she is a close friend. These cross-ethnic contacts and their participation in multiple fora, both 'ethnic' fora and more inter-ethnic or 'Dutch' fora, provided these youth with important boundary crossing skills. In this example, Shayda explains how talking about homosexuality is a different thing on an Moroccan forum as compared to a 'Dutch' forum and how this has spurred her interethnic awareness and competencies to maneuver between multiple different online worlds:

Shayda (14 years-old girl): *"I learned to think before you say something, because you can hurt many people[...] S: I think, (what) I have said there (at Kijkditnou.nl, the 'interethnic' forum), (I have said) from a different position, (compared to) what I would do if I would talk from the position of a Moslim. As in Islam, it is the case that, yes, homosexuality is taboo. You cannot talk about that. [...] S: I have expressed my opinion, as I knew there are not that many Moslims at that forum, so I am adjusting myself for a while. So, I just do it (talk) from the Christian vision. [...] S: Yes, you have to adjust to your environment. At a forum as Morokko.nl, as a Moslim you cannot state that homo's that is allowed and such. [...] S: I think you need to know when you can say something and when you cannot say something. And you need to know that, what are the consequences, of telling your opinion."*

The experience of total connectivity and boundaries: 'routed' learning in and out of the immigrant community Typical of the Moroccan-Dutch youth was that they were actively using technology to create alternative spaces for their peer-based socialization, much in contrast to what we've seen from the Dutch-Turkish youth. The internet is a place in which they can escape, but also discuss and reconsider, the traditional notions and norms passed on by the older generation. In this sense, they use the internet as 'routed learners', learners who seek new routes to weight and reform the traditional notions handed on from the first generation. Dutch- Moroccan seem to interact less with family in their homeland, as compared to the Turkish-Dutch youth, even if family members in Morocco and elsewhere were included in their networks as 'important people.' Moroccan-Dutch youth interact more heavily online with

their own ethnic peer based community within the geographical boundaries of the Netherlands, as the quantitative analyses also showed. They are typical boundary explorers in their online activities, possibly also a result of their overall active use of the internet. In contrast with the Dutch youth, they were not so much using the internet to vent out individual interests, but rather to seek out common themes that tune into typical second-generation issues.

5. Discussion

5.1 Divergent practices of connection and their relationship to ideals of connected learning

In our introduction we considered how particular ideals of connectedness and learning have shaped visions for research and education, including but not limited to the ideal of the individual who tailors his or her knowledge among expansively dispersed resources, and the ideal of access to multiple, diverse resources that provide individuals rich learning opportunities. These ideals, we argued, must be tested in the crucible of empirical data through the analysis of the actual socio-technical practices of different social and cultural groups. We believe that positioning these new data in relation to ideals of connectivity we are better able to understand what cultural norms are implied in our ideals of connectivity, and also more clearly see underlying qualities and competencies of learners are implied by such ideals. The results of our study of the networked online connections of three different ethnic groups, that is, from our integrative accounts of both the quantitative and qualitative results, shows that at least in the communities of these groups as we have studied them, significant differences exist in how youth build their online connectivity and how they use this connectivity for their learning. Before we go into the details of how each of these groups match or not with these idealized connectivities, we want to make clear that we don't want to make an argument on the ethnic differences of connectivities per se. Apart from the fact that we consider these networked practices as potentially changeable and instable, and therefore no direct and permanent relationship can be claimed between groups and practices of connectivity, our claim about diversity serves to make a higher order claim about normative connectivity. We see these networked configurations as socially and culturally formed over time, and we argue that variety we find is exemplary for many more possible variations that we expect to exist.

The native Dutch youth, who we have described as the "unrooted learner", is most in line with what in the literature is described as the ideal 'connected learner': a learner that is networked according to individually expressed

interests, who uses technology to reorganize his social world with those around him face-to-face to address particular interests in different ways. For the unrooted learner, online learning happens in a more manifold and scattered, but individually tailored space which they experience as in principal open for exploration.

However, the Turkish youth, which we identified as the “rooted learner”, clearly deviates from the image of the independent, individualistic agentic learner. Instead of being primarily motivated by their individual interests, Turkish youths’ learning seem be defined by more collectively formed interests, both in terms of their same generation peers, as well as in terms of their bond with and the function the older generation has with respect to how they conceive of their own learning desires and needs. Even if Turkish youth has become more individualistic in the migration context, learning goals for them are more embedded in being part of a family and ethnically based network, and in meeting the expectations of the collective. Their online networks seem to reflect this tendency, in particular the fact that their family based online contacts appear to represent key learning experiences for them, both locally and transnationally. For them, the internet is largely a bounded space, and is certainly not experienced as ethnically neutral as in the idealized expression of the connected learner that Dutch youth can more easily approximate.

Finally, Moroccan-Dutch youth, as our third analysed group, neither matches the agentic and individualistic learner who is connected according to his or her learning needs and interests. These youth, whom we have termed “routed learners,” typically form collective affinities and interests within same generation ethnically informed spaces. We used the metaphor of the marketplace to describe these spaces, and acknowledged that there are many different ‘corners’ or spots in which youth can find what interests them. What characterizes the online presence of this group in terms of their networks is their connection to a collective of second generation immigrants in the Netherlands who have common concerns, issues, and needs.

Although it is beyond the scope of this paper to account extensively for the formation of these specific different connectivities, it seems apparent that the connectivities of the two migrant youth groups point back to more cohesive forms of social organization in which kinship ties play an important role, whereas connectivity patterns of the native Dutch youth reflect a more individualistic social organization in which autonomy of the individual is a key value. In addition, the differences between both immigrant groups might well be related to their settlement strategies after migration and how these are

reflected again in their online networking. While Turkish immigrants, including second generation youth, are known for their cohesive and dense social organization, as well as their cultural orientation towards Turkey, second generation Moroccan immigrants are known as culturally more confronting, looking outwards and less oriented towards their home country, and known for their need for autonomy from the older generation (Cammaert, 1985; Pels & De Haan, 2003; Crul & Doornik, 2006).

Obviously, these three groups as we have studied them are all “connected learners” of different types, with the first type matching a more frequently idealized notion of the connected learner, particularly as this is expressed in relation to values of individualism and learning traversals across multiple communities. In this study we do not intend to describe how youth with cultural practices that are other than the ideal are de-privileged in learning networks; rather, our argument more broadly posits that the current orthodoxy of networked learning misses the variation in how learning networks are structured and composed in practice, especially when we study nonmainstream populations. Missing this variation could have several important consequences for research and also for the development of resources for learning, in and out of school. To begin with, as learning networks from different cultural and social groups are more closely analysed, an expansive cataloguing of how learning networks are comprised will serve to help researchers not be blind to acknowledging and analysing networked learning in its rich variety. For instance, collective interests and commitments as they are formed historically in relation to family, community, and cultural identity, such as are evident among the Turkish youth and somewhat differently among the Moroccan-Dutch youth, may have high salience and be played out in rich variation for vast numbers of youth from different parts of the world.

Practices such as collective orientations are not deficits to the ideal, but rather socially, culturally, and historically saturated forms that have their own meanings and effectivities for participants. Over time, it may well be that practices such as ethnic community and family-centric networks will shift and change as they come into contact and merge with other networks, but it may also be that these practices are held in individual and social “bodies” for longer than we may anticipate—may endure through the structuring structures of habitus (Bourdieu, 1986). In any case, for researchers a present challenge will be to remain open to a great variation in networked practices for learning, and to not mistake concept pieces about learning networks (e.g., Ito et al.), written at the early edge of empirical work, as empirical descriptions of variation that may possibly be great. Of course, the likely variation of learning networks across

cultures, geographies, and social groups, as well as their dynamisms over time, have important implications for the design of networked learning environments. If such designs are to provide opportunities to learn for diverse individuals and groups, then further understanding of the network practices and structures of these individuals and groups is warranted. We might think of these such practices and associated structures as generated in particular sociocultural traditions, which are recognized valued in one sociocultural context but may run into difficulties in moving to another. How to build networked learning environments that are socially, culturally relevant, and that also provide opportunities for learners to expand their repertoires of knowledge about networked learning as well as knowledge through networked learning is an open empirical question and emerging design challenge for educators.

5.2 The critical importance of a broad scope: mapping learning networks across online and offline spaces

In order to make sense of distinctions among the networks of the three groups we studied, it was paramount to look at how these online contacts are differently shaped in relation to their offline networks. We argue that a very different picture would have emerged in the study concerning our understanding of the variation in learning networks if we would not have done so while looking at how online networks are related to offline ones. Our results show that the offline connectivity and affiliations of our respondents is their main point of entrance into the digital world. Many of their online contacts with whom they exchange information, and find out new interests, are also those they are related with offline. In other words, their knowledge communities tend to be mostly in line with their offline mobility patterns.

However, the youth in this study differ in the extent to which they escape from these offline networks, rearrange them, or manage to create online social worlds that are relatively independent from their offline worlds. While Dutch youth are most successful to rearrange their contacts or find new ones to address individual interests, Moroccan youth create relatively 'independent' life worlds, to escape the culturally defined limitations the of some of the culturally set first generation. Turkish youth's online and offline worlds are for the most part parallel, although they use technology most to keep in touch with family members that they only meet during holidays or seldom meet offline. In other words, digital connectivity is clearly embedded in its relationship with offline networks, and the specific relationship between both forms of networks. These specific relationships are what we must understand in order to conceive of practices of connected learning that are informed by the realities of the lives of

youth who have developed through different social histories. To remain at the level of the ideals of connective visions privileges those groups who are most aligned with these visions and blinds us to the variety of networked realities that are based on other cultural and social notions of connectivity.

5. 3 Affiliation, identity and the production of space and place in the formation of “Networked Configurations for Learning”

Scholars of migration have pointed out how immigrants reconstruct their ‘homelands’ through diasporic online networks or transnational fields irrespective of their location of settlement (e.g. Georgiou, 2006; Levitt & Glick Schiller, 2004). Levitt & Glick Schiller, as other scholars of migration have made clear that in defining these online networked relationships, affinity and identity issues make up an important part of how social networks or communities become constructed. Drawing on Bourdieu’s field concept, transnational fields are defined by Levitt and Glick Schiller as set of multiple interlocking networks of social relationships that are not tied to either the country of origin nor the receiving country but are formed through the ‘in between’ social networking practices of immigrants. Next to the ‘actual’ social relationships in terms of practices, the identities associated with these relationships form an important, though relatively independent from actual ties, formative element of these transnational fields. Important in this notion is not just the role affiliation plays in transnational networks, but that people within transnational social fields combine ways of being and ways of belonging differently (Levitt & Glick Schiller, 2004).

Drawing on this idea that relations between actual social ties and belonging can be multiple and particular but while focusing on the particulars of the online/offline relations in so far as they are connected to differing (affiliations to) geographies and social histories, it is apparent that we need to be careful of blanket and container concepts such as the online diaspora. It is only at the level of the social configuration that differences between these ethnic groups become most apparent. In our data, for instance, we trace the massive online platforms that provide a diasporic homeplace (cites) for the cultural and social identification for the Moroccan immigrants in The Netherlands, while the Turkish youth immigrants have little such regular practices and resources. This is not to argue that a Turkish diaspora does not exist for this youth group; but rather, that its existence is not supported by social practices that turn online spaces into cultural and social places, including places where identity contestations and cultural shifts and hybridity can be expanded and challenged. For the Turkish youth, transnational fields and the “in between” social practices

described by Levitt and Glick Schiller (2004) produce forms of connection not mediated by newly developed marketplaces of cultural and social exchange (such as for instance Morroc.nl for the Moroccan-Dutch youth) but by more individual and familial forms of social networking that allow person-to-person connectivity, person-to-neighbourhood connectivity, and person-to-ethnic homeland connectivity. Thus, this particular version of the (Turkish) diaspora for youth in the Netherlands appears even more anchored to offline social practices and structures in the sense that, while online social practices have developed, alternative (online) places of discourse and discord for this group are relatively undeveloped. Of course, this observation, as with others in this study, is situated in a particular timeframe and context of research, and we see the co-production of new practices and places as potentially dynamic.

The consideration of the particular manner in which immigrant diasporas are formed across online and offline social life suggests an important tension in this analysis that we need some means of understanding social structure as configuration and also the dynamisms of practice that can be applied to different ethnicities and social and cultural groups. The connections that can be employed for the learning of migrant and non-migrant youth tend to partly follow, or point back to earlier ethnically informed mobility patterns which varied along ethnic lines, and resonated earlier historical paths and connections, such as those of the first generation between the Netherlands and the country of 'origin', but also were defined by their affiliations with family that migrated to other 'receiving' countries in Europe. The "community of practice" notion, for us, does not capture the complexities of these mobility patterns, staying, as it were, too close to a notion of practice-on-the-ground of the local. Alternatively, the notion of "affinity space" does not capture either the sense of social practice (in its (re)production) or the complexities of culturally and socially shaped mobility patterns, although it makes conceptual space for the interest and investments of individuals and groups.

As an alternative to these notions and others, for understanding social configurations for learning as we have described them here, we pose the notion of the "Networked Configuration for Learning" (NCL). As a concept, the NCL allows us to describe and include the particular online and offline connections of divergent sociocultural individuals and groups; the historical geographies of these individuals and groups and their histories of mobility; the development of culturally and socially informed places for learning, including digitally shaped places; and the affinities of individuals and groups in so far as these affinities are also articulated in relation to sociocultural and geographical histories. We express the idea of the NCLs as related to the notion of the transnational field,

but extending field theory to include insights into opportunities to learn and learning practices. Bourdieu's inspiration on field also permits us to understand NCL's as not existing in isolation from one another. Like social fields, configurations for learning are formed in multiple, overlapping relations. While movements between them are possible, they are not guaranteed and depend on a number of issues, including translations and exchanges in forms of capital, but also, on new practices of learning and types of knowledge necessary to not only learn within one NCL, but create traversals among them.

Chapter 6

Expanding the notion of global learning: Turkish-Dutch teens' networked configurations for learning

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⁶ Author contributions: A.Ü. and M.d.H. designed the research and wrote the paper. A.Ü. collected data in collaboration with colleagues and research assistants. A.Ü. analyzed the data. M.d.H. supervised the research, edited the text.

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Abstract

Digital technology facilitate interactions between learners and resources at a global level. New learner prototypes are therefore proposed, such as the notion of the global learner. In this paper, we argue that these prototypes of global learning often do not account for the variety of ways in which youth use technology and see themselves as learners. We take the example of Turkish-Dutch youth to show empirically how they represent an alternative for what is often seen as the prototype of what a global learner is. We combine ego-network methodology with in-depth interviews to provide a detailed account of how 25 Turkish-Dutch teens see themselves as learners, how they make use of technology to pursue their interests, how they reach out to others and media resources, and how they form selves in relation to the values and norms of their (transnational) community. Using the notion of 'learner identity', the study shows how these teens develop learner identities that are built on specific and culturally informed notions of 'what a learning subject is' that challenge the universality of the autonomous subjectivity implied in prototypical notions of the global learner. In addition, the study shows how through digital affordances, unique networked (trans)national connectivities are formed, which are informed by these teens' specific socio-cultural position. We argue that by acknowledging these alternative ways of what a learning subject is, and how connections are formed, we can proactively incorporate them as useful models of global learning.

1. Introduction: Aim and scope

In the learning sciences, new prototypical notions of learning have been put forward that correspond to the possibilities and challenges of the digital era. These notions foreground the informal domain as a space where learning takes place and oppose or challenge traditional models for schooling. For instance, inspired by the possibilities of gathering an endless amount of resources on the internet and connecting with likeminded others to explore these resources, notions such as 'affinity spaces' (Gee, 2005), 'connected learning' (Ito, et al., 2013), or 'personalized e-learning' (O'Donnell, Lawless, Sharp, & Wade, 2015) have arisen. A similar example of a technology-driven prototypical model of learning is the notion of 'global learning'. Inspired by the possibilities of utilizing technology to facilitate interactions between learners of different cultures, which, in principle, provides learners with the opportunity to develop global perspectives, the notion of global learning has been put forward to inspire educational reform (Gibson, Rimmington, & Landwehr-Brown, 2008).

These concepts have in common that they put the learners' personal engagement at the centre as well as the learners' ability to gather (digital)

resources based on this personal engagement. As such, they challenge traditional, authority-driven models of learning, in which knowledge distribution by institutions is the norm.

At the background of these discussions about new metaphors and models for learning in the digital age, our ambition with this paper is to expand our ideas of what a global learner might be. We do so through showing empirically how Turkish-Dutch youth develop particular socio-culturally informed 'learner identities' as well as unique networked (trans)national connectivities that challenge dominant metaphors of learning in the digital age. As we hope to show, they challenge the image of the autonomous, individualistic self-implied in these ideals of global learning, as well as the idea that connectivity evolves around the agentic efforts of the individual learner.

Adopting a perspective on learning as socially and culturally situated, this paper argues that such situated perspectives seem to be forgotten with the launching of 21st century notions of learning. Therefore, the paper seeks to expand such a perspective into learning in the 21st century and new models for learning.

In this paper, we build upon earlier work (de Haan, Leander, Ünlüsoy & Prinsen, 2014, p. 508) in which we argued for a critical reconsideration of "idealized digital connectivities for learning". In work on these idealized connectivities, the suggestion is made that "people are optimally networked so that resources are equally available, shared and voiced, and participation possibilities are maximized" (p. 508). We have argued that everyday social practices of connectivity reflect a much more nuanced and differentiated reality, based on the idea that 'connectivities for learning' are situated over time and socially constructed social practices that are informed by specific cultural norms and values. We have proposed that personal networks as a unit of analysis are a good starting place to explore these nuances and we have coined the term 'Networked Configurations for Learning' (NCL) to refer to the idea that connectivities for learning are diverse and socially situated.

In this paper, we expand our earlier argument on the specificity of connectivities. First, in this paper we provide a more detailed account of one group of learners, Turkish-Dutch youth, of which we have gathered more ethnographic data in comparison to the earlier paper. Second, we are making use of this sample to also elaborate more extensively on how the notion of 'what a learner is' can be socio-cultural-specific. We draw on Sinha's (1999) idea of

‘learner identity’, who has argued that being or knowing how to be a particular kind of learner is not something that is ‘given’ or universal but rather something that is formed in socialization practices associated with particular communities. Third, in this paper we elaborate more explicitly on how digital connectivities are part of global-local dynamisms shaped by both migration and digital technology. In particular, we focus on the transformative potential of these mobilities for learning, by showing how ‘to be here and there at the same time’ and how being a member of several normative communities simultaneously provides unique opportunities for learners.

The study thus provides an empirical record of what we think of as an ‘a-typical case’ of a 21st century learner. The study documents Turkish-Dutch immigrants’ use of technological affordances to expand their learning and then asks how their efforts relate to the personalized, individually engaged learner pictured in new prototypical notions of learning.

Before we present our theoretical take on learning as a cultural and situated phenomenon, and how this relates to notions of connectivity and new technologies, we give a brief overview of how globalization and new technologies have spurred new notions of learning (1.2) as well as how teens from minority backgrounds constitute a good example of how technology is adopted in particular ways, related to the dynamics of migration (1.3).

1.1 Global societies and new notions for learning

We live in an era that is marked with abundant information and almost constant exposure to it. News headlines, blog, vlog and status updates, tweets, social media feeds, emails and text messages ask for our attention not only as the recipients of the information but also as the distributors, co-creators, and recyclers of it. New Information and Communication Technologies (ICT) are widely acknowledged for their role in lowering the threshold of information access for everyone and in enabling new ways to interact. However, these changes are not only dependent on the influence of technologies. How people use these technologies is strongly related to who they are and their social, cultural and material environment. The dynamic interplay between technology and identity eventually also shapes the ways in which people interact, socialize and learn and can create specific socio-technical practices and divides in this respect (Hildreth & Kimble, 2004).

Knowledge production and consumption in so-called 'global' societies happens at geographically dispersed scales. In globalized information and knowledge societies, individuals are not only part of relatively homogeneous locally based communities, but, at the same time, they are a member of many different, locally and globally dispersed networks, which provides them with unique and tailored possibilities to find knowledge and learn in these networks (Farrell, 2006). This idea resonates with the more general concept of networked individualism that addresses how we relate to people in the digital age (Rainie & Wellman, 2012). Rainie and Wellman (2012) observe that in the past, personal networks used to be mainly defined by small, densely knit local groups, and communication was primarily face-to-face and location-dependent. Now, individuals are much less constrained by geographical boundaries, and even though traditional social spaces defined by, for instance, kinship relationships, neighbourhood and work remain important, they are no longer the only sites for socialization. According to Castells (2007), these changes also mean a shift from a more hierarchically structured social system to a more networked and participatory one, which is profoundly transformative for individuals as well as for the foundations of society as we know it.

Some have argued that this development fundamentally changes the way we learn, while simultaneously causing a greater diversification of the possibility to learn. An example of such work is developed in alignment with the notion and educational ideal of 'connected learning' (Ito, et al., 2013). Connected learning, which is enabled through new digital infrastructures in globalized societies, is defined as learning that is socially embedded, interest-driven, and oriented towards educational, economic, or political opportunity. Basically, the premise is that new digital infrastructures and networks allow young people to pursue personal interests or passions, which they, with the support of others, turn into learning opportunities, which again might also lead to academic achievement or civic engagement. The premise is that new technologies enable people to explore and share interests freely and openly. There is a much greater freedom -in comparison to standardized education- in how people invest their time and energy to satisfy their (varied) interests as well as in the actual potential to turn these interests into careers. Connected learning has been presented as an ideal of learning in the global society for all, and in opposition to and as an alternative for outdated notions and practices of learning and education (Ito, et al., 2013; Kumpulainen & Sefton-Green, 2014). Although its idealized form is only

available for progressive digital media users typically associated with privileged minorities (Ito, et al., 2013), this idea in fact highlights the variation in the lives and learning possibilities of young people.

1.2 New migration and technology: changing opportunities for learning for immigrant youth

In particular, teens from minority backgrounds constitute a good example of how technology is adopted in particular ways. For a long time, an important defining aspect of being an immigrant has been the geographical, social and cultural gap between the two 'homelands'; the one that is left behind and the one of settlement. However, under the influence of new technologies, the image of the "uprooted migrant" is now replaced with the "connected migrant" (Diminescu, 2008). New technologies enable a space to be 'together' regardless of actual physical locations and enable being here and there simultaneously. The effort to establish new belongings and associations while maintaining the connections with loved ones and acquaintances wherever they may be is now a key part of the migration experience (Diminescu, 2008). These network connections can be considered also as paths of information, belonging, support etc., and form important "linguistic and social capital" (Lam, 2014, p. 503). More importantly, these new technologies provide immigrant teens with forms of networked capital, which reflects their social, cultural, ethnic, and historical background as well as their material reality. Often these networks provide them access to different social spheres that are heterogeneous. These new connectivities and the life worlds they give access to have implications for what it means to learn and socialize. The focus becomes much more on what it means to learn to participate and move through multiple different social spheres as well as on the process of transformation that is necessary to participate in these heterogeneous social and culture spheres and networks (de Haan, 2011).

Although new technologies also provide mainstream youth with these possibilities and challenges, they seem to define immigrant youth in particular. There is a small body of literature that indeed shows that immigrant youth access a variety of different spaces, social networks, which enable as well as challenge their learning in particular ways in comparison with mainstream youth. For instance, Lam (2009) observes that as Chinese-American teens explore their interests online they use both Chinese and English. This enables them to access a distinct range of information and media content, which

provides alternative, more empowering spaces for their learning compared to learning at school. Likewise, Messina Dahlberg and Bagga-Gupta (2014) show how in online communities with multiple ethnic backgrounds, culturally and linguistically hybrid ways for co-constructing and mediating learning are supported, which are different from (monocultural or monolingual) institutional learning spaces.

Below, we will elaborate our argument on how new technologies create particular and situated opportunities for learning, departing from the notion of learning as a situated phenomenon (1.2.1). We argue that both the notion of 'what a learner is' (1.2.2) as well as connectivities that are constructed for learning are culturally and socially situated (1.2.3).

1.2.1 The 'particular' of learning and the acknowledgement of non-mainstream notions

We draw upon sociocultural learning theories, and more specifically on the notion that learning is situated in socio-cultural practice in two different ways. First, learning is situated in the sense that learning is a product of the activity, context, and culture in which it is developed and used (Brown, Collins & Duguid, 1989). It is situated in sociocultural practices precisely because 'human beings have the need and ability to mediate their interactions with each other and the nonhuman world through culture' (Cole, 1998, p. 291). It cannot be captured by just looking at individuals. Learning is distributed among co-participants of communities of learners (Lave & Wenger, 1991). Second, learning is situated in the sense that it involves the appropriation of particular heritages and particular learner identities, and there is variation in how communities guide learners according to culturally informed notions of what learning is (Rogoff, 2003). This second position represents a more politically oriented strand of studies, as the issue is often raised that the heritages, identities and culturally informed learning practices of minorities are not always acknowledged in mainstream education (Gonzalez & Moll, 2002) or in educational theories (Rogoff, 2003). This study wants to highlight in particular the second sense of situatedness, while acknowledging the first.

1.2.2. Becoming a particular kind of learner: adopting a 'learner identity'

To foreground the subjectivity of the learner, studies in the sociocultural tradition have argued that becoming a learner also involves developing a version of 'the self', which fits the cultural expectations of what is expected from a novice. As Sinha (1999) argues: becoming a learner is a situated phenomenon, which requires earlier experience in a particular socio-cultural practice. For instance, learning to recognize the appropriateness of a particular socially organized set up for a teaching learning situation and positioning oneself as a learner in accordance with socially appropriate roles (e.g., teacher and learner positions) is something that requires knowledge and prior experience of how learning is culturally and socially framed. Developing human beings are being constructed and positioned in 'particular and specific kinds of non-discursive practices, in such a way that he or she becomes a learning subject, or self, of the kind required by the culture within which teaching learning situations and opportunities are situated' (Sinha, 1999, p. 33). To elaborate his point, Sinha contrasts the often taken-for-granted image of the creative learner with other taken-for-granted images of learners, such as the idea that learners are information-processing subjects. He claims that we often forget that these notions of what a learner *is* or should be are themselves shaped by normative traditions on learning. When we, for instance, assume learners to be creative, this implies a socio-culturally constructed self that understands him/herself as a creative developing being. The same applies for the idea that learners represent an autonomous self that is operating relatively independent from her/his social environment in terms of motivation, cognition, awareness, judgement and action. In other words, the learning self is not a culturally neutral concept but depends on particular interpretations of how a subject is supposed to grow, relate, identify, know, etc.

Although the relationship between learning and identity has been addressed in different ways (see for an overview Moje & Luke, 2009), this particular point is often forgotten. It is partly reflected in the distinction that Arnseth & Silseth (2013) make when they describe the learning self as both 'a' novice, that is, as becoming a central participant of a community that is endowed with a particular (community related) identity, *and* 'a particular kind' of novice, involving all it takes to become a central participant of that community. It is this second issue that we address here. However, evidently, both notions of a learner identity can never be entirely independent as both are embedded in culturally based notions of what membership in a community means.

1.2.3 Notions of connectivity and learning

Not only learner identities are particular and situated, but likewise (online) connectivities that are constructed for learning are defined by socially and culturally informed experiences. Following what we described above regarding the unique and tailored possibilities to find knowledge and use connections for learning afforded by technology, we argue that these diversified connectivities are situated in socio-cultural practices. As noted above in section 1.1, we have termed this Networked Configurations for Learning (NCL). As ‘networked individualism’ and ‘connected learning’, NCL focuses on the role of the new technologies and the importance they deem to our increased networking capacity via these ICT. However, in the concept of NCL, an argument is developed on how this network capacity matches with the socio-cultural, economic, personal conditions and drives of individuals or groups. Moreover, it is used to study how these networks function for learning and allows description of the particular online and offline networked connectivities of diverse socio-cultural groups and the culturally and socially informed experiences for learning these connectivities enable (de Haan, Leander, Ünlüsoy, & Prinsen, 2014, p. 532).

NCL builds upon the idea that the personal networks and a person’s learning and socialization experiences are directly related to and interdependent with one another. Personal networks are the dynamic mechanisms where important everyday learning experiences are situated. Configurations of these networks are only partly shaped by new technologies and, as argued earlier, it is essentially people’s social, cultural, ethnic, and historical background and material reality that shape these networks. In this study, we describe how the formations of the networks of Turkish-Dutch youth inform and shape their learning, while also paying attention to the wider socio-cultural and historical context of these immigrant youth. Before we introduce our study, we provide an overview of the literature on Turkish-Dutch teens in the Netherlands, in particular as related to their media use, and how this has been discussed as related to what it means to grow up as a minority youth.

1. 3. Turkish-Dutch teens

The Turkish-Dutch youth in our study are second- or third-generation immigrants: children of families whose (grand-)fathers were recruited mostly from the rural regions in Turkey. They migrated to the Netherlands for labour and reunited with their family over the course of eighties and nineties (Schneider, Crul, & Van Praag, 2014). Although current policies expect minorities to integrate, earlier integration was not facilitated as labour migrants were

expected to return to their country, and language and culture maintenance as well as concentrated settlement were supported by the Dutch government. This policy is now seen as one of the explanations for the relative segregation of the Turkish immigrant community (Vedder & Virta, 2005; Verkuyten, 2001).

Studies on Turkish-Dutch adolescents have shown that they are raised in families that are very concerned with transmitting the Turkish tradition, history and language, and relationships between adolescents and their parents are highly impacted by what is considered appropriate according to the norms and values in the Turkish community. Turkish youth also show a strong attachment and self-esteem (related) to the Turkish community (Verkuyten, 2001). Earlier media researchers have reported how media, especially television, is used by Turkish families, including youth, to orient themselves towards Turkey and that they are also oriented towards homeland media (D'Haenens, 2003). Moreover, Turkish immigrants are documented as less active on the web, e.g., on discussion fora, in comparison to their Moroccan peers, the other large immigrant population in the Netherlands (Ünlüsoy, de Haan, Leander, & Völker, 2013).

Content analyses showed that the online discussion fora they use generally deal with Turkey and Turkish culture or identity (D'Haenens, 2003). From another perspective, Milikowski has pointed out how television watching can also have de-ethnicizing effects on these youth through the comparative lens it offers (2000).

There is not much known from the literature on how Turkish youth orient themselves on the internet from the perspective of their learning. Mostly, the literature that touches upon issues of education and learning deals with the participation of Turkish youth in formal schooling and their school success. Other literature centres around key factors relevant for public participation such as employment (e.g., Crul & Schneider, 2010) or issues of identity and well-being (e.g., Phalet & Hagendoorn, 1996; Verkuyten, 2001; Vedder & Virta, 2005).

Studies on the informal educational climate in Turkish families describe Turkish families as being defined by traditional gender division roles, fear of 'Dutchification' of their children (Lindo, 2000), as well as the significant gap between Turkish children's and their parents' experiences in education (Coenen, 2001). Additionally, studies have shown that immigrant parents of Turkish origin in the Netherlands orient themselves towards collective and in-

group-serving values in the education of their children (Phalet & Schönplflug, 2001). For youth in Turkey, studies show that they have changed towards more independence, self-respect and autonomy in comparison with their parents under the influence of rapid economic and social change. However, these orientations continue to exist next to a strong orientation towards respect for tradition, obedience, politeness, honour for parents and elders and adherence to social expectations (Morsunbul, Crocetti, Cok, & Meeus, 2016).

The abovementioned literature, apart from the fact that the studies that report on Turkish-Dutch immigrant youth are relatively outdated to provide the background for this study, are informative with respect to the challenges youngsters in this community might be facing for their education and learning. Nevertheless, it lacks a perspective that considers how the global changes induced by ICT and social media have changed the learning opportunities for Turkish-Dutch youth in the Netherlands. We lack knowledge of the impact of new technologies on the learning opportunities of young immigrants such as the Turkish-Dutch youth in the Netherlands. How do the affordances of technology, and the connections and resources it provides, define these teens in who they want to become, and how they learn to become? How do the affordances of these technologies also define the global-local dynamism that characterizes the lives of these immigrant youth? And, in line with the aims and scope of this paper as described above, how can we describe these teens as a particular case of a global and connected learner to meet our ambition of expanding our ideas of what a global learner might be?

2. Current Study & Research Questions

In line with the aim as outlined above, in this study we ask how Turkish-Dutch teens perceive themselves (as learners), what the characteristics are of their personal online and offline networks, as well as how these networks enable and inspire them to achieve their learning goals. The specific research questions that guide our analyses are:

1. How can the personal networks of Turkish-Dutch youth be described in terms of structural characteristics (size, density, clusters) and composition (e.g., homogeneity, geographical spread)?
2. What characterizes Turkish-Dutch teens as learners? We approach this question by asking how Turkish-Dutch teens characterize themselves, what

their interests and ambitions are, who or what they want to become, and what their view is on how they learn (to become someone)?

3. How do Turkish-Dutch teens' networks function for their learning? In line with our goal to understand how new technologies create particular and situated opportunities for learning, we ask the following sub questions. Can we distinguish particular interest-driven learning network (sub)clusters? Are such networked sub clusters mediated by specific technologies or media resources? How do such sub clusters mediated by technologies enable or put boundaries on the learning of Turkish-Dutch teens?

3. Methodology

3.1 Sample and Procedure

A total of 25 Turkish-Dutch teens of 13-16-year-old ($M = 14.68$, $SD = 1.03$; 14 female participants) were interviewed for this study. The participants were from two inner-city schools in secondary education. The school in Rotterdam ($n = 12$; 6 female) was a preparatory school for vocational university (called HAVO: *Hoger Algemeen Voortgezet Onderwijs*) and the school in Den Bosch ($n = 13$; 6 female) was a lower preparatory school for secondary vocational training (called VMBO: *Vorbereidend Middelbaar Beroeps Onderwijs*). Participants who went to the same school knew each other as schoolmates. All participants were born in the Netherlands; their families (either parents or grandparents) have migrated to the Netherlands for labour.

Participants were drawn from a largescale survey⁷ study on learning, identity and the use of new media; the survey sample was representative of migrant youth age 12-18 in the Netherlands, in secondary education. Given our interest in personal networks and (online) connectivities we selected the students who had reported online media use (i.e., checking in their online social media

⁷ The survey study ($N = 1408$) was carried out in the course of 2010/11 academic year, in 7 secondary schools in the Netherlands. A stratified sampling procedure for the survey yielded data distributions that were largely congruent with census data with respect to age, gender and education level. Since we aimed to obtain a representative sample of the two largest non-Western (Turkish-Dutch and Moroccan-Dutch) immigrant youth groups in the Netherlands we focused on schools in regions where most migrant young people lived. The schools were randomly selected from these regions. For more detailed information on the sampling strategy and survey (see Hirzalla, de Haan & Ünlüsoy, 2011). There were follow-up interviews with 3 participants in 2012, which informed our analyses.

account, watching videos and using an instant messaging application) on a regular basis in the earlier survey. Through the schools we informed youth and their parents regarding our continued research and that participation was voluntary. The participants were informed that they could withdraw from the interview at any point. None made use of this possibility.

The interviews took place in a quiet room in schools, during school hours. They lasted on average 1,5 hours and the students received a voucher for their participation. The interviews were audio-recorded transcribed verbatim. During the transcription process, we found out that 3 interview recordings were corrupted, and one interview was only partially recorded. These 4 cases (3 girls, 1 boy) were excluded from qualitative analyses.

The participants were interviewed using a Social Network Interview (SNI) technique which revealed information regarding the structure and composition of their online and offline personal networks, see section 3.2. for details. On average, networks consisted of 21.5 contacts ($SD = 6.57$), varied between 12-35 contacts. Across the sample, we collected information over 537 network contacts in total.

3.2 Instrument and Measurements

SNI is a semi-structured, in-depth interview instrument that is used to gather information and analyse personal networks, also called ego-networks. It consists of two parts. The first part, called the name generator, identified the 'important people' in the lives of our participants. We asked the participants to think of important people in their lives, e.g., who they identified with, who were reliable or who they hang out with. We also prompted the participants to think of different spaces (school, neighbourhood, social media, vacations) to help them remember people who might be considered important for their personal network. We used the network analysis programs VennMaker 1.0 and NodeXL to collect information and visualize the networks. Ego-network data contain demographic information regarding all contacts (called alters) in the participants' (called ego) networks and information to interpret the relationships between the ego and his or her alters (e.g., how frequently they communicate) (Crossley, Belotti, Edwards, Everett, Koskinen, & Tranmer, 2015). In this study, we collected the following information about each alter: age, gender, location (same household, neighbourhood, city, elsewhere in the Netherlands, outside the Netherlands, unknown) and level of education. We

also collected the alters' relationship to the ego (immediate family, extended family, friends from school, friends elsewhere, acquaintance), how they communicate with that alter (mainly online, mainly in-person [offline], both on- and offline), and whether alters knew each other (i.e., whether they would recognize and talk to each other if they saw each other on the street).

The (clustered) position of alters, as related to each other and the respondent, was determined using the Harel–Koren Fast Multiscale algorithm, which is one of NodeXL's force-directed algorithms (alters/nodes naturally push away from each other, while edges [relations/connecting lines] bring them closer together). This results in highly connected nodes migrating to the centre, while less connected nodes are pushed to the outside. The 'groups' function of NodeXL was then used to calculate clusters, which works by aggregating closely interconnected groups of nodes. Only when the network visualizations were generated by this software, we progressed to the second part of the interview. We asked the participants if the visualization resembled what they thought their network would look like (e.g., 'Does this network picture and the groups generated represent your network?'). Overall, the representations were reported to be accurate, and small differences were discussed in the interviews. The second part of SNI covered 1) how teens defined and identified with the different parts of their networks (we asked questions such as "are there people in this network picture that you look up to?", "who are the people in this network that you spend most of your time with?", "what do you do together?"); 2) what kind of (online or offline) learning activities they recognized in their network relationships (we asked questions such as "are there people or groups of people in this network with whom you undertake activities in which you want to become better?"); 3) how new technologies played a role in maintaining the network and what role these play for their learning (we asked questions such as "what are some of the things that you became better at (online or offline) over time?", "how (if at all) did using new technologies made the experience different?"). The interviews were conducted with continuous attention for the personal networks of these teens, and their statements were consistently connected with the visualized personal network maps throughout the interview. Prior to starting the interviews, we also checked briefly what the participants' associations with learning were. Participants who strictly thought of school learning were encouraged to think of the concept more broadly (such as how they learned to bike, how they found out about a new app, how they explored

different sports or developed a hobby) so that we could come to a shared understanding of the idea of learning. We informed the participants that school-learning examples were okay to mention, but that our study had a broader perspective on learning.

3.3 Analyses

The first research question: ‘How can the personal networks of Turkish-Dutch youth be described in terms of structural characteristics (size, density, clusters) and composition (e.g., homogeneity, geographical spread)?’ was answered by analysing the quantifiable characteristics of ego-networks. Based on frequencies and averages, we described the general structural and compositional features of networks. Variables of ethnic, gender and age homogeneity were created per ego-network by computing the amount of alters who share the same ethnic background, gender or age as the ego. This measurement reveals the proportion of people who are similar to and/or different from the ego, in other words, the relative diversity (or uniformity) in each network. Density in each network, that is the proportion of individuals in a network who know each other, was computed to assess how tightly connected each network was. The network characteristics of girls and boys were also compared to each other. Section 4.1 describes the results of this analyses.

To answer the second research question, ‘what characterizes Turkish-Dutch teens as learners?’, the transcriptions were first read, with this research question and the respective sub-questions in mind. Nvivo software was used to label and analyse the narratives. We paid attention to perception of the self, identity markers, self-descriptions, and in cases where these were present, we pay attention to how these were related to issues of development, becoming and learning. Next, we focused on how they defined themselves as a learner, or how they defined striving to be someone (becoming) more generally. Section 4.2 and 4.3 describe the results of this analyses.

To answer the third research question: ‘What characterizes Turkish-Dutch teens’ networks as *learning* networks? And how do their networks function for their learning?’ as well as to answer the respective sub questions, we focused on particular interests, hobbies, and activities that they mentioned, asked if these were represented by particular sub clusters of their networks, if and how these were mediated by particular technologies, in particular when the relations were contacted offline, while also paying attention to the specific location of

these network clusters or individual relations. Finally, we focused on if and how these sub-clusters enabled or hindered their learning.

We start off presenting general network characteristics in 4.1 (e.g., divides in their networks, and what characterizes the people in their networks), and continue with the narratives on their identity as a learner (represented in 4.2. and 4.3), while also connecting these narratives to the network data from 4.1. In sections 4.4 to 4.6, we again combine network data with their narratives on learning when we focus on how their learning happens in particular networked sub-configurations, paying attention to how technology mediates these configurations, and how these function for their learning. For instance, we argue how technology plays a role in creating specific network divides and how this works for their learning, or how technology provides access to particular networks, which then provides entrance to distinctive opportunities to gain information, form opinions, discuss positions and gain new insights. The analyses as a whole must also be read as a commentary on assumptions of models of global learning, especially when the analyses address how global learners can be identified and what kind of connectivities technologies create.

4. Findings: Networked configurations for learning of Turkish-Dutch teens

4.1 Turkish-Dutch teens' network characteristics: quantitative data

The following structural and compositional characteristics of the networks are derived from 25 ego-networks with 537 alters in total. In Table 1, we present a detailed overview of the personal networks and how boys' and girls' networks compare to each other. There were no significant differences between boys and girls regarding the proportions of different network characteristics. The noteworthy similarities across the networks are highlighted below.

As explained in the methods section, networks were generated based on the important relationships of participants. The Turkish-Dutch participants generated largely family-based, ethnically homogenous personal networks. The networks were densely connected, meaning that most people knew each other. The algorithm we used generally created two clusters, given the interconnectedness of the networks. The clusters created by the algorithm were typically characterized by family versus friends' relations, or older generations versus peer relations. The participants confirmed the cluster structure; most of

the participants divided their networks based on a friends and family sub-cluster. In a few cases, the algorithm created three clusters, which youth identified as family, and two different groups of friends (e.g., from a sports club and school or from the mosque and from school), and in one case virtually all network contacts were connected, resulting in a single cluster.

Table 1

Overview of Turkish-Dutch Youth's Network Composition (in %)

| Relationships | Boys' Alters (n = 245) | Girls' Alters (n = 292) | Total (N = 537) |
|---------------------------|---------------------------|----------------------------|--------------------|
| Family | 63.4 | 58.2 | 60.6 |
| Friends | 32.9 | 38.7 | 36.1 |
| Acquaintances | 3.7 | 3.1 | 3.3 |
| Locations | | | |
| At home | 17.1 | 15.4 | 16.2 |
| Same neighbourhood | 43.5 | 41.4 | 42.4 |
| Same city | 13.8 | 16.1 | 15 |
| Elsewhere in NL | 2 | 5.1 | 3.7 |
| Outside the Netherlands | 23.2 | 21.6 | 22.3 |
| I don't know | 0.4 | 0.3 | 0.4 |
| Means of keeping in-touch | | | |
| Primarily offline | 30.1 | 34.9 | 32.7 |
| Primarily online | 15 | 14.4 | 14.7 |
| Both online and offline | 54.9 | 50.7 | 52.6 |

Family members were nearly always the majority in their networks. The personal network with the least amount of family still had 45% (9 out of 20 alters) of family members, and the percentage went up to 80%, with an average of 60.6% family presence in networks. On average, 40.3% of alters were older than the participants and 5.8% were younger; peers were on average 53.9% of all network contacts. Network contacts who were mainly contacted online were 14.7% of all network contacts (79 out of 537). These 79 people were nearly exclusively family members who lived in Turkey or elsewhere, but outside the Netherlands.

There were no statistically significant differences in network configurations between boys and girls. For the whole sample, density scores varied between .50 and .98, indicating in the least dense network 50% of contacts knew each other. On average, 88.3% of all contacts were of Turkish descent (varied between 55% and 97%). There was a clear preference for hanging out with same-gender peers (70.6% were same-gender); often the only men in Turkish girls' networks and women in boys' networks were their relatives. Nearly a quarter (22.3%) of all network contacts lived outside the Netherlands (often in Turkey but also in Germany, France and Belgium), indicating that geographical distances were not preventing them from keeping in touch with their family and friends. The contacts that lived abroad were predominantly family members (89%), friends (10%) and 1 acquaintance (1%).

4.2. Perceptions of the (learning) self: wanting to be like them

"You become who your parents raised you to be"

In both 4.2 and 4.3, we analyse how Turkish-Dutch youth perceive their 'learning self'. In line with how we defined the notion of learner identity above, we first concentrate on their notion of 'self' in 4.2, while in 4.3 we extend this analysis with a focus on their vision on development and becoming. In both cases, we do so under the assumption that these two notions are highly related. We asked the participants to think about the characteristics, experiences, people, things and interests that made them 'who they are'. Although there were individual differences in the way the responses were formulated, the prominent trend among all participants was their emphasis on and identification with their family and community. This was also clear from their social networks, as we just reported in 4.1, which for a large part consisted of members of the Turkish community, mostly family. Another sign of this family orientation, as the network pictures illustrate (see Figures 2 & 3), was that parents knew (almost) every one of the network contacts of their child.

According to the participants, their family relationships, and in some cases relationships with good friends, shaped who they were. In response to who or what made them who they are, the participants often simply stated 'my parents', 'my family' or Tahir (15, m), *"without my parents and siblings I am nothing"*. Emel (13, f) *"You become who your parents raised you to be"*. Simge (16, f) *"What I learn at home from my mother and father shapes how I think and*

how I behave. My friends, they learn from their parents and behave that way...when we are together [with her group of friends] we influence each other too and do the same things together". These examples illustrate a common understanding among Turkish-Dutch youth that the development of the self does not so much relate to becoming an independent self but a self that is highly relational, involving their closest relationships (with their parents and friends). These examples show not only that the notion of (being like your) family is a central and essential aspect of Turkish-Dutch teens' identity but also that in their discourse on the self, a reference to the collective was always prominent. This was also evident from the fact that youth, when asked to describe themselves, more often referred to community values, such as being *"respectful, especially towards older people"* and *"trustworthy, or honest"*, than unique qualities. Thus, rather than characteristics that typify an individual, these qualities reflect a community ideal of how one should be and behave.

In addition to mentioning family, being Turkish was a prominent identity marker in their discourse on the self. This was inferred from a variety of responses to questions such as "with whom do you feel you can be yourself" and "where/when do you feel at home". "Turkish-ness" seemed to represent a 'comfort-zone'; a 'place to withdraw' or a state of feeling particularly at ease and seemed to be related to having a common history, values, and language. Other implicit references to their being Turkish included speaking Turkish at home, especially with parents, but also among friends, going to Turkey for vacation and following Turkish media. This identification with the Turkish community was also reflected in their network structure; 88.3% of all network contacts had a Turkish background (see Figure 1 below).

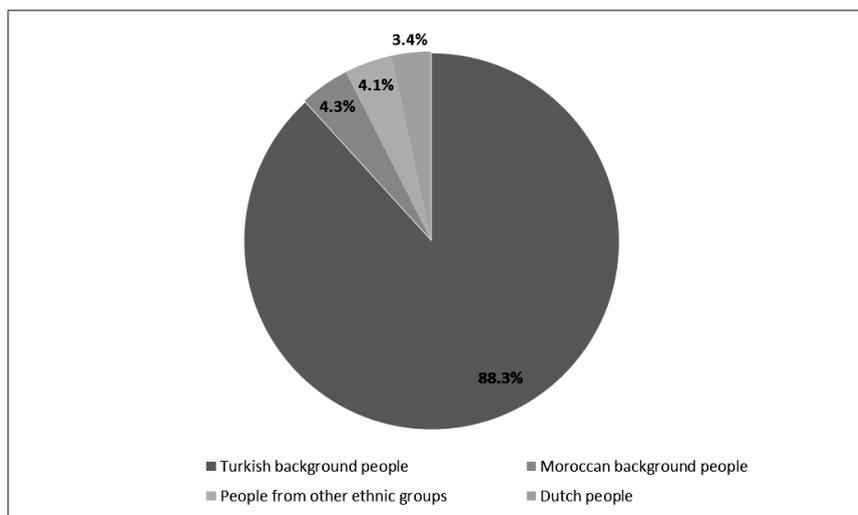


Figure 1. Ethnic groups in Turkish-Dutch teens' networks.

The orientation towards Turkey was also encouraged in the family. For example, Yildiz's father explicitly encouraged her to speak Turkish more fluently: *"My father says 'you must learn Turkish', he corrects my Turkish... his Turkish is very good. With my mother, I speak only Turkish because her Dutch isn't good"* (Yildiz, 14, f). The media-diet of the participants was primarily in Turkish, and this, too, was sometimes encouraged by their parents. Adnan (16, m): *"My father comes home from work and he talks about all the news. He must listen to the [Turkish] news, read the newspapers and teletext and I'm at home beside him so I listen with him. I talk about Turkish politics a lot..."*. Satellite television and online streaming were accessible for all participants. These technologies gave participants continuous access to Turkish media products (i.e., news, series, reality shows) and provided them with a wealth of information and material to understand and define 'being Turkish' for themselves.

4.2.1 Different others as contrasting examples in the diaspora

However, as already indicated above, through their social networks, youth were able to contact extended family and friends of family members who live in Turkey and in other migration countries (compare Table 1, which indicates that 22% of their network contacts are transnational contacts). These transnational contacts, especially the ones from other migration countries, ruptured the relative homogeneity of their models for identification as these family members

were socialized in communities that partly hold different values and norms. For example, Ahmet (16, m) whose sister's family lives in Germany says *"My nephew is very different from me. He is a good person, that's true, but he's different...He doesn't do sport, he sits too much behind the computer and he smokes...When we are there I get along with him and his friends, but up to a certain point...if they say come we'll go smoke, I won't...I learn German at school here, but when I am in Germany with my nephew I learn more. I understand everything, but I cannot talk very well"*. This, and many other examples, show that the Turkish diaspora, and the possibility to connect with it through digital technology, brought these teens in contact with other cultural traditions, alternative possible selves and 'versions' of being Turkish, that serve as extended opportunities for learning and identification.

For instance, they provided important language learning opportunities, or a comparative perspective on life between Netherlands and other countries of the Turkish diaspora in terms of economic chances, school experiences, teenage life, youth cultures, and gender roles. In this sense, their perception of the (learning) self, as grounded in a particular version of communal belonging, seems to be changing through these digitally afforded networks, which allows a more diverse and fragmented identification with their community.

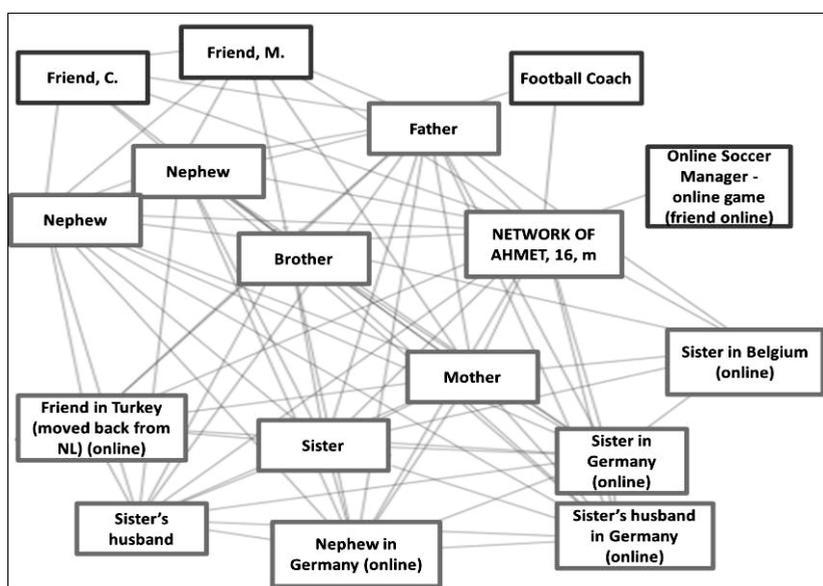


Figure 3. Network of Ahmet.

4.3. Learner identity: loyalty to the community, hierarchy and learning from role models

As a next step in our analyses, we focused on how teens expressed a process of becoming someone, or in other words, how they saw themselves as a learner. To understand Turkish-Dutch youth's associations with learning, and what kind of learners they perceived themselves to be, we asked them questions such as 'What do you associate with the word learning?', 'When and with whom do you feel that you learn something?', or 'Is there something you strive to get better at?'.

Our findings show that informal learning experiences were often expressed in narratives of 'becoming a particular kind of person', while taking someone from their community or family as a model that represented particular values and status. The participants often told us what kind of person they wanted to become, taking an individual as an example. For instance, Emel (13, f) mentioned her uncle (who is part of her online network, see her network picture in Figure 2) as her role model; *"I would like to be exactly like him...When he was young he said to the family that he was going to study and graduate (at) university. He kept following his dream until he achieved it and I want that for myself. He is from Elazig⁸ and he studied in Cambridge"*. Another example of this was Tahir (15, m), who said that his cousin was an inspiration for him because *"he has a good life although he did not have much money. He has, how should I say that, he has worked a lot, worked a lot, gave it [money] to his parents to pay for the house [...] Therefore, later when I have a job, I will also give a part [of my income] to my mother, I also want to take care of my parents."* These role models often share certain characteristics such as being loyal to their family, working hard, starting with very little and achieving their goals despite difficulties. The narratives often highlight these teens' appreciation for such role models and their desire to become a similar example once it is 'their turn' to do so. Learning then represented modelling the important others from the community, as well as returning or giving back to the community, rather than seeking out a unique, individual path that distinguishes the individual from other members from that community.

⁸ a small city in eastern Turkey

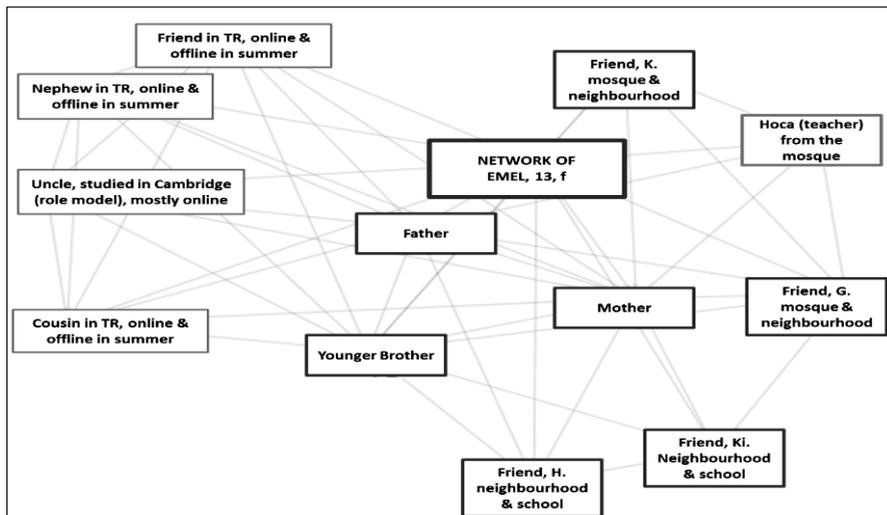


Figure 2. Personal Network of Emel.

Age-related hierarchy and status play a significant role in how youth perceive the workings of learning as relational. In the following example, Emel (13, f) illuminates this hierarchy by describing herself as a role model for her younger brother: *“my younger brother learns a lot from me, that he needs to respect older people, that he needs to follow his dreams...If there is something he doesn’t understand in his schoolwork he also comes to me”*.

Furthermore, age and experience were essential elements and aspects in their vision of how one learns and gains wisdom. When comparing her peers (friends) to the older people in her network, Simge (16, f) said: *“As you grow older you become more thoughtful and more understanding. That is the obvious difference. A person who is 15, 16 years old is more ‘uzmanlaşmış’ [which means specialized in Turkish, referring to the idea of being skilled, but here she means more prone] in making mistakes than, say, a 45-year-old. A 45-year-old [referring to her teacher at the mosque] can know more and is more thoughtful”*. These examples make clear that for these youth, learning does not represent a process of making themselves independent from the community, pursuing a unique identity, or following a unique personal trajectory, but on the contrary, learning to become as one ‘ought to be’, to be like important others from the community and to return back value to the community.

Although these teens see learning as related to the explicit guidance of older generations and accept this guidance as learning, they did not exclude other

ways of learning such as peer-learning or experimenting. However, these forms of learning were not foregrounded in their discourse in relation to learning or did not always count or were recognized as learning.

4.4. Interest-based activities and networks?

The point that Turkish-Dutch teens hold up collective identities to describe themselves, and do not use identifications that point to an autonomous, unique and individualized self as much, was also clear from their narratives about specific interests or activities that would typify them. Hobbies, individual habits or an exclusive personal expertise were rarely mentioned. In most cases, these hobbies would represent more generally appreciated activities for boys or for girls, such as fighting sports for boys and fashion for girls.

When asked 'which activities do you strive to get better at', boys often responded with sports, games and sometimes also interests such as cars, computers, planes/flying. Turkish-Dutch boys were mostly keen participants in sports, specifically football and martial arts (e.g., karate, kendo, boxing). They practised these sports often in sport-schools or sport-clubs on an amateur or semi-professional level. Sport practices represented relatively unique and individualized learning spaces for them, which was also evident from their social network pictures. For instance, Ahmet (16, m), a goal-keeper, stated: *"I learn a lot from football ... I learn a lot about how I should move, there is a lot of interaction (between coach and other keepers), and we learn to make decisions and logical thinking, especially logical thinking"*. Ahmet's network picture (see Figure 3) illustrates that sports and gaming are in fact personal spaces that are relatively independent from the rest of his mainly family-based, densely connected network. Ahmet's interest in sports is fostered through two contacts represented in this part of his network: a friend with whom he plays the online game "Online Soccer Manager" and only talks about football-related issues, and his football coach.

Girls, on the other hand, found informal learning interests rather difficult to pinpoint, but most of them expressed their interest in fashion and spending time together with friends. In contrast to the boys' enthusiasm for sports, there was very little attention to sports from girls. None of the female participants were actively doing any sports at the time of the interview. Additionally, there were no other overlapping interests between boys and girls. For girls, it seemed the social aspect of any given interest was more central than gaining expertise in

their field of interest, such as improving their 'eye for fashion'. In other words, they were 'just' interested in fashion because they enjoyed the social side of consulting each other about clothes.

Thus, we found that for these youth, 'interests' were more generally appreciated activities and were not seen as personal. Boys sometimes developed relatively unique interest-based networks, mostly related to sports or online gaming, while girls were reluctant to recognize interest-based learning in their favourite activities.

4.5. Access to digital media as transformative potential

As already illustrated in the example of Ahmet in 4.4, Turkish-Dutch youth used the internet to support their offline interests or activities, such as sport, school or music preferences. For instance, as Turkish-Dutch boys often were engaged in fight-sports such as karate, taekwondo and boxing, most of these boys also visited YouTube to watch fragments of fight choreography (e.g., Bruce Lee movies), fighting tournaments or street-fight videos. They often searched for information that often would be hosted in Turkey or have content related to Turkey. For instance, boys who are interested in football would search Turkish websites about football, such as Fanatik (a Turkish sports (online-)newspaper), or they would visit websites that stream Turkish television series.

However, this media content based in Turkey would be shared and discussed in social networks that are transnational and consist of social contacts both based in the Netherlands and abroad, mostly in Turkey, but also in the Turkish diaspora. This is clear from the example of Ceylin (16, f) (see Figure 4, which shows her social network). In the interview, Ceylin mentions how a combination of media network resources has helped her to think more consciously and critically about the social position, rights and demands of ethnic minorities. She explains how she learned that a television series (Behzat C., a crime-detective television series) in Turkey was cancelled due to, among other issues, bringing up the issue of education in Kurdish for Kurdish people. The news of cancellation combined with what she knew about Kurdish people in Turkey through her personal transnational social network triggered the conversation. She explains that her cousin, one of the transnational contacts in her network, informed her that in Turkey, he observed that Kurdish people were living comfortably similar to how they do and did not have a lower status or have lesser means to maintain their lives "[When her cousin was in Izmir] *He said that he saw Kurdish people,*

and they were all very rich...Those who live in the cities especially are powerful people and have all the means...." Through her transnational social network, she is made aware that Kurdish minority status in Turkey is not necessarily a problematic one regarding economic means and that they have consumer patterns she can also identify with. See Figure 4, which shows 3 of her cousins that inform Ceylin about 'new' places in Turkey she does not know yet and give access to knowledge regarding Kurdish minorities in Turkey, among other issues. The perspective she gained about Kurdish people through her nephew enabled her to also identify with and see them (also) as minorities. Through the information provided via her online social network, she started to see the Kurdish as minorities similar to herself: *"Well Kurdish people should have their rights [particularly referring to the right of education in native language, which was an issue in the crime-detective television series], [...] I'm here [in the Netherlands] a Turkish person"*. She continues her comparison of her own situation as a Turkish minority in the Netherlands with the situation of Kurdish people in Turkey. The combination of watching this Turkish television series, hearing the news of cancelling, and having online contact with family in Turkey, who have contact with Kurdish people in Turkey, enabled her to compare the situation of minorities in Turkey and in the Netherlands. Through these different resources and sometimes conflicting stories from these resources, Ceylin has learned to see the complexities of minority status and of political rights, including her own situation and that of the Kurdish people.

4.6. Access to digital media as network boundaries

In addition to tapping into the content issued in Turkey, Turkish-Dutch immigrant youth use media specifically tailored for Turkish-Dutch immigrants. The following example shows how their media use also develops along ethnic lines and social networks and marks divides between Turkish-Dutch immigrants and their Dutch classmates.

The first author asks Ceylin (16, f) about a radio app for Turkish-Dutch immigrants. *"I: What is Taksim fm? Turkish music? C: Yes. Taksim.fm is a radio channel in the Netherlands made by Turkish people. But it's Turkish, look, [she turns on the radio (on her phone)] but it's not only music, it's talk-shows, and they have a website. I don't remember if there's a Mehmet Akif (DJ). (...) they talk about the Dutch and the news here [meaning in the Netherlands] but also about Turkey and other stuff. It's [focused] specifically [on] the things that are*

interesting for the Turkish-Dutch young people.” Ceylin continues to explain how different media and apps are utilized differently for different ethnic groups. She says: “The Dutch people of my age wouldn’t know Taksim fm [...] one main difference between Dutch people and me is that I speak both Turkish and Dutch and a little English sometimes like “I love you” (giggles). Turkish people also write out accents, you know, like the Laz messages⁹[on WhatsApp], so that’s different with us [referring to her Turkish-Dutch friends]. But (with) my Dutch classmates, well, we use it [WhatsApp] for school stuff, because, well, we’re friends but not the best friends, and school is our only common subject. They are not part of my other daily life”. This example shows how specific media applications, media content, language used, and even typography are network-dependent. While texting with her Turkish-Dutch friends, Ceylin uses the Turkish language or specific typographical codes associated with the Laz language to joke or tune in to themes specifically interesting for Turkish-Dutch immigrant youth.

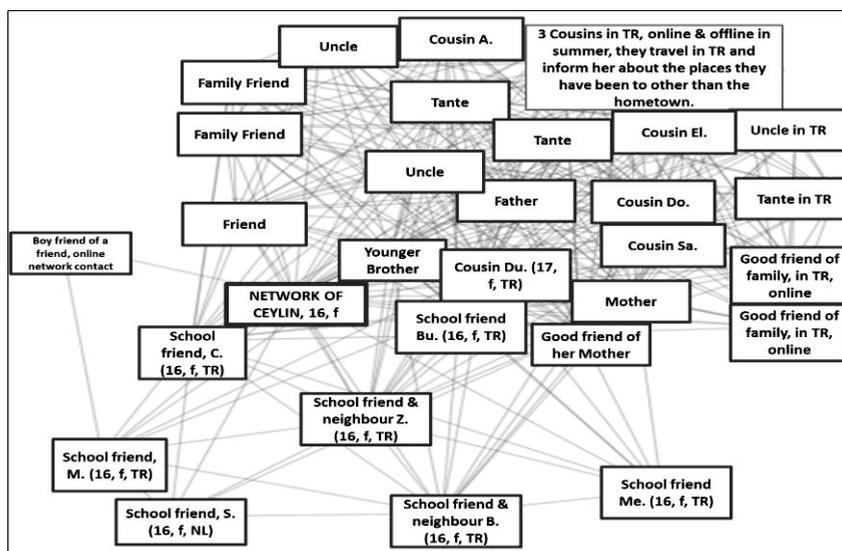


Figure 4. Network of Ceylin.

⁹ The Laz are an indigenous group generally living in the coastal area of Black Sea, Turkey with their own language and an accent while speaking Turkish. In the Laz messages, they ‘text’ in Turkish while mimicking an accent

Another example of such a divide is experienced by Fatos (15, f). She is a fan of a Turkish actor in her favourite drama-series Little Secrets (Turkish: Küçük Sırlar). She explains *“I love the internet. We have satellite TV to watch Turkish channels at home, and I watch television there, but if I’m not at home or if I don’t have time at the time of the show, then I stream it from the internet....* She mentions a list of series and talk-shows she follows; when asked which one she likes most, she says: *Cetin, from Küçük Sırlar. I’m his fan. So are my friends [...]*. Fatos tells that after school she spends much time chatting with her friends, and one of their favourite subjects is what happens in the series [Küçük Sırlar], for instance, how the characters dress up and about their expensive lifestyle in Istanbul. She also seeks information and other related content (e.g., photos, news) regarding the series and the actor she likes and shares this on her social media account (Hyves, a Dutch social networking platform active between 2004-2013), where she reports to have approximately 400 contacts. In addition to its entertainment value, this series enables these girls (Fatos and her other Turkish-Dutch friends) a window into life in Turkey. However, she is sharing this interest exclusively with her Turkish-Dutch friends. Fatos tells us how she cannot share this topic with one of her best friends, M., and how this creates a boundary between them. The access to the show through satellite TV and the internet creates an information divide between M., who is Dutch and who she considers one of her best friends, and her friends who have access to the show.

What both of these examples show is that digital (mobile)communication also mediates and re-informs specific network divides. Therefore, next to media resources and the networks associated with them, which provide unique learning opportunities in the form of distinctive opportunities to gain information, form opinions, discuss positions and gain new insights, these youth also create clear boundaries in their social networks, which cut them off from other opportunities to learn and socialize.

5. Discussion

The results show how Turkish youth create their own version of a global learner, based on notions of the self and of becoming that are primarily relational and oriented towards the collective. Furthermore, afforded by technology, these youth create unique networked relationships for their learning, which are relatively closed for outsiders and are organized around the collectivities of the family and ethnically informed networks. At the same time, in the diaspora, their

(transnational) networks are slowly becoming more diverse and fragmented. Through contact with different migrant communities, settled in different countries, they are confronted with multiple versions of the ideal self as well as with diversification of socialization ideals and practices.

Although the network configurations of the participants sometimes reflect existing traditional (e.g., gender-based) boundaries, their networks also provide novel learning opportunities. Unique trans-local experiences and corresponding means of reflection are mediated by a combination of the specific configuration of their (transnational) social networks, access to technology and media content. In this discussion, the main point we want to address is *how these teens form a specific kind of global learner*, which is not covered in all respects by recent prototypical models for learning in the digital era, such as in the concept of the connected learner. Before doing so, we first discuss the other main point we want to bring under the attention, namely *how our network analysis approach has enabled us to reach the goal of this study*: to provide a critical reconsideration of “idealized digital connectivities for learning”.

5.1. How network analysis approach has enabled us to reach the goal of this study

Ego-network analysis as we have applied in this study, combining the gathering of social network data with in-depth interviewing, is especially adept for exploring the interaction between social structures and certain qualities or processes assigned to individuals and how these influence and shape each other (Crossley, et al. 2015). In our case, we were able to map the specific social relationships that youth employ for their learning and understand their experience and perception of the “learning self” in relation to the structural and compositional aspects of their personal communities. In other words, this methodology allowed us to study learning as a networked phenomenon. As such, the approach was particularly useful to comment on models of learning that put connectivity up front. Given that with this methodology, we can map the particularity of the connectivities of these youth empirically, it is suited to relate this conceptual work with the empirical record. The combination between quantitative analyses and interpretative work also enables the analysis of underlying paradigms associated with models of connectivity, such as the idea of an autonomous, independent self that is at the centre of the connectivity. Moreover, the methodology allows us to study more precisely than with, for

instance, interview studies, how learning opportunities and identities are created by, and vice versa create, social capital. Ego-network analysis is up to now only used by a limited number of studies to study learning. We hope this study contributes to showing the potential of this approach for the study of learning.

5.2. How these teens form a specific kind of global learner

As we have argued before (de Haan et al., 2014) the prototypical image of a so called 'connected learner' as implied in the connected learning project resonates with a learner that is "highly agentic, driven by individual needs and interests, and pursues his or her learning in individualized and tailored-to-the-need networks"(p. 510). It is important to be specific here to what of the connected learning project we direct our critique. We argue that the initial ideal of highly engaged learners that seek out (online) connections to fulfil their individual interests is itself a culturally informed particular image of a learner. We do not direct our critique to the educational ideal of the project of connected learning which has been presented as an ideal of learning in the global society for all, and in opposition to and as an alternative for outdated notions and practices of learning and education (Ito et al., 2013). We think that although connected learning is presented as an inclusive project in which individual learners are stimulated to connect to peers and other collectivities, there is not enough attention for how it was inspired initially by an individualistic learner ideal, based on the idea of unique preferences, networking efforts and independence in formulating their knowledge interests.

The Turkish-Dutch teens in this study are well-connected learners, but they diverge from the ideal implied in this prototypical learner in several critical ways. First, there is very little emphasis on individuality among this group. These teens underline the interdependency and connectedness within their family and community much more than they bring up individual characteristics or interests. The driving force for these teens seems to be establishing interdependence with the family and the Turkish(-immigrant) community. Second, the learning experiences of Turkish-Dutch teens can be characterized as conformist or traditional in the sense that they appreciate the guidance from their parents to lead them to what is considered the key values and virtues of their community. To be a good person, it is important to act according to the norms of this

community. The role models for a 'good person' are often those people who are respected within the family. In this regard, these teens also diverge from the image of a teenager in Western middle-class families more generally, who puts less stress on relatedness with their family and much more on their individual agency (Kağıtçıbaşı, 2005).

Furthermore, our data showed that the socialization and learning experiences of these teens are defined by relatively (ethnically) homogeneous, closed and dense social networks and that this is also partly the case for their online networks. In these communities, which are now also extended to the online world, the passing on of traditional values, family bonds, and hierarchical relationships, a focus on the collective and strong gender divisions remain important. This part of our data is in line with the image that was provided in the literature on Turkish-Dutch immigrant populations and that depicts this group as a relatively gender-segregated community (Vedder, 2005), with a strong attachment to Turkey (Verkuyten, 2001) and a "fear of 'Dutchification' of their children" (Lindo, 2000, p.221). This part of our results would imply that, even given their access to online media, these youth's learning ecologies seem rather stable and closed towards new influences, which is rather atypical for learning in migration (de Haan, 2011).

However, our study also revealed that their NCL undergo important changes, related to new possibilities provided by digital media. Our results partly confirm earlier studies that the Turkish community's media use is geared towards content from Turkey and that Turkish-Dutch immigrant youth's online activities are also geared towards Turkey in terms of the language used, reference to Turkish culture or identity (D'Haenens, 2003). This was evident from how Turkish-Dutch youth 'plugged in' media content in their networks that came from media channels based in Turkey directed at the Turkish community. Nevertheless, our study also shows how tendencies described by the phenomenon "networked individualism" (Rainie & Wellman, 2012) impact these youth. Looking at where the online contacts of Turkish-Dutch youth are located geographically, it was clear that they connect online with people who live relatively close by (in their neighbourhoods and in their cities). However, technology was also used to build networks across spaces, and their networks were defined by particular local-global dynamics. Digital media allows the learning of these Turkish-Dutch youth not only to reach towards Turkey but also

to other Turkish diaspora countries in Europe (e.g., Germany, Belgium, France). These networks provide them with important trans-local learning experiences in terms of access to different languages and life worlds, even if these happen within their extended families. Moreover, our data has shown that mobility patterns between Turkey and the Netherlands allow media content to be reinterpreted in similar ways as Milikowski (2000) has argued. As shown by the example of Ceylin, through a constant comparison between contexts, particular media-based content is re-weighted and re-interpreted, which provides important new possibilities for learning.

Certainly, these youth are not only “connected migrants” (Diminescu, 2008) who establish new belongings and associations while maintaining the connections with their root community; they are also ‘connected learners’. They use new technologies to create spaces for their learning, regardless of actual physical locations, and give form to new ways of being that allow them to be ‘here and there simultaneously’. This greatly expands their socialization and learning possibilities. The ‘being here and now simultaneously’ has been associated with the notion of deterritorialization and the possibility it allows to develop a critical position by authors such as Braidotti (1994). Rather than the detachment from particular places in a literal sense, it is the distantiating of conventions and the multi-perspectivity that is seen as enabling the development of a critical position in relation to the “canonical”. In a similar vein, the living within or moving between heterogeneous spaces as well as the need to take distance from the existing cultural paradigms while reconsidering and recreating them has been referred to as the *migrant condition* (Papastergiadis, 2000). The data shows that the trans local social network configurations of these young migrants, also in combination with their mobility patterns, generated particular opportunities for deliberation and reflection, that are related to the particular kinds of both deterritorialization and connectivity these youth experience.

5.3 Implications for practice

We believe that picturing this kind of a-typical global and connected learner helps us to expand our ideas of what a global learner might be. Seeking to uncover the one-sidedness of notions of ‘new’, 21st century learning helps to understand how some might be privileged while others are marginalized. On a more positive note, acknowledging diverse types of connected learners can help

to proactively incorporate them as useful models of global learning (Doerr, 2017).

Further, the particular form of the NCL utilized by these Turkish-Dutch youth might also involve the risk of growing up relatively isolated. Therefore, we would plea for more attention be paid to these particular informal learning experiences within the (semi-) formal contexts of learning, such as schools, libraries or community centres. It is important for teens and educators alike to realize how these network configurations are playing a role in shaping who these teens are and how they shape their future opportunities. With this paper, we hope to have contributed to a critical reflection on the particularity of networked connectivities and their impact on the potential diversification of learning and socialization in our societies. With this, we align with the ideal implied in the educational connected learning project that seeks ways to expand patterns that have been found for what might be privileged learners to all learners. However, our contribution turns the way to work towards this ideal around. Instead of starting with elite or privileged learner ideals, and expand these to larger populations, our mission is to first expand our knowledge and ideals of the ways in which youths can make use of the possibilities our digital societies offer. It is key that educators and practitioners are partner in this process and are aware of this variation in their work with both majority and minority students.

Chapter 7

General Discussion

Tracing connections of learning: A comparative study of immigrant-background and native Dutch teens' networked lives is part of a growing literature that advocate for a shift in the way learning is conceptualized and studied (e.g., Erstad & Silseth, 2019; Ito, et al. 2013; Jenkins et al. 2015; Leander et al. 2010). The first part of this manuscript's title "*tracing connections of learning*" reflects the central idea in this book as well as a shared assumption in the emerging line of work on connected or lifelong learning, namely that learning is a phenomenon that could be understood and studied by tracing and linking the relationships and contexts in or through which learning happens. The underlying perception of learning in this book is essentially a social, contextual and dialogical one. So, learning is not seen as a quantifiable phenomenon that could be measured by tests that aim to rank people by the knowledge "stored" in their minds, but as an ongoing process of social participation and engagement with others, with communities mediated through the tools of the mind as well as material tools (Cole & Wertsch, 1996; Vygotsky 1978).

Nowadays mediation includes the digital tools and virtual domain too. This perception of learning is grounded in sociocultural learning theory that long precedes the dawn of the digital age. Yet, only recently we possess the technologies to build, sustain and make more visible the personal networks that extend geographical, cultural and social boundaries. From a research perspective this means that we are able to visualize, track and trace the connections between people and "see" the patterns of interaction and the flows of information that according to such visions should be included in studying learning processes. So, research initiatives such as 'Connected Learning' (Ito et al., 2013), 'Learning Lives' (Erstad, 2012) and the current dissertation capitalize on sociocultural perspectives on learning while at the same time realizing that conditions in which learners operate today are significantly different and that we need to reimagine how learning could be understood and studied.

The second part of this book's title "*a comparative study of immigrant-background and native Dutch teens' networked lives*" is not only informative of the content and the target population of the research that we present. It also points to some elements that are not often tackled directly in the current literature: namely, the background of the learners, their identities as members of a certain ethnicity and their position as members of minority (immigrant) or majority populations. This is not because issues of race/ethnicity, power, minority-majority relationships are not considered as relevant; on the contrary

the “connected learning agenda” is built upon the idea to promote more equity and make available the opportunities that are identified as typical for a privileged minority of tech-savvy, interest-driven youth who can mobilize resources for their own learning (Ito et al., 2013). However, as stated earlier in this book (in the introduction and various chapters) studies conducted from the ‘connected learning’ approach often take personal interests as an initial point of exploration. Interest-driven activities are front and centre as representations of and a means to understand and stimulate learning that is personally meaningful to the learners and relevant for their lifeworld’s. Interests are understood as a gateway to broader communities and eventually as access points to opportunities (Ito et al., 2013).

In this book, we argued and showed that interests, or any meaningful learning engagement, are not only individual enterprises, but are socially constructed within larger socio-culturally informed collectivities. Furthermore, these ethnically relatively homogenous collectivities can form ecologies for learning that can be diverse in the opportunities they offer for the development of youths. The empirical results revealed the relevance of taking the ethnocultural background of learners into account and showed how the construction of interests and learning identities are culturally informed processes. The findings suggest that in order to understand how interests are born, triggered, encouraged or discouraged for young people, we should take a step back and study how learning is grounded in the day-to-day lives of teens which occur within the everyday social structures, relationships and contexts of their lives.

In this research we explored youths’ online and offline personal networks and the configurations thereof for everyday learning, examined how youth navigate their learning ecologies relying on human and non-human resources for their information needs, and we described distinct learner characteristics informed by the participants networked configurations for learning. In the process we paid close attention to how digitalization manifests itself for youth from different backgrounds, particularly, but not limited to, their position as a member of an ethnic minority or majority population in the Netherlands. In understanding the identities of these teens as learners we took into account both their narratives about how they perceive learning as well as the maps of their personal networks that showed ethnoculturally specific ways of connecting with the world. In this concluding chapter I will reflect on the insights that this research provided. In the following, the main findings will be

summarized and discussed, starting from the empirical studies. Then I will address the following questions:

- What are the implications of the new forms of connectivity for how we should understand and study learning?
- What is the added value of the network analytical approach in youth, digital media and education studies?

In **Chapter 3** the ambition was to explore the complex relations between individual attributes (i.e., ego-level variables such as ethnicity, school level, age and gender), online personal networks' structure and composition (i.e., network-level variables among others, homogeneity, density, geographical dispersion, and type of relationship), learning related online activities (e.g., sharing, commenting, feedback) and the potential of learning inherent to such network activities. To this end we mapped the online networks of teens, consisting of the most frequently online contacted 5 people, and using multilevel regression analyses we studied how network characteristics and personal attributes were linked to network activities, to encountering new information and (potentially) learning in online networks. The sample consisted of 1227 teens who generated information on 6135 online network contacts. The study provided us with insights regarding the composition and structure of online networks, patterns of learning related online network activity and perceptions of teens regarding the value of the activities for their discovery of new information. This perceived value of the discovery of new information was termed Perceived Learning Potential (PLP).

In general, Turkish-Dutch and Moroccan-Dutch youths' network structure and composition were comparable to each other. Both were significantly more family oriented, they had most contacts in their neighbourhoods, and they were more homogenous in terms of gender than the online networks of the Dutch and the 'Other' (mixed ethnicity) group. Furthermore, the online networks of Turkish-Dutch and 'Other' youths had significantly more contacts 'outside the Netherlands'. Regarding the composition of relationships Turkish-Dutch and Moroccan-Dutch youths' networks were comparable in the amount of 'family' and 'friends'; they named significantly more family members and less friends than their Dutch and 'Other' peers. Our conclusion was that, in general, our

participants took their locally based, mainly homogeneous offline communities to the online domain. Apparently teens preferred to strengthen their offline ties when building their online networks. The findings showed that relationships within their networks were dense and typically experienced as emotionally close.

This study provided statistical evidence that studying learning related online network activities or the PLP in the networks merely based on the individual learners' characteristics (i.e., ego-level variables) is not enough. While the exploration of ego-level characteristics revealed broad trends, we were able to get a more detailed picture when network variables were added into the analyses. For instance, on the ego-level we could see that Moroccan-Dutch teens scored higher in PLP than the other groups meaning that they reported to discover new information more frequently than their peers (significant only compared to Dutch); or that girls reported more network activity than boys. The explained variance of network activity and PLP was significantly increased when network-level variables were added. We observed, for instance, that the score for PLP in densely connected networks, where people's interactions are guided by interest (rather than friendship-oriented), was higher. We concluded that learning in online networks was a likely result of frequent, diverse network activities and densely-knit, homogeneous ego-networks.

While this research answered the initial questions we posed regarding the relationship between online networks' composition and structure, the activities teens from different backgrounds undertake within these networks and how these relate to their perception of learning in online networks, generated new questions as well. The high level of homogeneity in the networks, particularly regarding ethnicity, was noteworthy, given the fact that our sample was derived from schools that were largely ethnically heterogeneous. Even though we concluded that the online networks' composition reflected the reproduction of offline relationships, we were left with the questions why being a member of intercultural schools and neighbourhoods was not leading to more interculturally diverse online networks? And what our results would be in case we would investigate their more extended personal networks (thus not just the first 5 online contacts), in particular if these would reflect a similar division. Furthermore, the findings raised the question, if the online networks are formed on the principle of homophily, (McPherson, Smith-Lovin, & Cook, 2001) how

would these networks function as a learning resource; could these teens' information ecology be similarly ethnoculturally defined?

In **Chapter 4** the focus moved from exploring networks towards exploring how the current complex information ecology shapes the ways in which youth utilize resources available to them and seek information. We were interested in both information seeking preferences related to a particular interest irrespective of whether this interest was related to online or offline social worlds as well as information seeking preferences related to a particular interest when they were developing digital skills (e.g., creating a network page, uploading or downloading music, video's, photos, posting comments). Additionally, we have asked in which language they would search online content (e.g., stories, instructions, music, animation, etc.) with the assumption that language is indicative of the diversity of their online cultural-linguistic practices. Information resources were conceptualized, inspired by the notion of 'social capital' by Bourdieu (1986), as a combination of the social-actors with whom young people are directly in-contact as well as a variety of tools, information, and media that are at their disposal. However, in our definition we considered that the "assets" of social capital (e.g., access to knowledge, information and, relationships) as distributed by digital networks, independent of the class and social status that once controlled these assets (Lin, Cook, & Burt, 2001). We addressed the issue of resource preferences with a research design that allowed a more nuanced and diversified picture of information resources than is commonly seen in the literature. We operationalised interests by eight categories that broadly reflect various domains relevant to young people's lives (i.e., homework; music, movies, & celebrities; local events & news; shopping; health; making money; religion; literature, art, theatre & science). Conducting a series of binary logistic regression analyses, we explored the resource preferences of youth and whether these preferences were comparable across different backgrounds (comparing the sample based on ethnicity, age, gender and education level).

In general, our results showed that teens resource preferences for "consuming" information or generating content are in important ways similar between the different groups of youth involved. The participants were united in their preference for digital resources for all information needs. Thus, not only when involved in producing something that is typical for online consuming or producing (such as making a website) they were more comfortable with using the online domain as a resource. They also preferred the online domain more

generally, over traditional resources such as traditional media or consulting their caregivers. The online environment was perceived as self-explanatory. Youths often reported that they individually explored the internet or figured out on their own how to participate online by generating and sharing online content. Furthermore, the Dutch language was commonly used by all participants when searching for online content. We observed no difference among groups in searching the internet in Dutch. However, our overall conclusion is that these similarities across groups in how and where they search for information are not an indication of a homogenous internet culture where background characteristics are a mere detail.

The results also revealed subtle differences across the groups' preferences. Dependent on the interest being searched, teens with different demographic backgrounds employed different resources. For instance, the odds of Dutch teens consulting adults for information about their homework were significantly higher than their immigrant-background peers while the odds of teens from immigrant-backgrounds to consult the internet as well as their parents on religion was higher than their Dutch peers. The different preferences in addressing interests shows that teens from different ethnic groups benefit from information resources differently. Also languages for searching online content were not always Dutch. The odds of checking the content in English was significantly higher for Dutch teens. The odds of immigrant-background teens using their mother language was significantly higher. The linguistic diversity we observed revealed that youth from different ethnic backgrounds access partly diverse information-landscapes. Different languages enable access to different content online. While it was unsurprising that the internet is the predominant information resource for all, the study reminded us that teens enter this space marked with ethno-cultural and linguistic boundaries.

Chapters 3 and 4 created insights based on the survey data. They laid the basis of our understanding of how immigrant-background and Dutch youth engage in learning through their (online) networks and which resources they utilize. However, these general tendencies we observed in the large sample also raised some questions. As mentioned above, we came to question if the strong tendency for homophily was also reflected in the extended personal networks. Furthermore, we wanted to understand how personal networks shape everyday learning experiences, interests and aspirations for these teens and their understanding of themselves as learners. The attempt to capture more

extended personal networks required a fundamental change in our approach to data collection and redefining the research parameters. We moved from the large-scale survey study, which allows for a limited number of questions to be asked for a limited number of network contacts, towards a much more extended network study combining ego-network data with in-depth interviews. The new method enabled us a detailed snapshot of personal networks, the social relationships and contexts of these young people. The following chapters (5 & 6) thus reflect the shift in the nature of the data and the analyses from a quantitative to a qualitative approach.

One of the key arguments in this book is that we cannot fully grasp learning as a social, contextual and dialogical phenomenon in the digital age without first understanding the web of relationships within which young people learn and socialize. In **Chapter 5** we presented this argument and supported it with richly described learner typologies that were derived from studying Networked Configurations for Learning (henceforth NCL). The concept of NCL was conceived as a framework to account for the network-related information we gathered with the participants and as a model to understand learning relationships of young people that suits the current complex and distributed learning ecology. The network-related information we gathered reflected the following elements:

- An extended collection of stable and reliable, online and offline relationships of the participants. In total we had information over 1764 network contacts, collected through the 79 interviews,
- Information about the networks' structure (i.e., density or clusters) and composition (i.e., homogeneity, closeness, geographical distribution), and the means of communication in the networks (online, offline or both),
- Narratives of learning experiences, life goals, and how particular one-on-one relationships, clusters or communities were identified by the participants as learning relationships that shape these experiences and goals.

Each kind of information was in and of itself a meaningful whole, but taken together the sum was bigger than its parts. We wanted to understand these different elements as a whole; we wanted to understand how the combination of the narratives and network maps reflected the cultural and social capital (Bourdieu, 1986) of these immigrant-background and Dutch teens, and how

these provided them with worldviews and roles as learners. However, an inclusive and flexible terminology that accounted for the diverse configuration possibilities of networks needed to be coined. We wanted to understand how these diverse elements were being formed or ‘configured’ particular networked learning ecologies. We drew upon several conceptual tools such as “communities of practice” (Wenger, 1998), “affinity space” (Gee, 2005), and Bourdieu’s concepts of “habitus” and “field” (1980) in the process of “arriving” to NCL as explained in detail in Chapter 5.

The questions we addressed in Chapter 5 were geared towards understanding the more extended networks, but also how online networks relate to offline, the continuities or discontinuities of relationships, interests or information from one domain to the other and how teens experience the specific affordances of the online domain, as well as their experience of the internet as a ((un)bounded) place for learning. Personal network maps together with narratives of young people on their learning, reflected the particular sociocultural norms, values, histories of individuals and their communities.

Applying a comparative framework in which we compared the NCL’s of the 3 groups studied, we found significant differences between Dutch and immigrant youth’s personal networks. Although the differences in the (structures of the) personal networks of immigrant youth (Turkish and Moroccan-Dutch teens) were not very pronounced, the way Moroccan-Dutch and Turkish-Dutch teens approached their networked relationships were different from each other. The Dutch teens’ approach was also different from that of the two immigrant groups. We comparatively describe Dutch youth as “unrooted” learners, Moroccan-Dutch youth as “routed” learners, and Turkish-Dutch youth as “rooted” learners when we answer the question of how they have incorporated online networks into their connectivity as a whole, and how this has worked for their learning.

Dutch youth showed the most flexibility and orientation towards individual interests in how they utilized the capacities of online social networks to search and reach out to new connections to address individual interests. They often formed cliques with good friends in exploring shared interests (e.g., related to interests such as drawing or a Volkswagen-club), but also met new peers while looking to expand their knowledge. Moroccan-Dutch youth created relatively ‘independent’ life worlds online, to escape the culturally defined limitations set

by their first generation relatives. Turkish-Dutch youth's online and offline worlds were for the most part similar to each other; they used technology mostly to keep in touch with family members who they only meet in-person during holidays. Online platforms such as marokko.nl provided an opportunity for community building and a ground for cultural and social identification for the Moroccan immigrants in the Netherlands, while the Turkish-Dutch youth have few of such regular practices and resources online. Instead of "gathering" at an online platform open for all, Turkish-Dutch teens utilize their online social networks for reproducing and strengthening existing connections. It is through the transnational position of these connections Turkish-Dutch youth is exposed to the wide-spread Turkish diaspora and different experiences and perspectives of their family.

The study not only provided rich typographies of learners based on how the experiences of everyday online and offline learning manifested for teens from different backgrounds, but also proved the value of studying the network data coupled with learning narratives. If we solely relied on network data we would have find structural and compositional differences especially between Dutch and immigrant-background teens, but not get to the insights regarding how youth experience themselves as learners and how they are seeking to employ their networks. Similarly, if our interviews were not guided by a network approach we would not have "seen" the social structures these teens grow up in, or we would not have addressed how dyadic relationships and groups would play a role in generating and interpreting learning experiences. It was only at the level of these social configurations that differences between these ethnic groups and their experiences of learning became most apparent. The NCL framework further enabled us to interpret the significance of the kinds of learning experiences from the eye of the beholder.

As for the question of homophily in teens' networks the pattern we observed with the survey study repeated itself. Nearly in all categories of network composition we observed significant differences between Dutch and immigrant-background teens. Yet, the ethnic composition of networks across groups was equally and highly homogenous. The social spheres of these young people were ethnically divided and certainly did not reflect the ethnoculturally heterogenous cities (Rotterdam and 's Hertogenbosch) they live in. Despite sharing the same classroom or school, and roaming the same streets and shopping-centres, there was a lack of people from other ethnic backgrounds in the offline as well as

online networks of these teens. This divide can be explained partly by our approach to generate the network data. Determining network boundaries is a key issue in all forms of network analysis (Crossley et al., 2015) and while generating the names for the networks we prompted the teens for contacts who they trust, turn for advice and with whom they learn. This description of the contacts may have led the participants inadvertently to choose for others similar to them. This finding may also be indicative of a lack of attention by schools, and community or neighbourhood centres to facilitate and encourage cross-ethnic friendships. Earlier research has claimed that exposure to and shared spaces with other ethnicities is not always sufficient for sustainable cross-ethnic friendships to develop (Hewstone & Brown, 1986).

The ethnically homogenous networks of teens can also be explained by the homophily principle (McPherson et al., 2001). The general impact of homophilous networks is that certain ideas, expectations, experiences and goals resulting of our position gets reinforced. As McPherson and colleagues say: these type of social formations typify and consolidate the idea of “people like us” (2001, p. 416). Homophily in networks might influence the kinds of learning experiences in important ways. While access to diverse groups is often associated with varied information and a higher learning curve, homogeneous groups are known to circulate similar ideas, messages and artefacts (Haythornthwaite, 2006; Rainie & Wellman, 2012). However, homophily also has a “hidden value” regarding learning, that is, it puts barriers to the interaction with people unlike yourself (McPherson et al., 2001, p. 422; Ünlüsoy, de Haan, & Leander, 2014). Instead, an overlap in certain identity markers such as ethnicity leads to lowering the barriers of communication, information sharing, openness and collaboration. The study of Turkish-Dutch teens’ networks, as presented in the next chapter, constitutes a particular example of how homophily “works” for learning, shows the kinds of experiences that could be generated in a network composed by “people like us”, and how this could also be seen as a case of connected learning.

In **Chapter 6**, we focused on Turkish-Dutch youth’s networks and further explored how the group we identified as “rooted learners” in the previous chapter present a case of an alternative, more collectively oriented way of being a connected learner. Turkish-Dutch teens had a tendency to describe themselves in collectivistic terms. Who they are, was largely defined by being part of a community of family (and friends) and through these relationships

being part of the Turkish(-Dutch) community. Their views and practices of learning and of being connected contested the assumptions of individual interests and the role of individuals' agency in pursuing these interests as described in the connected learning project (Ito, et al., 2013).

The "rooted" learner profile revealed that Turkish-Dutch teens are not motivated primarily by individual learning needs and interests, but by establishing their identity as a reliable figure within the family and by building strong relationships within the Turkish(-immigrant) community. Their connections within the wide-spread Turkish diaspora enabled these teens access to different languages and life worlds, even if this access was within the boundaries of their extended family relationships.

The exploration of alternative ways of being connected helped us to expand our ideas of who a learner in the digital age might be. Challenging assumptions in the recent literature regarding the important role deemed for individual interests and autonomy to explore these, enable us to understand how, through our attention for particular kinds of learning arrangements, we might be overlooking other learning arrangements more meaningful for particular groups of youth. Gutiérrez (2002) emphasizes the value of studying learning contexts as a form of cultural activity. Similarly studying network configurations for learning reveal how particular interpretations and experiences of learning emerge in ethnoculturally defined networks. The case of Turkish-Dutch youth in particular, shows how learner identities are impacted by cultural and gender ideals. Furthermore, their use of new technologies, reveal that a "networked individual" with the possibility to access and participate to increasingly diverse and remote communities may simply opt to use these possibilities to strengthen the already strong ties within community (Rainie & Wellman, 2012).

The studies presented in Chapters 5 and 6 complement each other and strengthen our argument that developing an understanding of the personal networks, consisting of online and offline meaningful relationships of young people is a valid and viable way of studying learning in the digital age. Applying the notion of networked configurations for learning we were able to "see" the learning connections of young people. In turn, we were able to interpret these connections for the role they played in shaping young people's perspectives on learning, enabling and limiting particular kinds of learning experiences, while also moulding different learning identities.

What are the implications of the new forms of connectivity for how we should understand and study learning?

There is not a simple and straightforward answer to this question. We are still at the early stages of understanding how learning is afforded by new digitally networked practices and how the evolution of the Internet is shaping and redefining the possibilities for 'self' formation. Creating more insight into how this might work is of key importance for the learning sciences, particularly as we start to realise that many of our theories are still based on learning in environments and settings that deviate fundamentally from these digitally networked practices. To this end, in **Chapter 2**, we have explored the affordances offered by online, networking platforms (i.e. social media), in order to understand the nature of networked structures, and the practices that these have enabled, to shed light upon how they might work for learning. We sought answers to how we can think of new networking spaces, shaped by social media, by considering the affordances such spaces offer to learners.

In Chapter 2, based on the literature, we presented a selection of four affordances; visibility, scalability, flexibility, and persistence of online networking platforms (i.e., social media), that were considered especially relevant for the new socio-technological contexts for learning. These four dimensions were derived from the works of Manuel Castells (2000, 2004) on "network society" and from danah boyd's concept of "networked publics" (2010). What is common in these works is the recognition of digitalisation as a transformative force leading to a networked form of social organization (in comparison to a hierarchical organization) and conceptualization of particular qualities, i.e., affordances, of this new form of social organization of "societies" or "publics" today. These four characteristics in the chapter were not meant as an exhaustive list of affordances, but rather a selection to discuss how certain qualities have significantly altered the conditions to interact and, as such, to learn.

To recap the implications of these affordances, we argued with regards to 'visibility' that a shift has taken place, from an information scarcity model to an information overload model which demands new capacities from learners such as curating resources (e.g. locating, organising, making selections). For 'scalability' we asked what learning on different scales might mean and argued that 'scaling' knowledge through new tools and networks might permit learners to (re)consider knowledge across temporal and spatial scales that were

previously inaccessible (Lemke, 2000). We observed that flexibility creates learning situations that are much more improvisational, emergent, and moving away from prescribed directions and towards unpredictability. Thus, the outcomes of learning are more difficult to determine, and the possible lateral connections can be at once rich, broad, and messy. Finally, persistence of digitalised content was linked with what Holland and Lave (2001) call 'history in person', that is, the historic production of personhood, but in the online networks this is made available as an ever-present resource for reflection, consideration and connection to the present. We have also noted that these records are at the same time editable, which allow for the archives of the past to be re-interpreted and even revised.

Taken together these affordances highlight a mismatch between the conditions and conceptualizations of learning in the pre- versus the post-social media era. It is a paradigm change from observing and understanding learning in context and determining the '*situatedness*' of information within a context towards perceiving and conceptualizing it as a newer, more complex and open problem of '*moving*' information and knowledge across multiple contexts.

A consideration of learning as a "moving target" complicates the research, but also expands our understanding of the phenomenon considerably. Studies that attempt to capture how learning occurs across time and space as young people navigate different social contexts and engage with different people and communities reveal the complexities, challenges and obstacles learners face today, as well as the dilemmas of researchers to follow and understand these (e.g., Kumpulainen & Sefton-Green, 2014). However, a consensus in the wider literature concerning youths, learning, identity and digitalization is that youths differ in subtle and significant ways in how they make use of the possibilities of online connectivities. The studies in this book show that some of these differences can be attributed to personal network formations and that these seem to be informed by the ethnocultural backgrounds of these youths. So, a priori assumptions and universal typologies when describing the potential impact of youths' connectivities on their potential to be innovative, on the ways they gain knowledge or form learning communities can be misleading. These connectivities always need to be contextualized and understood from their local, specific settings, and social dynamics.

On a different note, we must realize that the ambition to represent the phenomenon of learning increasingly in all its complexities has perhaps also its limitations. For instance, as noted by Julian Sefton-Green (2017), by representing “learning as movement” outside of educational contexts we run the risk of reaching the limits of our own conceptualisations of what learning is.

He observes that as we utilize *“increasingly complex forms of representation of learning that depend significantly on forms of narration, the filmic gaze and a visual frame (that itself is emerging from the social uses of big data), all of which appear to make the concept of a “learning journey” more visible and comprehensible. Yet the more we are capable of appearing to capture and represent complicated forms of learning in non-“educational” contexts, the more the paradigm of studying such movement is thrown into question”* (Sefton-Green, 2017, p.117).

Taking this warning from Sefton-Green seriously, I think we should be aware that, learning as networking, or learning as movement, is only *one* of the ways in which learning could be conceptualised and not ‘the’ new paradigm to conceptualize learning in the 21st century. In the following paragraph I will go into some of the specific advantages that a focus on networks or network methodology can bring in the study of learning as well as its limitations.

What is the added value of the network analytical approach in youth, digital media and education studies?

Although the methodological scope of the Wired Up project is broader than the network approach (Social Network Analysis, SNA) and the current book also includes two chapters that are not based on network data (Chapters 2 and 4), I consider the ego-network approach as the main methodological contribution of this book. Network methods are versatile and allow for different types of data to be collected systematically (Crossley et al., 2015). As a method within the SNA tradition, ego-networks focus on the individual at the centre of their network and map their direct relationships (Alexander, 2009). An ego-network consists of an ego (i.e. the individual actor) and alters (i.e., contacts) connected to ego, and ties representing the relationships within the network (Borgatti, 1998).

As we have demonstrated in this book (Chapter 3) survey approach to ego-networks conveniently enables the storing of information about network

members (e.g., age and gender of both the ego and alters) in the same dataset as information about the ties between the alters and ego (e.g., the regularity of sharing, asking questions, editing artefacts) (Garton, Haythornthwaite, Wellman, 1997). By doing so, it facilitates the analysis of the kinds of interactions that occur between people in relation to personal or network attributes. This, in turn, leads to insights into the broader social dynamics individuals are embedded in and to an understanding of patterns, attitudes, perceptions of individuals in relation to these social dynamics.

A qualitative approach to ego-network analysis is also possible (Chapters 5 & 6) and it has different strengths compared to the survey approach. The qualitative strategy allows to expand the network parameters and reach to a more realistic ego-network picture than it is possible with survey accounts. Network maps coupled with narratives from in-depth interviews generate richly descriptive information not only about the individual's own perspective, but also their perspective in relation to their networks. The data generated by our research design proved to be very rich, allowing us to explore how particular relationships, sub-clusters and, in general, networks functioned for the learning experiences of youths. As previously voiced in the literature a qualitative approach to networks enable the researcher "to move beyond the level of the individual and the analysis of individual behaviour into the social context where most people spend the vast majority of their lives, living and interacting with the small groups that make up the world around them" (Trotter, 1999, p. 7).

SNA, particularly ego-network analysis could be a real asset to researchers who aim to understand the contemporary complex learning ecologies. To our knowledge until now this methodology is currently only applied by a small number of scholars or projects and primarily focussed on professional learning (see for instance De Laat & Strijbos, 2014; Patariaia et al., 2014; Schreurs, et al., 2019). Network maps can provide a detailed snap-shot of the social relationships that are deemed relevant for learning by the learners themselves. These maps can guide and stimulate further conversation, like an actual map that guides us to find our way, through conversation about different relationships and we can seek to understand different learning pathways they take and the many roles others can play in the process of learning.

Limitations and challenges particular to ego-network method should also be taken into account. This method centres around and relies entirely on the

individual participants and their interpretations of their “interpersonal ties”, thus it is very prone to informant-bias (Granovetter, 1973). Taking the ego’s perspective essentially leads to a one-sided, subjectively perceived view of the relationships. Furthermore, there are well-documented biases with regard to how people remember, include or exclude others in their network, so there is always a level of uncertainty regarding the completeness of networks and the boundaries of it (e.g., Bell, Belli-McQueen, & Haider, 2007). Based on these potential biases Heath, Fuller, and Johnston (2009) emphasize that the possible absence of alters and the impact of their absence should always be recognized. In this study we tried to minimize the informant bias by applying the same name-generator strategy consistently, and by confirming with our participants about the representativity of the networks we digitally visualized in their presence.

Practical implications

The implications of the studies presented in this dissertation for educational practice are not straightforward. How can information about teens’ personal networks be put to use in ways that would be helpful to schools, teachers and others who work with and for teens’ education, development and well-being in general? The difficulty in addressing this question can be partly explained due to the mismatch between our sociocultural approach to learning and the view and practices still dominant in the field of formal education with regards to learning.

Many studies already recognize the gap between schools and the life-worlds of youths, and identify and deem a central role to new media to mend this gap by enabling alternative, information-rich spaces. For instance, van Kruistum, Leseman, and de Haan argue that in order to bridge “the world of youth with that of the school, their [the schools] most important task is to exploit and teach students the epistemic potential of new media and the personal relevance of appropriating this potential” (2014, p.39). In order to function in the 21st century, it is of critical importance to explore and understand the mechanisms of knowledge that new media can facilitate. Yet, we would like to argue that the latter half of van Kruistum and colleagues’ proposal “the personal relevance of appropriating this potential” is an even more important goal that should be prioritized by educators and other professionals working with youths. For a teacher or a school, to attain this goal means to connect with their pupils on a personal level, in order to know what is relevant for them, when and why. This requires openness and acceptance. Feeling connected, known, accepted and

respected are essential and ideal facilitators for learning (Bernstein-Yamashiro, 2004).

Knowledge of youths' personal networks, and the configurations for learning in these networks might lead to deeper understandings for schools regarding the ways in which youths perceive learning, with whom they learn and how learning is sometimes transferred across contexts. Throughout our studies of teens' networks there were a small amount of adults mentioned as part of the personal networks who were not family (e.g., friends of parents, imams, sports' coach), but not a single teacher or consultant at school was named as part of any personal network. This might be (partly) attributed to selection or reporting bias, but it is likely that the worlds of teachers and pupils lack personally meaningful contact-zones. This underscores even more the need to (re)connect school learning with out of school and online learning.

Limitations

As in the different chapters the particular limitations of the studies have been mentioned, I would like to focus on 3 key limitations of the book as a whole.

The 'actuality' of the media studied. The studies presented in this book should be read with the following limitations in mind. When we started collecting data smart phones were not yet as common as they are today. In the course of the project the smart phone technologies enhanced considerably, enabling an easier access to social (and other) apps. The costs of online data use has decreased and related to these changes the use of smart phones became a common practice. Certain social media platforms gave way to others. While the digital learning ecology keeps changing and unfolding some of our survey questions became redundant (i.e., Hyves the then-popular social networking platform in the Netherlands does not exist anymore). Yet the broader categories of our inquiry remain relevant, if anything the engagement of youths with the social media is more intensified.

Our focus on ethnicity. Our study is designed in a comparative framework that takes the ethnocultural background of the participants as the main comparison criteria. This was a deliberate choice, as explained in the introduction and several chapters of this book, in order to explore and show the many ways young people can be a learner in today's complicated world informed by their ethnicity, as well as gender, age, interests, motivations, technologies and resources they have access to. The comparative perspective we adopted allowed us to portray the diversity network configurations and ways young people addressed their learning needs. It was not driven by an essentialist or exclusive view on the relation between ethnicity and media use. We recognize that other variables, especially the socio-economic status of our sample would

have been a relevant aspect to take into account. Our focus on ethnicity was a result of our assumption that the new learning paradigms are shaped by digitalization as well as by migration that mark the increasing mobility and interconnectedness of our time. We assumed that the learning experiences/ecologies of youth from migrant backgrounds would be an interesting resource to gain more insight into the empirical grounding of new learning paradigms since we expected the learning ecologies of migrant youth to be comprised of multiple global and local communities and to reflect new forms of (cultural) connectedness.

A particular conceptual focus. From a more theoretical viewpoint our interest was in understanding the 'nature' and characteristics of digital networks and how these have opened up new spaces for interaction and enabled new social practices that can be leveraged for learning. These transformations have particular consequences for prior concepts of teaching and learning that are based on how particular types of social relationships mediate learning, as in the case of sociocultural approaches of learning. So, it should be recognized that our approach in this dissertation might be less relevant for concepts of learning based on, for instance, attention or memory without such explicit theorisation of the relationships between the social fabric, learning and cognition.

Final statement

The studies presented in this book differ from each other in their objectives and each one tackles a different question. We studied personal networks on different scales, applying different methods of analysis and addressing different issues, but the insights derived from each study reinforce and supplement each other. Taken together the chapters provide insights into how digitalization and migration shape networked lives and learning experiences of youth. The main conclusions we can draw from the studies presented here is that new prototypical models for learning in the 21st century do not hold for all social and cultural groups but are themselves grounded in a particular culturally informed ideal. Teens form unique networked (trans)national connectivities which are informed by their specific sociocultural position. What I hope to achieve with this book is the acknowledgement of the diverse possibilities of being connected and becoming a learner as well as the idea that digitalization is facilitating this in a variety of ways.

EXTENDED SUMMARY

This dissertation is an exploration of how new learning ecologies unfold for young people from different ethnocultural backgrounds between the ages of 12 and 18, living in the Netherlands, and what the consequences are for how we conceptualize learning. Over the last two decades there have been several interconnected developments that caused a shift in the way learning is experienced and conceived. There is the rise and rapid adoption of new Information and Communication Technologies (ICT), specifically the internet and related digital innovations (e.g., smart, mobile technologies), into our everyday practices, transforming every aspect of social life. We have discovered and embraced new forms of building and maintaining social relationships through online social networks. In addition, the internet became an immense resource of information, able to “hold” and circulate any and all content that could be digitalized.

Increasingly more studies and research initiatives, such as Connected Learning and Learning Lives, argue that in order to fully grasp the complexity of young people as learners and their learning experiences today we should focus on the flow activities, information and resources and how these are utilized and mobilized across different contexts (e.g., Akkerman & van Eijck, 2013; Ito, et al. 2013; Kumpulainen & Sefton-Green, 2014). The current research project situates itself in this emerging line of research.

In this dissertation my claim is that in order to account for the multicontextual, social nature of learning, an important point of departure should be the social structures that host and shape this engagement. In the respective studies in this book we have argued that in order to explore multiple contexts, while weaving together the flux of influences that shape young people’s learning, a network analytical perspective is useful. Personal networks, otherwise known as ego-centric networks or ego-networks, consist of connections between a particular central social actor (ego) and other actors (alters) with whom an ego enjoys a specific type or types of tie (e.g. emotional closeness, information sharing, economic exchange, etc.) (Crossley et al., 2015). Personal networks taken as units of observation and analysis enable us to sketch the ‘social circles’ a person is involved in. It is essentially a social cartography work to understand the patterns of interaction and separation people engage in and the kinds of social capital these patterns pose. However, to the best of our knowledge, such an

approach is rarely adopted in the emerging learning research (see for exceptions on ego-networks approach to professional learning Schreurs, et al., 2019; for a review on whole social network analysis De Laat, et al., 2007; for network analysis of online social networks Gruzd, et al., 2016).

Furthermore, in research on learning in the digital age there is a lot of attention for the individual agency of learners and for how the personal interests could be leveraged as gateways to opportunities. This is an attractive and prolific field of exploration of how learning could be different in the digital era. My claim in this dissertation is however, that taking young people's interests as the initial step to explore learning in the digital age has the risk of overlooking the learning of youths who do not express a desire to deepen their knowledge in terms of specific interests. In this study I argue and show that the ways in which youth incorporate (digital) media in their daily practices, is not only shaped by how they strategically employ their social networks for learning, but also by how they understand themselves as learners.

In addition, we argue that both their identities as learners as well as their social networks are shaped by their particular socio-cultural-material realities. In order to show this empirically, we adopt an ethnoculturally comparative perspective, which allows us to explore the learner identities and learning experiences of ethnic-minority populations in the digital era (particularly the Turkish-Dutch and Moroccan-Dutch teens in comparison with native Dutch teens) in the context of the Netherlands. Minority youth as learners are often only studied within the context of formal education systems based on the assessment of their performances either across generations or contrasted with majority populations. In contrast, in this thesis, I see minority youth as learners who have access to more varied social, cultural and linguistic resources than the majority populations do and aim to understand the value of these resources in shaping everyday learning for these teens.

This dissertation is part of a broader, multidisciplinary research project, Wired Up (www.uu.nl/wiredup), funded by a Utrecht University High Potential grant. As part of the broader project firstly a large-scale survey study was conducted across seven secondary schools in the Netherlands ($N = 1408$). The survey covered a broad range of issues that, among others, aimed at understanding how online personal networks are perceived for learning and which resources young people utilized for learning and identification (for details regarding the

survey see Hirzalla, Ünlüsoy, & De Haan, 2011). Respectively in Chapters 3 and 4, these issues are analysed based on these survey data.

In Chapter 3, the complex relations between the participants' individual characteristics (e.g., ethnicity, gender, age) are explored, as well as the structure and composition of their online personal networks, online activities (e.g., sharing, commenting, feedback) and the potential of learning inherent to such network activities. The study asks how ethnoculturally comparable the compositional and structural characteristics (i.e., homogeneity and density of networks, relationship characteristics) of teens' ego-networks are and explores which individual and network-related factors can predict online network activities and the Perceived Learning Potential inherent to these activities. The study shows that youth's online networks are mostly homogenous and based on local, face-to-face relationships. Furthermore, this study provides statistical evidence that studying online network activities merely based on the individual learners' characteristics is insufficient and that looking at network characteristics helps understanding an important part of the learning dynamics studied.

The focus in Chapter 4 shifts from personal networks towards media habits and information resources that teens prefer to address their learning needs. The objective here is to understand how youth navigate the complex, multimodal media environment and which resources they prefer to address a variety of learning needs. We explore the practice of information seeking in a broader conceptual framework and address the issue with a research design that allows a more nuanced and diversified picture of information seeking than is commonly seen in the literature. We operationalize a wide range of options as resources. Digital versus traditional media, parents versus friends, people contacted online and offline are all seen as potential resources youth can rely on to address their interests (e.g., health, arts, popular culture, celebrities, friendships) and learning needs, particularly for producing online content and participating in online networks. Conducting a series of logistic regression analyses, the study explores the patterns of resource preferences of youth and whether these patterns are comparable across different backgrounds (comparing the sample based on ethnicity, age, gender and school level). The findings further consolidate the idea that not only the online social structures are ethnically homogenous and separate from each other (as argued in Chapter 3), but their worlds of information are similarly ethnoculturally defined.

The next phase of data collection, applying ego-network methods combined with in-depth interviews, is more specifically geared towards this study within the wider Wired Up project. In this phase of the study and with these methodologies, we were able to ask key questions to understand the personal (online and offline) networks of teens: What (variety of) relationships and communities are indicated by youth in their networks that are relevant for their learning? What goals do they pursue with these relationships and communities? (How) do issues of identification and belonging play a role here? How are online relationships or communities positioned in relation to offline ones regarding learning opportunities? Do they perceive and pursue particular learning opportunities online? What possible boundaries do they experience when exploring the internet as a means for their learning, and how do they deal with them?

The studies in Chapters 5 and 6 are both based on these ego-network methods, and in particular on social network interviews with 79 teens: Dutch (25), Moroccan-Dutch (29) and Turkish-Dutch (25). In order to gather detailed descriptions of the structure and composition of networks for each one of these contacts descriptive information was gathered (e.g., role, age, gender, location of residence, level of education), as well as the mode of communication (mostly online, offline, or both online and offline), and whether they knew each other. In-depth interviews, after visualising and using the network maps to aid the interview process, provided the narratives of youth that were analysed qualitatively applying thematic content analysis.

In Chapter 5, the idea of Networked Configurations for Learning (NCL), which is introduced in Chapter 1, is further elaborated. The study showed that an understanding of NCL enables us to interpret the connectivities of individuals with the world around them and show how these connectivities are ethnoculturally coloured. For instance, in case of the Turkish- and Moroccan-Dutch youths the connectivities indicated cohesive forms of social organization in which kinship ties play an important role, whereas connectivity patterns of the Dutch youth reflected a more individualistic social organization. However, the immigrant groups, deceptively similar in the composition and structure of their networks show different user strategies, especially regarding utilizing their online networks. Moroccan-Dutch teens, much in contrast to their Turkish-Dutch peers, actively use technology to create alternative spaces for their peer-based socialization, seeking routes away from the older generations in their

network -despite the importance of and affection towards these contacts. Typical for the learner profile of Turkish-Dutch youth is that their connectivities online are consolidating existing offline relationships as well as reproducing the cultural norms and values. Their engagement online and offline appears to be “rooted” in their ethnic community.

The core argument in this chapter is that there is not a uniform-way of being a “connected learner” and that different kind of learners could be identified who are characterized by different forms of online connectivity, which again are shaped by ethno-socio-material specific histories.

In Chapter 6, we elaborate this argument further and focus on Turkish-Dutch youth’s networks and ‘learner identity’ as an alternative, more collectively oriented way of being a connected learner. The study concentrates on how Turkish-Dutch teens characterize themselves as learners, and how this perception is reflected in who they want to become, their goals and activities, and on their view of how they learn (to become someone). This is followed by how their networks function in facilitating their learning needs and shaping their experiences. We explore whether there are particular interest based learning (sub)clusters; whether such networks or sub-clusters are mediated by specific technologies or media resources; and if these represent particular geographically based or ethnically or gender informed connections or boundaries. The “rooted” learner profile further unfolds in this chapter and reveals that Turkish-Dutch teens are not motivated primarily by individual needs and interests, but by establishing their identity as a reliable figure within the family and by building strong relationships within the Turkish(-immigrant) community. Their connections within the wide-spread Turkish diaspora enables these teens access to different languages and life worlds, even if these happen within their extended families.

The empirical studies in Chapters 3 – 6 take digitalization as a given, as part of young people’s everyday reality. However, it is important to understand how digitalization, more specifically the digitalization of our social connectivities are enabling us to engage with each other and with information in new ways. That is why the book starts with a review study (Chapter 2) that tackles the question how affordances of online social networking “work” for our learning. We argue that in order to be able to leverage social media for learning we should first understand what exactly this media can afford and how these affordances may relate to learning. The study focuses on four specific affordances -visibility,

scalability, flexibility and persistence- derived from Castell's work on Network Society (2000) and boyd's work on the "bits-based-nature" of digital information (2010). We interpret these affordances from a learning perspective, look at examples of how these affordances shape our capacity to see, access, change and circulate content online, and explore how these new-found or expanded capacities could be understood to further the theorization of sociocultural learning.

Taken together the chapters provide insights into how digitalization and migration shape networked lives and learning experiences of youth. The ambition of this study was to acknowledge the diverse possibilities of being connected and becoming a learner, while showing how digitalization is facilitating this in a variety of ways. It is only through the recognition of this variety, as well as the proactive incorporation of it, that we can build useful models of connected learning and address the complexity of learning in the digital age in new learning paradigms.

SAMENVATTING

In een diverser wordende en digitaal gestuurde samenleving, die steeds meer eist van burgers, is het van cruciaal belang om het leren niet alleen te beschouwen als een fenomeen dat kan worden gemeten en vergeleken op basis van de resultaten van gestandaardiseerde tests, maar ook als een fenomeen dat vanuit een breder sociaal-cultureel perspectief begrepen dient te worden. Om de complexiteit van het leren in dergelijke samenlevingen beter te kunnen begrijpen, richt een groeiend aantal wetenschappelijke publicaties zich op hoe activiteiten, informatie en hulpbronnen in beweging zijn en op hoe deze worden gebruikt en gemobiliseerd bij het leren met behulp van digitale technologieën over verschillende contexten heen. In lijn met deze literatuur stel ik in dit proefschrift dat, om rekening te houden met het multi-contextuele en sociale karakter van leren, een belangrijk uitgangspunt moet zijn het bestuderen van de sociale structuren waarin genoemde aspecten vorm krijgen. Het is bovendien belangrijk om onze veronderstellingen, verwachtingen en twijfels over het socialiseren en leren van jongeren in de sterk gedigitaliseerde wereld van vandaag te toetsen aan kritisch en systematisch empirisch onderzoek.

Om leren te bestuderen op een manier dat systematisch en op coherente wijze meerdere contexten verkend worden en de stroom van invloeden die het leren van jonge mensen vandaag de dag vormen met elkaar verbinden, ga ik in dit proefschrift uit van een netwerk-analytisch perspectief. Daarnaast bestudeer ik leren vanuit een ethno-cultureel vergelijkend kader, waardoor ik de identiteit en leerervaringen van leerlingen van etnische minderheden (met name de Turks-Nederlandse en Marokkaans-Nederlandse tieners) kan verkennen en vergelijken met autochtone Nederlandse jongeren.

In de hoofdstukken 3, 5, en 6 van dit boek worden persoonlijke netwerken beschouwd als observatie-eenheden, gemeten en geanalyseerd met behulp van kwantitatieve en kwalitatieve methoden. Met behulp van een grote hoeveelheid enquêtegegevens ($N = 1408$) hebben we onder meer informatie verzameld over de online netwerken van tieners. Ook hielden wij diepte-interviews met 79 tieners waarbij wij allereerst hun persoonlijke netwerken in kaart brachten. Hierbij konden wij een breder scala aan relaties in kaart brengen dan met de enquête. Vervolgens hebben we een thematische inhoudsanalyse uitgevoerd om de interviewgegevens te koppelen aan netwerk-informatie. De studies laten zien hoe de netwerkstructuren en de middelen die deze bieden om

te leren verschillen voor allochtone en niet-allochtone jongeren. Daarnaast laten ze zien hoe jongeren met een allochtone achtergrond zichzelf ervaren als leerder en welke netwerkfactoren en netwerkrelaties een rol spelen bij het vormgeven van deze ervaring.

In een conceptuele studie (hoofdstuk 2) onderzoeken we hoe digitalisering, ofwel specifiek de digitalisering van sociale verbindingen, mensen in staat stelt om op nieuwe manieren met elkaar en met informatie om te gaan. We stellen dat om sociale media te kunnen gebruiken om te leren, we eerst moeten begrijpen wat deze media kunnen bieden. Digitale sociale verbindingen die tot stand komen via sociale-mediaplatforms (her)vormen onze capaciteiten om informatie te begrijpen, circuleren, bewerken, en te archiveren. Daarom stellen we de vraag hoe deze opnieuw gevormde capaciteiten begrepen kunnen worden om de theorievorming van sociaal-cultureel leren te bevorderen.

Gebaseerd op sociaal-culturele perspectieven om leren te bestuderen, maar ook rekening houdend met het kruispunt tussen technologie, migratie en leren, laat deze studie zien hoe persoonlijke netwerken het leren en socialiseren van jongeren op specifieke wijze vormgeeft. Ik stel in dit proefschrift dat er geen prototype van de “digitaal ingebedde leerling” bestaat, maar dat iemand op diverse manieren digitaal ingebed kan zijn ten behoeve van zijn leerproces.

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APPENDIX A

WIRED UP SURVEY

WIRED UP DIGITAL QUESTIONNAIRE: OVERVIEW OF CONTENT

The questionnaire is divided into 7 sections. This document defines the purpose and summarizes the questionnaire section by section.

Section 1: Internet use and attitudes

This section aims to gather information over a rich variety of possibilities for media use. First, the participants are asked about non-internet related media use (such as reading books and computer games) and phone usage. Then an inventory of Internet applications is presented to them to measure the *frequency of use*. Finally, the same inventory appears to measure the *deemed importance* of these programs for the user.

Section 2: Access, control and autonomy, preferences, use

In this section the location and conditions of participants' Internet use is elaborated. The participants are asked to consider whether there is control over their Internet use, and whether this varies per location (e.g., school vs. home). Third, participants are asked about the Internet purposes most important to them, about topics discussed online, and whether they are consciously concerned about privacy issues.

Section 3: Identity

The third section focuses on self-expression on the Internet. The focus is limited to social networking environments like MySpace, Facebook, or Hyves. The personal interests (e.g. music, celebrities, youth groups, etc.), the orientation of those interests, and their display on the profile pages are queried. Further, we ask participants about their number of friends on different platforms, and the degrees to which they communicate with these friends regularly.

Section 4: Learning and Information Searching Behavior

This section focuses on various forms of online learning. The participant is asked how he/she has learned practices such as downloading, text messaging, photo editing, etc. Then, the information resources are questioned, including where the participant collects information about various domains (e.g., homework, health, news), what language(s) this information appears in when collected.

Section 5: Background Information

The background section asks about the participant's age, gender, family structure, education, ethnicity (based on parental birth country and home language).

Section 6: Online Networks of Participants [Sharing, creating, learning]

The last section focuses on online networks and what these mean for information sharing and producing together online. Only those participants with online contacts respond to this part (which is the majority). We ask participants to list 5 frequent contacts, and ask them to give some characteristics of these contacts (age, ethnicity,

location, etc.), and ask them per contact what topics they discuss online, and if they discover, share, create, give and receive feedback with each other.

Section 7: The end

The questionnaire ends with a thank you note and we ask for participants' emails if they'd like to continue participating in further steps of the study (e.g. interviews).

WIRED UP DIGITAL QUESTIONNAIRE

Section 1: Internet use and attitudes

1. **How often do you do the things mentioned below?**

| | | | | | |
|-------|----------------------|-----------------|-----------------|-------|----------------------|
| Never | 1 day a week or less | 2-3 days a week | 4-5 days a week | Daily | More than once a day |
|-------|----------------------|-----------------|-----------------|-------|----------------------|

Reading newspapers and magazines
Reading books
Watching TV / DVD's
Playing computer games on consoles (X-Box, Playstation, Wii)
Using Mp3-player / I-Pod

2. **Telephone**

How many phone calls do you make on your mobile per day?

- 0 calls
- 1 – 5
- 6 – 10
- 11 – 15
- 16 – 20
- 21 – 25
- 25 – 30
- > 30

3. **How many phone calls do you make on a fixed landline per day?**

- 0 calls
- 1 – 5
- 6 – 10
- 11 – 15
- 16 – 20
- 21 – 25
- 25 – 30
- > 30

4. **Texting**

How many texts do you send per day?

- 0 texts

- 1 – 5
- 6 – 10
- 11 – 15
- 16 – 20
- 21 – 25
- 25 – 30
- >30

5. **How often do you do the things listed below?**

- | | | | | | |
|-------|----------------------|-----------------|-----------------|-------|----------------------|
| Never | 1 day a week or less | 2-3 days a week | 4-5 days a week | Daily | More than once a day |
|-------|----------------------|-----------------|-----------------|-------|----------------------|

- Messaging (MSN, E-buddy, G-talk)
- Calling on the internet (Skype)
- Webcamming (Skype, MSN)
- Chatting in chatrooms/chatboxes
- Searching information (Google)
- E-mailing
- Watching video's (YouTube)
- Downloading (music, films, games)
- Browsing and updating profile pages (Hyves, MySpace, SugaBabes)
- Twitter
- Games that you play by yourself online (spele.nl)
- Games that you play with others online (Counterstrike, World of Warcraft)
- Visiting and participating in forums/newsgroups
- Visiting, making and participating in blogs

6. **What do you miss in this list?**

Is there something missing in this list?

.....

7. **How badly would you miss the things listed below?**
If you weren't able to do them anymore

| | Completely not | A little | Very much |
|--|-------------------|----------|--------------|
| Messaging (MSN, E-buddy, G-talk) | | | |
| Calling on the internet (Skype) | | | |
| Webcamming (Skype, MSN) | | | |
| Chatting in chatrooms/chatboxes | | | |
| Searching information (Google) | | | |
| E-mailing | | | |
| Watching video's (YouTube) | | | |
| Downloading (music, films, games) | | | |
| Browsing and updating profile pages (Hyves, MySpace, SugaBabes) | | | |
| Twitter | | | |
| Games that you play by yourself online (spele.nl) | | | |
| Games that you play with others online (Counterstrike, World of Warcraft) | | | |
| Visiting and participating in forums/newsgroups | | | |
| Visiting, making and participating in blogs | | | |

Section 2: Access, control and autonomy, preferences, use

1. **Do you have a computer or laptop with internet connection in your home?**

- Yes
- No

2. **Where do you go on the internet?**

| | | | | | |
|-------|----------------------------|-----------------------|-----------------------|-------|-------------------------------|
| Never | 1 day a week or less | 2-3 days a week | 4-5 days a week | Daily | More than once a day |
|-------|----------------------------|-----------------------|-----------------------|-------|-------------------------------|

- In my bedroom
- Somewhere else in my home
- At friend's or family's place
- In the library or internet-café
- At school
- Somewhere else via wireless / mobile internet

3. **Do you agree?**

Below you'll find a number of statements. Please list to what extent you agree.

Completely
disagree

- I can do what I want on the internet
- I decide by myself what I get from the internet (videos, texts, images)
- I decide by myself with whom I talk on the internet (via MSN, Hyves)
- I decide by myself what I download from the internet
- I decide by myself what I put on my profile page (Hyves)

4. **Who controls your internet use?**

For instance by telling you how long you can use the internet or by checking what you are doing.

- My father
- My mother
- My brother(s)
- My sister(s)
- My teacher
- Somebody else:.....
- Nobody controls my internet use

5. **Do you do these things?**

- I change my password regularly

- I make sure nobody else is around when use the internet
- I delete the browser history (and/or download history, cache history)
- I don't tell others what I do on the internet
- I don't use my real name or real pictures where I'm in
- I don't do any of the things listed above

6. **Do you consider the internet a good place to talk about personal stuff?**

- No, not at all
- No
- Sometimes yes / sometimes no
- Yes
- Yes, very much

7. **For which things is the internet especially useful?**

(instead of having to meet people)

| | Completely disagree | Completely agree |
|--|---------------------|------------------|
| To find information on things I need to know | | |
| To buy things that are hard to get or that I don't like buying in a shop | | |
| To contact organizations | | |
| To find people who can help with my problems | | |

8. **I rather use the internet to talk about the following things**

1. What happened with me today
2. What happened in School
3. What happened in the neighborhood
4. What happened in the world
5. Earn Money, buy things
6. Being bullied or bullying
7. How to use Technology/gadgets
8. Homework
9. Religion
10. Friendships
11. Family
12. Relationships or love problems
13. Sexuality
14. Health

- 15. Racism or discrimination
- 16. Art, literature, theater
- 17. Science, information, history
- 18. Music, celebrities and film
- 19. Other:.....
- 20. None of the topics listed above

9. **Can you list your 5 favourite websites below?**

| | |
|----|------|
| 1. | www. |
| 2. | www. |
| 3. | www. |
| 4. | www. |
| 5. | www. |

Section 3: Identity

1. **Which of the things listed below do you normally put on your profile page?**

(Multiple answers possible)

- Your nickname
- Your first name
- Your last name
- A profile picture
- Your age
- Your date of birth
- The city in which you live
- The neighborhood in which you live
- The name of your school
- The school class
- Your gender; boy/girl
- Your sexual preference, whether you dig boys or girls
- Your nationality
- Your ethnicity
- The country in which you were born
- Your income
- Your class/status
- Your religion
- The languages that you speak > if answered yes > go to question 2, otherwise skip

2. **Which languages would you like to show?**

(multiple answers possible)

- Netherlands

- Arabic
- A Berber language: Tamazight, Tashelhiyt, Tarifit
- English
- French
- Spanish
- Papiamento
- Turkish
- Another language.....

3. **Youth groups**

Which of the groups listed below would you like to name or show on your profile page? (multiple answers possible)

- I don't want to belong to a group or don't want to show
- Activist (politics, environment, animal, religious)
- Alto
- Dance
- Fashionista/Trendy
- Gabber
- Goth
- Hiphop
- Kakker/bal
- Lonsdaler
- Emo
- E-nerd / hardcore gamer / cpu fan
- Metalhead/rocker
- Moslim/moslima
- Punker
- Reli
- Riot grrl (girl power)
- Skater (skateboard/extreme sports)
- Sporter (soccer, tennis, boxing etc)
- Urban (rap, soul)
- Another group:

(Koen: I'm aware: we need to cut this list down)

4. **Which of the things listed below would you like to put on your profile page?**

Food preferences

- Dutch food (fries, kale, sandwich with cheese)
- Divers food (couscous, Turkish pizza, kebab, kouseband)
- International / fastfood (McDonalds / KFC / Burger King/ Pizza Hut)

- I wouldn't put a food preference online
5. **Celebrities**
- Dutch (Bekende Nedelranders, Soap stars, sport heroes)
 - Diverse backgrounds (Moroccan, Turkish, Caribbean, Bollywood)
 - International (Hollywood)
 - I wouldn't put any celebrities online ,
6. **Music preferences**
- Dutch (Nederpop, Nederhop, dance, smartlappen)
 - Divers backgrounds (Rai, Chaabi, Turkse pop, Suripop)
 - International/English (Hip-hop, rap, rock, r&b)
 - I wouldn't put any music preferences online
7. **Brand preferences**
- Sport brands (Nike, Lacoste, Adidas, Reebok)
 - Urban / Street (Ekko, Fubu, Babyphat, Karl Kani, G-Unit)
 - Luxury brands (Dolce & Gabbana, Burberry, Gucci, Prada)
 - I wouldn't put any brand preferences online
8. **Symbols**
- Religious symbols (Christian, Islamic, Jewish etc)
 - Cultural symbols (Windmill, Amazigh/Aza, Turkish Blue Eye, etc)
 - National Flags (Netherlands, Morocco, Turkey, Surinamese, Curacao, etc)
 - Holiday spots
 - Anti-racism, anti-discrimination signs or texts
 - Anti-sexism signs or texts
 - Street language / slang / signs
 - I wouldn't put any of these online
9. **Profile picture**
- How would you show yourself in your profile picture to be liked by your friends?
- (Max 3 answers possible)
- Rich
 - Hard working
 - Computer savy
 - Social
 - Good-looking
 - Sporty

- Rebel
 - Cool
 - Sweet
 - Nerd
 - Trendy
 - Intelligent
10. **Updating**
- Background information (name, city, gender, ethnic background)
 - Youth groups (hiphop, rap, goth, rock)
 - Preferences for food, celebrities, music, clothing
 - Photos of important places
 - Symbols
 - Populer Dutch words (What's up, Chillen, Doekoe, Patta, Dope, Mocro)
11. **Locking/closing off profiles**
Have you closed of your profile page from strangers?
- Yes
 - No
 - I have no profile page
12. **Number of friends: SNS**
- How many friends do you have on your profile page (Hyves etc)
(list 0 if you don't have one)
13. **Number of friends: MSN**
- How many friends do you have in your MSN friendlist
(list 0 if you don't use MSN)

Section 4: Learning and Information Searching Behavior

1. How did you learn this?

Choose maximum 3 ways per activity.

| | | | | | |
|-----------------|---|--|--|--------------------------------|--|
| Never done this | Through a book, manual, or other print resource | Via the help link of the program and online forums | I've tried out for myself without guide or help from someone | I've asked to friends, parents | I've asked to friends via the internet |
|-----------------|---|--|--|--------------------------------|--|

Downloading, editing, uploading music
 Creating or editing a web page or weblog
 Playing a computer game
 Creating or modifying a game avatar

2. How did you learn the activities below?

Choose the most important 3 ways per activity.

| | | | | | |
|------------------------|---|--|--|---|--|
| I have never done this | Through a book, manual, or other print resource | Via the help link of the program and online forums | I've tried out for myself without guide or help from someone | I've asked to my friends, parents/teacher | I've asked to friends via the internet |
|------------------------|---|--|--|---|--|

Texting (mobile phone use)
 Creating a profile page (e.g., Hyves)

Creating,
editing, or
posting a
photo
online
(e.g., on
Flickr)

Creating,
editing, or
posting a
video
(e.g.,
YouTube)

3. Where would you most likely look for information for each of these areas?

When possible, try to think of times when this happened in the past. Please choose 3 important sources per area.

| | | | | |
|-------------------------------------|----------------------------------|---|--|-------------------------------------|
| A book, newspaper or magazine | My parents or a teacher | Would ask 'offline' friends or contacts | Would ask 'online' friends or contacts | Would search online myself |
|-------------------------------------|----------------------------------|---|--|-------------------------------------|

School Work
Local News
(what happens
nearby)
Popular
Culture (music,
pop stars, film)
Literature, Art,
Science
Religion
Buying things
Business
(making
money, selling
goods or
services)
Health

4. You might create things on the Internet with resources that you collect and modify from a range of places. If so, where do you get this stuff most of the time?

=====

5. If you get these things online, from what websites do you get it from?

| | | | |
|---------------------------------------|---|---------------------------------------|--|
| From Dutch language websites | From English language websites | From other language websites | From Mother language websites |
|---------------------------------------|---|---------------------------------------|--|

Photographs
Images (sketches, maps,
diagrams)
Video clips
Stories
Other print texts
Music or sound files
Virtual Objects (e.g.,
animations, gaming
objects)

Section 5: Background Information

1. **What is your date of birth?**

2. **Are you a boy or a girl?**

- Girl
- Boy

3. **Do you live with your parents?**

I live

- With my father and mother
- With my father
- With my mother
- At times with my mother and at times with my father
- Other:

4. **What is your name?**

5. **What is your family name?**

6. **How many brothers do you have?**
(state 0 in the case you do not have any brothers)

7. **How many sisters do you have?**
(state 0 in the case you do not have any sisters)

8. **What kind of school do you go to?**

vmbo, leerweg ondersteunend

vmbo, basis

vmbo, kader

vmbo, theoretisch

vmbo, kader-basis gemengd

vmbo, kader- theoretisch gemengd

havo

atheneum/vwo

gymnasium

mbo

hbo

universiteit

9. **In what year of school are you now?**

- First year
- Second year
- Third year
- Fourth year
- Fifth year
- Sixth year

10. **In what country were you born?**

- Netherlands
- Surinam
- Netherland Antilles / Aruba
- Turkey
- Morocco
- Another country:

11. **In what country were your parents born?**

Netherlands Surinam Netherlands Antilles/ Aruba Turkey Morocco
Other
Your mother
Your father

12. **Are you religious?**

- Yes, my religion is Buddhism, Hinduism, Shintoism
- Yes, my religion is Islam
- Yes, my religion is Protestantism
- Yes, my religion is Roman-Catholicism
- Yes, but my religion is something else:
- No, I'm not religious
- I don't know

13. **What languages are spoken in your home?**

(multiple answers possible)

- Netherlands
- Arabic
- A Berber language: Tamazight, Tashelhiyt, Tarifit
- English
- French
- Spanish
- Papiamentu
- Turkish
- Another language:

Section 6: Online Networks of Participants [Sharing, creating, learning]

The questions in this part are about 5 people who you contact often on the Internet.

Choose 5 people

Think about those people with whom you frequently communicate on the Internet about important issues.

Fill in the initials of Name and Last name (Jan Smit = JS)

Contact 1 Name + Lastname

Contact 2 Name + Lastname

Contact 3 Name + Lastname

Contact 4 Name + Lastname

Contact 5 Name + Lastname

Now you will receive a number of questions about the contacts you have just listed.

5.1.1 Following questions are about Contact 1

1. Contact 1 is:

- one of my parents
- my brother or sister
- another family member
- a friend of mine
- my boyfriend/girlfriend
- someone I know but not a friend of mine

2. Is Contact 1 in your school or class?

[>>> **Routing: skip if contact is a parent** <<<]

- Yes, in my class
- In my school but not in my class
- No, not in my school

3. Contact 1 is:

- a boy or a man
- a girl or a woman

4. Contact 1 is [] years old (**if you don't know, give an estimate**).

5. How often do you have contact online with Contact 1 ?

- Daily
- Several times a week
- Weekly
- Several times a month

6. How often do you have contact with Contact 1 offline / in real ?

- Daily
- Several times a week
- Weekly

- Several times a month
- Once a month or less
- I have never met this contact in real
- 7. Where does Contact 1 live?
 - In my household
 - In my own town or village
 - Outside my own town/village but in the Netherlands
 - Outside of the Netherlands
- 8. At home, Contact 1's family mostly speaks:
 - Dutch
 - Arabic
 - Berber (Tamazight, Tashelhiyt, Tarifit)
 - English
 - French
 - Spanish
 - Turkish
 - Papiamentu
 - Other

9. My communication with Contact 1 is:

Very personal 1 2 3 Not personal at all

10. The communication with Contact 1 is mostly about [Select up to 3 items]

1. What happened with me today
2. What happened in School
3. What happened in the neighborhood
4. What happened in the world
5. Relationships & Friendships
6. love problems
7. Family
8. Religion
9. How to use Technology/gadgets
10. Homework, exams, projects
11. Arranging a meeting / going out
12. Earn Money, buy things
13. Art, literature, theater
14. Science, information, history
15. Music, celebrities and film
16. Sexuality
17. Health
18. Other:.....

19. None of the topics listed above

12. How often do you and Contact 1 do the things listed below?

| | Never | Less than once per month | Once or twice per month | Once or twice per week | Almost every day |
|---|-------|--------------------------|-------------------------|------------------------|------------------|
| Check each other's profile page | | | | | |
| Share links, photos, texts, images, videos | | | | | |
| Discover - discuss new things information | | | | | |
| Ask for advise | | | | | |
| Create-edit-make things online | | | | | |
| Give feed-back – evaluate each other's work | | | | | |

[The above section is repeated for Contacts 2-5]

5.2 – Contacts network

Please think about the relations between the people you just mentioned.

Some of them may be total strangers in the sense that they wouldn't recognize each other if they bumped into each other on the street. Others may know each other and sometimes they are very good friends.

1. Are Contact 1 and Contact 2 ...

- 0 Total strangers
 - 0 Know each other
 - 0 Good friends
-

[Followed 9 more times for all other combinations between contacts]

Section 7: This is the end.

Thank you for answering the questions!

We hope you enjoyed participating. If you are interested in keeping involved in our research, please type your email address, website address or profile page address or contact name below (on for instance Hyves) []

APPENDIX B

WIRED UP SOCIAL NETWORK INTERVIEW

PART I

1. Verwelkomen en uitleggen van het doel van het interview

“Welkom, en bedankt voor het komen. Misschien heb je al een idee wat we vandaag gaan doen, maar ik zal het nog even kort uitleggen. Het doel van dit onderzoek is dat we graag beter willen leren begrijpen hoe jonge mensen, zoals jij, van anderen leren (offline en online) en hoe dat jou maakt tot wie jij bent. Dit interview gaat over de manier waarop jonge mensen sociale netwerken gebruiken om hun doelen te bereiken of om samen leuke dingen te doen (laat een voorbeeld van een sociaal netwerk zien).

Wat voor doelen, denk je misschien, nou dit kunnen persoonlijke doelen zijn, zoals goede relaties onderhouden met mensen die belangrijk zijn in je leven, of om op de hoogte te blijven met de nieuwste trends of uitvinden waar je favoriete artiest optreedt. Het kunnen ook professionele doelen zijn die te maken hebben met wat je later wil worden of met dingen die je wil bereiken met sport, bijvoorbeeld.

Sociale netwerken kunnen ook gebruikt worden om nieuwe dingen te leren of te ontdekken en voor het ontwikkelen van je identiteit (bijvoorbeeld om te laten zien wie je bent en welke groepen je deel van uitmaakt). Dit interview wordt afgenomen met ongeveer 90 studenten van jouw leeftijd. Na afloop krijg je een kleine vergoeding in de vorm van een IRIS cheque van 15 euro.

Verder is het belangrijk dat je weet dat alles wat je mij vertelt anoniem behandeld zal worden. We garanderen dat niemand anders weet dat de antwoorden van jou komen en er zullen geen namen gebruikt worden van jou contacten. Dit is allemaal tussen ons.”

Verwijs naar een apart papier waarop staat:

“Wij garanderen dat alle persoonlijke data die we verzamelen anoniem verwerkt zullen worden. Je bent niet verplicht dit interview te doen. Als er vragen zijn waarbij je je niet op je gemak voelt, laat het me dan weten. Je hoeft geen antwoord te geven als je niet wil. Mocht je een klacht hebben, dan kan je contact opnemen met Mariette de Haan: m.dehaan@uu.nl (030-30 253 77 35).”

Heb je nog vragen of kunnen we beginnen met het interview? Je kunt altijd tijdens het interview nog vragen stellen als er iets onduidelijk is. Dit deel van het interview zal ongeveer [...tijd...] duren.

2. Warm-up

Dus jij heet

Je bent geboren in [land].

Waar zijn je ouders geboren?

Hoe oud ben je?

[Als van toepassing:] Leef je samen met je familie? Is een deel van je familie nog in Turkije/Marokko?

Hoe kom je op het internet? Heb je een computer thuis? Is de computer van jou of delen jullie de computer?

Welk schoolniveau zit je op? (vmbo-basis of gemengd, vmbo-t, havo, vwo or gym)

In welke klas zit je?

3. Name Generator

Nu wil ik je graag wat vragen over mensen die belangrijk zijn in jouw leven. Misschien kun je een minuutje nadenken over de belangrijke mensen met wie je in contact staat in je dagelijkse leven (bijvoorbeeld thuis of in je buurt) en mensen met wie je via internet contact houdt. (Leg het blaadje met de voorbeelden voor ze neer).

Bijvoorbeeld:¹⁰ Wanneer je denkt over mensen die belangrijk voor je zijn, kun je denken aan mensen:

Die jou helpen of die jij zou helpen mocht dat nodig zijn (bijvoorbeeld als je in de problemen zit)

Mensen die net zijn zoals jij — zeg maar 'jouw mensen'

Met wie je veel (vrijwillige) activiteiten samen doet.

Die jou op de hoogte houden van belangrijke dingen of met wie je veel informatie uitwisselt.

Tegen wie je opkijkt of op wie je wilt lijken.

Die veel aandacht van jou krijgen of die veel aandacht aan jou besteden.

Mensen die heel anders zijn dan jij en dus interessant om van te leren.

(Vertel dat ze in plaats van de hele naam, ook kunnen toevoegen als b.v. 'mama', 'broertje 1', of de eerste drie letters van de naam en wijs ze erop dat als iemand dezelfde voornaam heeft dat de eerste letter van de achternaam erbij gezet kan worden. Vertel ook dat deze namen later in nummers worden omgezet voor anonimiteit.)

Denk eens aan de plekken waar je de belangrijke mensen in je leven tegenkomt, waar jullie samen komen. Noem een paar favoriete online en

¹⁰ The following are some examples that should help the students think about people that are important in their lives. This is not an exhaustive list of all possible relations to important people but these examples were generated keeping in mind that we want to generate a network of people that may be of importance for informal learning and identity

een paar offline plekken. Waar hang je rond als je niet op school of thuis bent? Welke belangrijke mensen zijn daar dan? (Loop systematisch plekken langs zoals online favoriete plekken, thuis, buurt, club, stad, land, buitenland)

Om er zeker van te zijn dat we geen mensen vergeten; heb je contact met mensen die verder weg wonen? (in andere delen van het land? Ga de continenten langs: Europa, Azië, Africa etc.)

Als je iemand bent vergeten kan je die altijd later nog toevoegen.

4. *Alter informatie en relaties tussen alters*

Genereer samen met de leerling de table waarin de belangrijkste karakteristieken van de alters aangegeven kunnen worden -Zie instructie en vergeet niet op 'ok' te drukken anders gaat de informatie verloren!

Open de 'Relations' Excel file en genereer de tabel waarin de relaties tussen de alters kunnen worden aangegeven met 1-en en 0-en (0= geen relatie tussen deze alters, 1= de alters kennen elkaar) -Zie instructie

5. *Einde van deel I van het interview*

Geef de leerling even pauze, dank de student voor deelname zover en leg uit hoe het verder gaat. Laat de leerlingen de docent informeren van het volgende lesuur.

B. Tussen fase

IN DE TUSSENTIJD (tussen deel I en II van het interview)

Bereid een visualisatie voor in NodeXI waarin de relaties tussen de alters getekend zijn en de clusters uit elkaar gehaald zijn, zodat er gemakkelijk vragen over gesteld kunnen worden in Deel 2. - Zie instructie

PART II

1.

Verwelkomen

“Dit is het tweede deel van het interview. Ik wil je nu graag wat vragen stellen over de mensen die belangrijk voor je zijn¹¹ en hoe je van elkaar leert. Dit duurt ongeveer 1 lesuur.”

¹¹ Whenever necessary ask how and why, to have a clear understanding and help the participant to think.

2. Algemene vragen over identiteit en identiteitsrelaties

Note voor de interviewer: In 1) willen we een idee krijgen hoe de leerlingen zijn of haar identiteit zelf ziet/ beschrijft. In 2) bevragen we identiteitsrelaties.

2.1) Hoe de leerling zijn/haar identiteit beschrijft

1. Als ik jou zou vragen wat jou maakt tot jou, wat zou je dan zeggen? (Zo nodig herformuleren: Wat hoort bij jou of wat maakt jou anders dan anderen? Dit kunnen dingen zijn, plekken, activiteiten, kwaliteiten, categorieën, etc. ¹²)

- Zou je zeggen dat je een persoonlijke stijl hebt? Kan je die omschrijven?

2. Bij wie vind jij dat je hoort? {Bij wat voor soort mensen voel jij je thuis?}

3. Waar hoor je thuis? {Is er een plek waar je echt jezelf kan zijn?}

3.2) Vaststellen van identiteitsrelaties

- Zijn er mensen in dit plaatje die dezelfde levenservaringen hebben als jijzelf? (een zelfde soort dingen hebben meegemaakt/ meemaken als jij in je leven?)
- Wie zijn dat? Welke gelijkenis ervaar je dan? (Is dit gevoel van gelijkheid gebaseerd op gedeelde activiteiten/ ervaringen in het verleden? Gedeelde interesses? Op dezelfde plekken aanwezig zijn? Vriendschap? Dezelfde culturele achtergrond?)
- Zijn er in dit plaatje ook mensen die anders zijn dan jij? Zoals wie en hoe zijn ze anders?
- En mensen die jou inspireren? Mensen tegen wie je opkijkt (Dat je net zo zou willen zijn?/ Die dingen doen die jij graag zou doen?)
- Waarom, waarvoor? Op welke manier?
- Wie kent jou het beste? Hoe zou die persoon jou beschrijven? [evt. En kent deze persoon ook alle andere belangrijke personen?]
-Op wie kan je altijd rekenen voor positieve aanmoediging? [op belangrijke momenten in je leven] Ook voor wie je online bent/dingen die je online doet?
- *Wanneer je online bent*, bijvoorbeeld op je favoriete online website (vraag: welke sociale netwerksite bezoek je meestal?) op wie let je dan vooral? (dat is niet noodzakelijkerwijs je beste vriend/in)? Waarom? Wat is dit voor persoon/ hoe zou je hem of haar beschrijven?

¹² Note to the interviewer: this question is posed to get an advance sense of what the student identifies with. This information can be referred back to when we ask them more network focused questions. Please prompt if necessary that this can be characteristics of the student him/herself; things they collect, or activities they engage in, or communities they affiliate to.

- En wie besteed veel aandacht aan jou? (Wie post altijd op jouw pagina of zoekt direct contact als je online bent?) Hoe zou je die persoon beschrijven?
- (Focus op 1 voorbeeld uit waarin de persoon nabij is en 1 voorbeeld van een ver af contact)
- Maakt het uit voor je relatie met bepaalde mensen op welke plek jij en de ander zich bevinden? Of je contact voornamelijk via internet verloopt of dat je ze ook in ziet (face to face)?
- Ben jij anders als je via het internet contact maakt dan met mensen face to face?
- Heb je wel eens nieuwe vrienden gemaakt via het internet? Staan die ook in dit plaatje? Zijn dat net zulke goede vrienden als je andere vrienden?

3. Algemene vragen over informele leeractiviteiten offline en online en vaststellen van leerrelaties

3.1 Bewustzijn rond Informeel Leren

- Wat denk je als ik leren zeg? Kun je me een paar kernwoorden noemen die jij met leren associeert? Of een voorbeeld moment waarop je iets leerde?
- We zijn geïnteresseerd in alledaags leren, dus leren dat plaats vindt ook buiten school. Er is niet direct onderwijzen bij betrokken, maar het kan wel. Bijvoorbeeld nu op dit moment; dit is een leerervaring waarbij jij een idee krijgt wat we zoal doen op de universiteit als onderzoekers.
- Denk je dat wat je op school leert invloed heeft op wat je online doet? En kan je wat je online leert gebruiken op school? Waar voel je je meer betrokken bij wat je leert? Hoe komt dat?

Vaststellen van specifieke informele leerrelaties en activiteiten

- Zijn er mensen in dit netwerk waarmee je activiteiten onderneemt waarin je graag beter wilt worden? Wat voor activiteiten en wat voor rol hebben zij daarin? [Als de leerlingen alleen offline voorbeelden geven probeer het te koppelen aan online]
- Kun je een voorbeeld geven van iets dat je goed onder de knie hebt gekregen? Wanneer ben je begonnen en hoe heb je dat aangepakt?
- Wie (in dit plaatje) was er bij deze leeractiviteiten betrokken? Op welke manier? (vraag om beschrijving van verloop ontwikkeling).
- Is er iemand in dit netwerk die jou om hulp vraagt of dingen van jou leert?

- Welke andere leermiddelen gebruik je naast mensen nog meer om te leren over... ? Hoe heb je dat ervaren? Is er een verschil tussen leren van mensen en andere manieren?
- “We hebben het over verschillende manieren van leren gehad, laten we zeggen schools leren en leren van je eigen ervaringen. Ik vraag me af of je een van de twee aantrekkelijker/ leuker vindt? Waarom?

4. Vaststellen van informeel leren en identiteitsrelaties in clusters.¹³

- Deze mensen lijken elkaar allemaal te kennen [Wijs naar de clusters op het blad]... hoe komt dat? Hoe zou je deze groepen omschrijven?
- (Doen jullie bepaalde dingen samen, als groep? Hebben jullie gedeelde interesses? Zijn jullie vaak samen op dezelfde plek?)
- Zijn er clusters met gezamenlijke activiteiten (?) zo ja >>*
- Als er geen gezamenlijke activiteiten genoemd worden: Hoe zou je je vrienden als een groep beschrijven?

4.1. Identiteitsrelaties en informeel leren in clusters

Identiteit van de groep volgens de leerlingen en volgens anderen.

- Wat maakt de groep die deze activiteit onderneemt anders dan andere groepen?
- Doet deze groep iets (online of offline) dat ze anders maakt dan andere groepen? Bijvoorbeeld, hebben ze een speciale manier van praten, inside jokes of gebruiken ze bepaalde symbolen waarmee ze zichzelf identificeren?
- Zijn deze mensen een groep omdat ze altijd op een bepaalde plek samenkomen?
- Heeft deze groep bepaalde culturele normen en waarden (die ook offline bestaan?)
- Hoe zouden anderen deze groep beschrijven? Ben je het eens met deze beschrijving?

Rollen binnen de clusters (leer- en identiteitsrollen)

- Heb jij een bepaalde rol in dit cluster of neem je een bepaalde positie in bij de activiteiten van deze groep die verschilt van de rollen/posities van anderen? Hoe relateert jouw positie aan die van anderen? (bijv. heb je een centrale positie of sta je er een beetje buiten)?

¹³ if these questions are redundant because you already have the info, then skip

- Zetten anderen zich wel eens af tegen jouw rol/positie? Hoe reageer jij daar dan op?

Veranderende rollen in clusters.

- Wat moet iemand doen om een insider te worden in de activiteit van dit cluster? (Of: Als iemand zich bij jouw groepje wil aansluiten, wat moeten ze dan doen?)
- -Heb je je ontwikkeld of heb je nieuwe dingen ontdekt door de mensen die betrokken zijn bij dit cluster/ deze activiteit? Heb je nieuwe rollen geleerd in de 'community'?
- -Hangt het af van je rol wat je te weten komt of wat je mag doen binnen de groep?

Bewustzijn van 'networked connectivity' wat betreft leren en identiteit

- Heb je het idee dat dit cluster deel uitmaakt van een grotere groep (bijvoorbeeld nationaal/ internationaal)? Leveren jouw contacten jou nieuwe dingen die uit de grotere groep komen?
- Heb je zelf weleens wat bijgedragen dat zich verder verspreidde dan je gedacht had?

Transities tussen netwerken en leren en identiteit

a. Gescheiden of geïntegreerdheid van de verschillende communities

- Weten alle andere belangrijke mensen in je netwerk welke dingen je (online) doet met deze groep mensen?
- Tot op welke hoogte zijn elk van deze online groepen gescheiden van je offline relaties?
- Tot op welke hoogte zijn deze groepen (clusters in je netwerk) gescheiden?

b. Identiteit en leer-activiteiten tijdens de transities tussen verschillende 'communities'/ school vs. buiten school

- Hoe ga je om met de verschillende manieren van zijn op deze verschillende plekken?
- Ervaar je jezelf als dezelfde persoon op deze verschillende plekken online en offline?
- Wat moet je doen om van de ene naar de andere plek over te stappen? Ben je daar goed in? Welke vaardigheden heb je nodig om dit te kunnen doen?

5. Afronden

- Zijn er nog belangrijke mensen in je leven waar we het nog niet over gehad hebben?

(Als je hier nog niet bent gekomen in het interview, vraag dan alsnog)

Neem je deel aan buitenschoolse activiteiten/ clubs?

Is jouw school in dezelfde buurt als waar je woont?

APPENDIX C

CHAPTER 4 - LOGISTIC REGRESSION TABLES

The Logistic Regression Analyses for the 1st Research Question - Chapter 4

Table 1
Summary of Logistic Regression Analysis for Background Characteristics Predicting the use of Teachers and Parents as Resources

| | Predictor | β (SE β) | Wald (df=1) | χ^2 e ^{β} (OR) | 95% C.I. |
|---|---|-----------------------|-------------|--|-------------|
| For Homework | Ethnicity | | | | |
| | TR-NL | -.40 (.20) | 4.05* | .66 | .45-.99 |
| | MA-NL | -.54 (.15) | 12.17** | .58 | .43-.78 |
| | School level | -.43 (.16) | 6.69* | .65 | .47-.90 |
| Overall model χ^2 (5) = 26.06, $p < .001$, Model fit Cox & Snell R^2 .03 Nagelkerke R^2 .04. Prediction success overall was 58.7% (77% for not using the resource and 35% for using it) | | | | | |
| For Religion | Ethnicity | | | | |
| | TR-NL | 1.25 (.26) | 21.97*** | 3.51 | 2.07-5.93 |
| | MA-NL | 1.20 (.23) | 26.71*** | 3.33 | 2.11-5.26 |
| | Gender | .47 (.17) | 7.05** | 1.61 | 1.13-2.82 |
| | School level | .44 (.19) | 5.02* | 1.55 | 1.05-2.29 |
| Overall model χ^2 (5) = 51.02, $p < .001$, Model fit Cox & Snell R^2 .085 Nagelkerke R^2 .115. Prediction success overall was 63% (76% for not using the resource and 44% for using it) | | | | | |
| For Making money | Gender | .65(.20) | 10.25** | 1.96 | 1.29-2.88 |
| | Overall model χ^2 (5) = 15.23, $p = .001$, Model fit Cox & Snell R^2 .025 Nagelkerke R^2 .039. Prediction success overall was 78.9% (100% for not using the resource and 0% for using it) | | | | |

Note. All logistic regression models included the background characteristics ethnicity, gender, school level, and age as predictors; only the significant predictors are reported. Dutch was the reference category for ethnicity, 'boys' was the reference category for gender, 'lower levels of secondary education' was the reference category for school level.

Table 2

Summary of Logistic Regression Analysis for Background Characteristics Predicting the use of Friends (offline) as Resources

| | Predictor | β (SE β) | Wald (df=1) | χ^2 e $^\beta$ (OR) | 95% C.I. |
|--|---|-----------------------|----------------|-----------------------------|---------------|
| For Homework | Ethnicity | | | | |
| | MA-NL | -.63(.28) | 6.63* | .52 | .32-.85 |
| | School level | .56(.22) | 6.46* | 1.72 | 1.13- 2.70 |
| | Age | .13(.06) | 4.11* | 1.14 | 1-1.29 |
| | Overall model χ^2 (5) = 24.90, $p < .001$, Model fit Cox & Snell R^2 .029 Nagelkerke R^2 .052. Prediction success overall was 86.6% (100% for not using the resource and 0% for using it) | | | | |
| For Literature, art, theatre, & science | Age | .26(.08) | 10.42** | 1.29 | 1.10- 1.52 |
| | Overall model χ^2 (5) = 15.34, $p < .01$, Model fit Cox & Snell R^2 .028. Nagelkerke R^2 .055. Prediction success overall was 88.5% (100% for not using the resource and 0% for using it) | | | | |
| For Making money | Age | .13(.06) | 4.21* | 1.14 | 1-1.30 |
| | Overall model χ^2 (5) = 11.856, $p < .05$, Model fit Cox & Snell R^2 .019 Nagelkerke R^2 .031. Prediction success overall was 80.8% (100% for not using the resource and 0% for using it) | | | | |
| For Health | Gender | -.69(.25) | 7.55** | .49 | .30-.81 |
| | Age | .16(.07) | 5.09* | 1.18 | 1.02- 1.37 |
| | Overall model χ^2 (5) = 14.20, $p < .05$, Model fit Cox & Snell R^2 .022 Nagelkerke R^2 .043. Prediction success overall was 88.3% (100% for not using the resource and 0% for using it) | | | | |

Note. All logistic regression models included the background characteristics ethnicity, gender, school level, and age as predictors; only the significant predictors are reported. Dutch was the reference category for ethnicity, 'boys' was the reference category for gender, 'lower levels of secondary education' was the reference category for school level.

Table 3

Summary of Logistic Regression Analysis for Background Characteristics Predicting the use of Friends (online) as Resources

| | Predictor | β (SE β) | Wald (df=1) | χ^2 | e^β (OR) | 95% C.I. |
|---|---|-----------------------|-------------|----------|----------------|-----------|
| For Literature, art, theatre, & science | Ethnicity | | | | | |
| | TR-NL | .96(.39) | 6.04* | | 2.61 | 1.21-5.61 |
| | MA-NL | .82(.33) | 6.13* | | 2.27 | 1.18-4.36 |
| | Overall model χ^2 (5) = 13.82, p <.05, Model fit Cox & Snell R^2 .025 Nagelkerke R^2 .05. Prediction success overall was 88.7% (100% for not using the resource and 0% for using it) | | | | | |
| For Health | Ethnicity | | | | | |
| | TR-NL | .66 (.26) | 6.29*** | | 1.94 | 1.15-3.26 |
| | MA-NL | .48 (.22) | 4.58*** | | 1.62 | 1.04-2.52 |
| | School level | -.74(.35) | 4.55* | | .47 | .23-.94 |
| | Overall model χ^2 (5) = 19.76, p =.001, Model fit Cox & Snell R^2 .03 Nagelkerke R^2 .04. Prediction success overall was 90% (92.9% for not using the resource and 87.5% for using it) | | | | | |

Note. All logistic regression models included the background characteristics ethnicity, gender, school level, and age as predictors; only the significant predictors are reported. Dutch was the reference category for ethnicity, ‘boys’ was the reference category for gender, ‘lower levels of secondary education’ was the reference category for school level.

Table 4

Summary of Logistic Regression Analysis for Background Characteristics Predicting the use of Online Resources

| Online Resources | | | | | |
|---|---|-----------------------|----------------|----------------------------|---------------|
| | Predictor | β (SE β) | Wald (df=1) | χ^2 e^β (OR) | 95% C.I. |
| Homework (n=860) | School level | .75 (.16) | 21.46*** | 2.12 | 1.54- 2.91 |
| | Overall model χ^2 (5) = 28.81, p <.001, Model fit Cox & Snell R ² .033 Nagelkerke R ² .044. Prediction success overall was 60.2% (80.3% for not using the resource and 35% for using it) | | | | |
| Music, movies, & celebrities (n=826) | Ethnicity | | | | |
| | MA-NL | -.57(.16) | 12.47 *** | .56 | .41-.77 |
| | Gender | .55 (.14) | 14.31*** | 1.75 | 1.30- 2.32 |
| | School level | .54 (.18) | 8.97*** | 1.72 | 1.20- 2.46 |
| Overall model χ^2 (5) = 39.35, p <.001, Model fit Cox & Snell R ² .047 Nagelkerke R ² .063. Prediction success overall was 65% (27% for not using the resource and 89.5% for using it) | | | | | |
| Local events & news (n=751) | Ethnicity | | | | |
| | MA-NL | -.65 (.18) | 11.82*** | .52 | .36-.75 |
| | School level | .63 (.18) | 11.80*** | 1.87 | 1.31- 2.69 |
| | Age | .11 (.05) | 4.56* | 1.11 | 1.01- 1.24 |
| Overall model χ^2 (5) = 31.71, p <.001, Model fit Cox & Snell R ² .041 Nagelkerke R ² .059. Prediction success overall was 70% (97% for not using the resource and 8% for using it) | | | | | |
| Shopping (n=712) | Ethnicity | | | | |
| | MA-NL | -.69 (.17) | 16.46*** | .50 | .36-.70 |
| | School level | .43 (.18) | 5.37* | 1.55 | 1.07- 2.42 |
| | Age | .11 (.05) | 4.89* | 1.12 | 1.01- 1.23 |

| | | | | | |
|---|--------------|------------|----------|------|---------------|
| Overall model χ^2 (5) = 31.48, $p < .001$, Model fit Cox & Snell R^2 .043 Nagelkerke R^2 .058. Prediction success overall was 59.3% (43% for not using the resource and 72.6% for using it) | | | | | |
| Health (n=644) | Ethnicity | | | | |
| | MA-NL | -.62 (.18) | 11.73** | .53 | .37-.76 |
| | Gender | .51 (.16) | 9.47** | 1.66 | 1.20- 2.30 |
| | School level | .64 (.19) | 11.21** | 1.90 | 1.30- 2.77 |
| | Age | .16 (.05) | 10.45** | 1.18 | 1.06- 1.32 |
| Overall model χ^2 (5) = 49.23, $p < .001$, Model fit Cox & Snell R^2 .074 Nagelkerke R^2 .098. Prediction success overall was 62% (64.7% for not using the resource and 59.4% for using it) | | | | | |
| Making money (n=604) | Ethnicity | | | | |
| | MA-NL | -.68 (.18) | 13.90*** | .50 | .35-.72 |
| | Age | .16 (.05) | 8.55** | 1.17 | 1.05- 1.31 |
| Overall model χ^2 (5) = 28.48, $p < .001$, Model fit Cox & Snell R^2 .046 Nagelkerke R^2 .062. Prediction success overall was 59.5% (55.6% for not using the resource and 63% for using it) | | | | | |
| Religion (n=576) | Ethnicity | | | | |
| | MA-NL | -.83 (.20) | 16.70** | .43 | .29-.67 |
| Overall model χ^2 (5) = 24.53, $p < .001$, Model fit Cox & Snell R^2 .042 Nagelkerke R^2 .056. Prediction success overall was 61.3% (78.7% for not using the resource and 38.5% for using it) | | | | | |
| Literature, art, theatre, & science (n=541) | Ethnicity | | | | |
| | MA-NL | -.47(.19) | 5.92* | .62 | .42-.91 |
| | Gender | .43 (.17) | 5.98** | 1.54 | 1.09- 2.19 |
| | School level | .64 (.20) | 9.99* | 1.89 | 1.12- 2.82 |

Overall model $\chi^2 (5) = 26.06, p < .001$, Model fit Cox & Snell $R^2 .047$ Nagelkerke $R^2 .063$. Prediction success overall was 57.6% (57% for not using the resource and 58% for using it)

Note. All logistic regression models included the background characteristics ethnicity, gender, school level, and age as predictors; only the significant predictors are reported. Dutch was the reference category for ethnicity, 'boys' was the reference category for gender, 'lower levels of secondary education' was the reference category for school level.

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Short biography

Aslı Ünlüsoy - van der Baan was born on October 11th 1980 in Eskisehir, Turkey. She grew up in Izmir and completed her secondary education in Bornova Anatolian Gymanisum, a renowned high school in Turkey. She moved to Ankara for her studies at the Faculty of Communications, Department of Journalism at Ankara University where she obtained her bachelor's degree. Her keen interest in the role of media in socialization and education of children and youth led her to attend the master's programme Early Childhood Education at the Middle East Technical University where she obtained her first master of science degree. Upon completing her studies in Ankara she applied for the prestigious Rotary Foundation Ambassadorial Scholarship and was awarded the grant by Rotary Clubs in Utrecht District (the Netherlands). She came to the Netherlands in August 2007 to enrol in the research master's programme Development and Socialization in Childhood and Adolescence at Utrecht University. During her studies she worked as a research assistant for the Wired Up project and joined the research team as a Ph.D. candidate in September, 2009.

The research project provided Aslı with extensive experience in the sociocultural approaches to learning as well as emerging theoretical perspectives on learning in relation to digitalization (e.g., connected learning, networked learning), in social network analysis, particularly ego-networks, and in conducting research with teenagers from various ethno-cultural backgrounds. Besides her doctoral research Aslı has been working at Utrecht University (Department of Education and Pedagogy) teaching courses on cultural diversity and qualitative research methods with a focus on childhood and adolescence, and she has been supervising students from master's and bachelor's programmes with their thesis and internships (2012 – currently). She has also worked as a lecturer at Marnix Academie (Utrecht), a Pedagogische Academie voor het Basisonderwijs [Teacher training academy for primary education] (PABO) and as a researcher at Marnix Innovatie Centrum (MIC) (2016-2019). Her work at PABO covered a wide range of subjects regarding the diversity of learners, teaching to newcomers, culture and identity, cultural heritage and citizenship. Besides her teaching activities she also supervised the practice-oriented research projects of senior-year students.

Asli's work is published in international peer-reviewed journals and she presented her work at national and international conferences (*International Conference on Networked Learning*; *International Society for Cultural-historical Activity Research (ISCAR)*; *European Association for Research on Learning and Instruction (EARLI)*; *European Communication Research and Education Association (ECREA)*; *The Royal Netherlands Academy of Arts and Sciences Conference on Mediated World* (Dutch: Koninklijke Nederlandse Akademie van Wetenschappen, KNAW)). She is planning to continue her work in teaching and research in the fields of pedagogy, learning and educational sciences. After becoming a mother, her professional interests expanded to include issues of parenting in the context of migration and multilingual child raising practices. Asli hopes to inspire and stimulate her students, closely collaborate with and create connections between practice-oriented and academic research, and ultimately contribute to a better understanding of learning and a higher quality of education for all children and youth.

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- Ünlüsoy, A., de Haan, M., & Leander, K. (submitted). Navigating information: An ethno-culturally comparative study of teen's learning ecologies.

