

The Theoretical and Empirical Paradox of Temporal Change due to Digital Media in Germany and China

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*Ich habe in den Ballsälen Europas getanzt,
aber der Dreck an meinen Ackerschuhem klebt noch immer daran.
(Frei nach Theodor Storm)*

*To my grandfather **Erwin Fritzsche** (*1909 †2009)*

- Who unlocked the world of wisdom to me as a child

*To my idol **John Forbes Nash Jr.** (*1928 †2015)*

- Whose journey gave me hope in my darkest days and always will

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- Who opened my eyes to so much more than 'Logik der Beweisführung'

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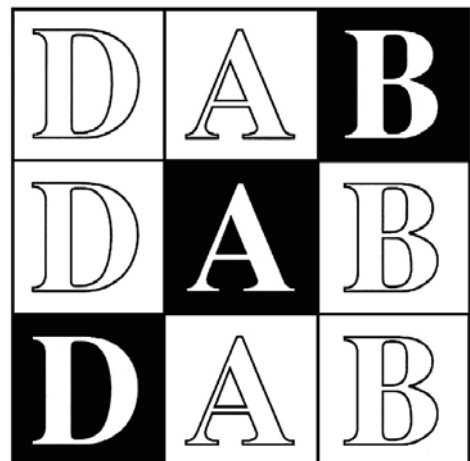
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1. Research Desiderates and Research Question

The massive outbreak of COVID-19 in early 2020 in Wuhan (武汉市), PRC, and the occurrence of COVID-19 cases in France, Italy and other countries in 2019 (Deslandes et al., 2020; Vagnoni, 2020), has changed the world globally in different regards up until now. One drastic social change concerns the ubiquitous rise of digitalization in different life spheres. In the beginning of the last decade, when this research began, the dramatic surge of digital media and simultaneously the rise of China as a world power was a blind spot for most Western based scholars, and even more so in Germany, where Chinese expats only scarcely entered academia in the social sciences to put their emic research topics forward – completely contrary to research in the UK, USA, and Canada, for example. Nevertheless, the pandemic altered this view – and with its drastic economic and political rise, China now occurs as a serious global power (Scheuer, 2021; Wen, 2020). Out of the 500 most successful companies, nowadays, 124 are based in China (Hirn, 2021), and the plan to become the global leader by 2050 as defined in the “Made in China 2025” (中国制造 2025) strategy cements its position. In the first decade of the 2000s, internet use, as one realm of digital media, in Germany (72.6% internet penetration in Germany, see (van Eimeren & Frees, 2011)) and China was still considerably low (34.3% internet penetration in China in 2010, see (China Internet Network Information Center, 2011)), with China far away from a saturated online market. 10 years later in 2021, online penetration statistics paint a different picture: China has already reached 70.4% internet user penetration rate in 2020 (China Internet Network Information Center, 2021) and Germany 89% users in 2019 (ARD ZDF Forschungskommission, 2020). However, even in 2011, it was foreseeable that internet adoption will take place sooner or later, as domestication studies have successfully shown for TV and radio adoption in the last century. Simultaneously, intercultural and trans-cultural communication increasingly shifted towards

more dynamic, and complex oriented culture paradigms. The aim to study cultures – e.g., China and Germany – more comprehensively and beyond stereotypes was driven by an increasingly glocalised (Robertson, 1995) world. However, time as a core dimension of culture was nevertheless neither solidly theoretically conceptualized nor substantially quantitatively researched.

Three blind spots – the ubiquitous rise of digital media and its social and cultural consequences, the need to conceptualize cultural time as everyday life takes place *in time* and cultural time *is changing*, and finally the emergence of China as a global power with its relation to Germany – as a pars pro toto culture of the Western world – led to investigate the following research question:

Which influence does internet-mediated communication have on temporal understanding in German and Chinese cultural context?

Rather than reiterating the arguments put forward in the individual articles of this cumulative dissertation, I seek to focus on two points here: first, the design of the thesis; second, the relevance of this research.

The structure and design of the thesis follows a sequential order. Rather than individual case-study oriented cumulative theses, the structure of this dissertation is similar to a chapter-based monograph. Articles 1 to 8 are chronologically structured, with the relevance of each article discussed in the theory or methodology section respectively.

The relevance to investigate digitally induced temporal change is manifold: Such change can produce stress and hinder well-being and affect the labor market as was shown in previous studies (Bradley, 2017; Gregg, 2011, 2018; Reinecke et al., 2018). In the West, it can also be framed within the context of time policy (European Parliament, 2021; Nowotny,

1995; Rinderspacher, 2011). This implies that through permanent availability, connectivity, and flexibility a new temporal order is established, and thus it is particularly urgent to integrate time-outs and downtime in day-by-day activities. Hence, if such a new temporal order comes to the fore, we see that more slow media movements are urgently needed (Rauch, 2018). Moreover, the condition of late or post modernity needs more thorough and explanatory approaches including empirical perspectives on temporal change, with particular emphasis on countries of the Global South. In an international perspective, such conflicting temporalities in Germany and China are inextricably linked to sustainable living globally. Similar to Reisch (2015), we will therefore discuss the study results on the backdrop of three Sustainable Development Goals (sustainable cities, good health and well-being, and gender equality), formulated in the UN 2030 agenda (United Nations, 2018).

2. Discussion of Theory Development

a. Brief Summary of Theory Development

i. Reasoning for Article 1 to Article 4

Article 1 introduces the Meta-theoretical framework, combining both Yin Yang Approach and Dynamic-Transactional Approach to a new concept: the Dynamic Paradox Approach. Similar to what Waisboard and Mellado (2014, p. 363) frame as “study subject and ontological horizons”, I seek to overcome the Western-centrism in Meta theories. Article 2 then elaborates on the key terminology of the research question: social time and the 9-dimensional temporal understanding derived from it, German and Chinese cultural context for which temporal understanding is specified, internet-mediated communication and how this leads to cultural change, functional equivalence and similarity which are necessary for cultural change. As a digression, article 3 tackles the question how Chinese internet censorship may hinder a cross-cultural comparison, which can be overcome through functional equivalence. It

moreover elaborates how filter bubbles and authoritarian tendencies in the German online sphere actually lead to similar content repression, or echo chambers respectively. Article 4 deduces the hypotheses of temporal cultural change due to digital media, on micro-, meso- and macro-levels, which are conceptualized as Meta trends.

ii. Key Findings: The field in 2021

The key findings of these four theory articles – Meta theoretical foundations, terminological clarification, an inset why German and Chinese internet is similar and different at the same time and the hypotheses section, i.e., Meta trends, fall in line with recent communication, media, and cultural frameworks and theories in the field.

In 2021, we see certain global trends alongside developments which are peculiar for either the Western or the Chinese cultural context. Such trends are equally shaped by geo-political circumstances, the fundamental rupture in the relationship between men and the environment side by side with a new nature-nurture debate, the changing temporal-spatial order due to the pandemic and its foreseeable post-pandemic realities, embedded in a world dominated by digital media and technologies.

On a global scale, the process of rupture between men vs. nature is discussed under the term anthropocene which Crutzen and Stoermer (Steffen, Grinevald, Crutzen, & McNeill, 2011) coined. Initially dated back to the industrial revolution, only recently researchers place the shift towards the anthropocene to the mid 20th century. It can be understood as the era where mankind now has a fundamental impact and influence on the earth. The temporal component inherent in both defining the beginning of this fundamental nature-men rupture and the processual component of this era (Ginn, Bastian, Farrier, & Kidwell, 2018) signify – similar to my own research how digital media change the way we deal with time – a gradual shift towards a societal and earthly turnaround and change, which research still needs to explain

and comprehend. Side by side with the processes of deep mediatization, digitalization and datafication (Hepp, 2020; Mejjias & Couldry, 2019) the global society has entered a stage where the entanglement between nature, mankind, and technology weaves a web of recurrent interplays, mutual influences, and globalized feedback loops. The rupture marked through the pandemic led to the collapse of global supply chains and an accelerated, yet unforeseeable health system turmoil defined by the laws of the market in late capitalism. The breakdown of formerly more harmonized social temporalities now created new divisions of marginalization (system relevant workers vs. the rest, boredom and waiting vs. 24/7 health shifts, vaccination policies in the Global South with populist governments, e.g. in Brazil, vs. Western democracies' challenges to counter an ever-increasing market-oriented health system, etc.). We start seeing how the pandemic and the arising post-pandemic realities in parts of the world, bring new media practices, repertoires, habits and styles, and more broadly new (digital) realities to the fore.

Particularly Western democracies see the challenge of an era of post-truth, and with it declining tendencies of democratic values, beliefs, and thus a destabilization of such systems. Whilst these processes were foreseeable for a while, e.g., the uprising of populist parties such as AfD in Germany, UKIP in the United Kingdom, Rassemblement National in France, the pandemic has eroded the trust in democracies, the media, and in science altogether. This discourse of post-truths and the simultaneous uprising of the Global South, with China at the forefront, bring unprecedented challenges to the global order. So while this research explains and proves digitally induced temporal change in Germany and China before COVID-19, the field of communication, media, and cultural studies now has to face this trend on a more large-scale level in 2021. Besides the effects of digital media, the de-stabilized world enhances these trends in acceleration and lack of long-term planning with related shortened time horizons due to pandemic measures. And while the West is trying to reinvent itself and

its democratic systems, China inexorably rises to global power. China's long-term plan "Made in China 2025" (中国制造) sets the mark to rise as the world leader in technology by the year 2049. For example, in China, in the sector of digital media, temporalities these days are not only discussed in terms of acceleration and long- vs. short term time horizons, or mediatization (张梦晗, 2016; 潘天波, 2017; 田冰洁, 2015; 邓鹏, 2015), but also how audio-visual content shapes temporalities in society (刘瑞一, 2021; 时皓月, 2017). As of 2021, China still has a both regulated and domestic media market, only challenged by the idea to expand through the Belt and Road Initiative. Rather than systematic changes in the media system though, China seeks to expand its soft power through such audio-visual and other content, e.g., in Africa, Iran, and Pakistan. And while some research classes these trends as the "Great Slowdown" (Dorling, 2020) through the limits of growth, an end to an accelerated market economy, etc., this thesis sees a more accurate picture in new forms of temporal paradoxes, entanglements, and new forms of divisions after the pandemic which were visible even before.

In the next section, we briefly address the key findings of the four theoretical articles: The Dynamic Paradox Approach as the Meta theory of the thesis found answers to a more dynamic and multi-causal understanding of communication, media, and culture and serves as red thread. Paradox notions encompass transactions, as the former comprises the latter (Faust, 2017, p. 55). We draw upon these notions throughout the entire study: Theoretically, it was argued that there is a co-existence of values on a macro level (Faust, 2017, p. 55), but it also means that on a micro level, behavioral patterns, preferences, norms and values can co-exist side by side depending on the context. Methodologically, the article with empirical results (Faust & Jin, 2020) mentions that correlations do not mean causation. Though we gave reasoning that digital media change temporal understanding, only a longitudinal study would

be able to provide sound evidence for this hypothesis. Dynamic pays tribute to change as temporal process itself – not only researching the *change of time*, but *time as change* – as it works both ways. The second article explicates both notions – cultural change in temporal understanding addresses each of them. Again, methodologically longitudinal designs are a way to tackle *time as change* more adequately and should be the first choice for prospective studies. Finally, contextualization (Faust, 2017, p. 56) is essential and was specified in this study in two ways: first, by using the triadic fitting by Früh (2003) considering medium, person, social and situative situation for the survey development (Faust, 2020a), but also in order to use culture standards to interpret the findings (Faust, 2018).

The second article sees temporal understanding as a social constructivist notion of both German and Chinese time notions and defines it as:

“(A) human category of time which is individually undertaken but socially constituted. It encompasses the act of standardising two or more events of which at least one must be progressing and is used as reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time (my own definition, based on (Elias & Schröter, 2005; Helfrich-Hölter, 2011) Helfrich-Hölter, 2011).” (Faust, 2016, p. 9)

As of 2021, the epistemological and ontological question whether time is objective or subjective is still around, and probably a question which cannot be solved at this stage and has been around for centuries (see, e.g., Mc Taggart’s Paradox (Ingthorsson, 2016)). Certainly, new research is around – for example, Kohn (2021) sheds new light on classical Chinese time perspectives in her most recent edited volume, and thus, social time notions before the era of digital media become more clear. However, even though we see digital media as a rupture, this process of new social time notions must be seen as one of development, with markers such as industrialization and the general shift of societal orders. What is more – and we addressed this methodologically – social time conceptions change in the life course, as Piaget

found that only school children actually start developing a sense of time (1974). When we looked at the process of habit formation, institutionalization, objectification, and legitimization, we described the temporal cultural change process. However, we now have to add two things: first, what are the initial cues that trigger such a process? Nudging through digital media (Faust, 2020a) was one option; theory of planned behavior (Ajzen, 1991) might opt for a more rational choice based approach. Ultimately, chances are high that a mix of the sub-consciousness and deliberate choices lead to such stipulation of habit formation, which needs further clarification in prospective studies. Moreover, communicative obligations through digital media may come as a burden at different costs for Chinese teens (Pissin, 2021), twens, middle-aged people, and seniors, who nowadays enjoy a stable pension routine, are different, e.g., from the period of pre-industrialization with child labor, long working hours and no pension schemes. Nevertheless, the new challenge is that ‘islands of time’ become scarcer and more valuable, and the ‘transmission and noise’ on all digital media channels highlight ever so more that our cognitive processing limits do have a threshold. So while structurally we might encounter moments of slowdown (Dorling, 2020), other processes are speeding up and change social time cycles. Thus, as proposed in the title of this study, the temporal paradox becomes visible – perhaps it has been around before but stratified according to different criteria. And the nature of temporal understanding and its change through digital media resulting in temporal paradox was thus here firstly, explained and second, will later be discussed in terms of practical implications.

The third article compares Internet censorship and filter bubbles in Germany and China from a theoretical perspective as a form of short digression. As was argued in article two, German and Chinese internet is compared on the backdrop of functional equivalence. Functional equivalence then “means that situations and internet use, i.e., selection and reception processes, are comparable in both German and Chinese cultural context” (Faust 2016: 11).

However, whilst selection and reception processes share similarities – the actual online content is not due to the Golden Shield (Great Firewall, 金盾工程) in China. In fact, Chinese online content features culture and language specific differences, as can be seen in the integrative platform infrastructure of WeChat (微信) that includes mobile payment (微信支付), moments (朋友圈) to share social media updates, mini programs (小程序) within the app, and many more features. Conclusively, functional equivalence co-exists besides the content differences, and, as article three shows, besides structurally similar developments to regulate the internet in both cultural contexts, even though the extent and the underlying reason – oscillating between states control vs. citizen protection – is different (also compare (Reinhardt, 2018)). Internet filter bubbles and censorship “contain pre-selected Internet content through digital means, algorithms serve as technical infrastructure to shape such pre-selections, and finally, users face awareness issues when attempting to grasp the extent of these phenomena” (Faust, 2019, p. 55). In sum, the key take-aways are to not confound reception/selection processes with neither content characteristics nor regulation/reception criteria and finally, that comparative research for Germany and China can only work on an abstract level of what German and Chinese users engage with in a functional sense.

The fourth article then shifts back to the process of digitally induced temporal change and explicates the nature, the direction, the extent and scope of it in form of Meta trends. As research mainly falls into the realm of media and culture studies, a strict hypothesis testing endeavor could only iteratively be reached. Nine trends were identified:

Table 1. Meta Trends of Temporal Change (Faust, 2020b, p. 38)

	Alterations	in	Sub-	Authors
	Dimensions			

1	Paradox in Past	Contrary to (Couldry & Hepp, 2017; Hsiao, 2018; Niemeyer, 2014) Underlined by (Dimmick, Feaster, & Hoplamazian, 2011; Görland, 2018; Neuberger, 2010)
2	Increase in Present	Underlined by (Castells, 2010; Couldry & Hepp, 2017)
3	Decrease in Future	Underlined by (Castells, 2010; Jin, 2008; Rosa & Trejo-Mathys, 2013)
4	Decrease in Instrumental Experience (Monochronicity)	(Castells, 2010)
5	Increase in Interacting Experience (polychronicity)	Underlined by (Castells, 2010; Couldry & Hepp, 2017; Dennis, Fuller, & Valacich, 2008; Granovetter, 1973; Krüger, 2009; Lei & He, 2010; Rosa & Trejo-Mathys, 2013)
6	Increase in Fatalism	Underlined by (Couldry & Hepp, 2017; Ramondt & Ramírez, 2017)
7	Increase in Pace of Life	Underlined by (Annany, 2016; Couldry & Hepp, 2017; Eriksen, 2001; Jin, 2008; Krüger, 2009; Lei & He, 2010; Neuberger, 2010; Rosa & Trejo-Mathys, 2013)
8	Decrease in Future as Planned Expectation and Result of Proximal Goals	Underlined by (Castells, 2010; Jin, 2008; Rosa & Trejo-Mathys, 2013)
9	Increase in Future as Trust-Based Interaction and Result of Present Positive Behavior	Argument only underlined for China (Qiu, 2018; Wu, 2010)

After sketching the theoretical framework, in a next step it will be shown which limitations and challenges the theoretical concepts implicitly have, to shed light on future directions of a refined research strain for temporal digital change.

b. Limitations and Challenges of Theory Development

i. Researching in the Tradition of Cultivation Analysis?

Researching cultural change in communication and media studies has its first prominent theory development in the 1970s when Gerbner (1970) coined his cultivation hypothesis in reaction to violent tendencies in society in order to investigate the influence of television. Combining the analysis of media content through message system/cultural indicators analysis (content analysis) with the analysis of media use/effects through cultivation analysis (survey), Gerbner set out to test cultural homogenization effects of television on viewers' perception of reality. He writes: "Our television study found that portrayals of violence mirror, rather than illuminate, our society's prejudices." (Gerbner, 1970, p. 80) Whilst the methodological pitfalls of the study – lack of longitudinal evidence, operationalization of heavy viewers, and correlation vs. causation – are equally critical in the present study, the theoretical underpinnings share similar assumptions. Gerbner writes that there is a "need for more comprehensive, cumulative, and comparative information on mass-cultural trends and configurations." (Gerbner, 1970, p. 69) Similar to Gerbner's research, this study also addresses the idea that through socialization and enculturation – here through the internet resp. digital media – the symbolic order of two cultural contexts change.

ii. Modeling Cultural Change

The following concepts were central to the process of temporal cultural change due to digital media: habit formation, institutionalization, legitimating and objectification. In earlier works it was already found that the concept of the social construction reality is generally a fruitful

one for communication and media studies as shown in Geise and Lobinger (2014), who drew upon it for visual communication, and Hepp and Couldry (2017), who found the construction of reality in general to be mediated. Rather than reiterating the previous points from the theoretical papers of this study, we would like to address a few deficits of this study.

First, according to Berger and Luckmann (2010), externalization would be the top-down process where knowledge is passed on to all human beings in society. This study did not address this process adequately – however, future studies need to consider this process in more detail, as our study finds its limitations here – not only theoretically but also empirically. Externalization means that individuals adopt, adjust, and re-create for example certain temporal expectations that are generated through digital media. Perhaps qualitative works can enrich the field here, as new forms of meaning making process need context- and in-depth instruments that investigate these forms sensibly.

Moreover, language is essential for objectification processes according to the authors (Berger & Luckmann, 2010, pp. 39–43). Our study paid respect to this through introducing the concepts of functional equivalence (e.g., that the digital media communicates represent essentially the same functions) between the two cultural contexts. Lobinger and Geise (Geise & Lobinger, 2014, pp. 315–328) tackled the same question: How do visual representations of reality change the social order through the social construction of reality? They essentially find that communication is a symbolic process both achieved through language AND visual means (Geise & Lobinger, 2014, p. 318). In our case, the argument focuses on the outcome: digital communication in both German and cultural context – regardless of the language differences which, by the way, might even differ in milieus, sub-cultures, or other forms of social groupings – then changes temporal understanding, when essentially similar functions of digital communication lead to very similar meaning making processes, though sense-making may be different. To be more precise: language here cannot be understood as the linguistic

expression in exact the same form, but as the form where essentially the same meaning is socially constructed in both cultural contexts. Additionally, this problem is not only a theoretical one but also an empirical one (Rippl & Seipel, 2008). Methodologically, we tried to achieve linguistic coherence through the bi-lingual questionnaire as much as possible – yet, both sense and meaning making processes remain a critical issue for all quantitative cross-cultural comparative research altogether. This will be discussed in more detail in the second part of this piece.

And last but not least, the theory did not explicitly differentiate between different ‘Sinnprovinzen’ (Schütz, 1971), which may exist between offline and online world. Methodologically, it was differentiated between on-liners and off-liners. However, the on-liners might also switch between the worlds, living a different temporal order which was partially seen in the temporal paradox that digital media created. However, prospectively, future generations will be digital natives, and thus, it might be a matter of time until the offline realm becomes dominated by ‘internet cultures’ through Berger and Luckmann’s notion of primary socialization.

iii. The Forgotten Sub-Dimension Past?

The aim of this section is to get a more comprehensive understanding of the ‘past’ sub-dimension in German and Chinese cultural context, which is altered by digital media. It was found that the sub-dimension of the ‘past’ is subject to paradox (Faust & Jin, 2020). This implies that people simultaneously relate to it more intensively, seek to deny it or integrate it into their present and future activities, expectations and hopes. One way, to shed light on it is through a historic perspective (Koselleck, 2018; Marx, 2009; Pentzold, Lohmeier, & Kaun, 2018; Qiu, 2018). As pars pro toto, here, we will critically specify temporal digital change with a focus on revolutionary incidents during the data gathering period (March to December

2019), as these incidents represent collective ruptures that might have affected our findings. In 2019, the protests in Hongkong (Anti-Extradition Law Amendment Bill Movement, 反對逃犯條例修訂草案運動) kicked off as Mainland China tried to exert its power in the Special Administrative Region Hong Kong. While for the survey only mainland China inhabitants were surveyed, the impact and situation with the protests in Hongkong was known to mainland Chinese as it was online in the national news (Yanhua Mao, 2019)¹. The author sees the rioters' motives in "sabotaging the socialist system on the Chinese mainland. To defeat such designs, we should uphold and improve the "one country, two systems" principle, make greater efforts to support Hong Kong's integration into the country's development, and promote common development." (Yanhua Mao, 2019) This in turn might imply that during the riots the focus in mainland China shifted towards a focus on a joint past before Hongkong's colonialization. As much as this remains speculative, future studies need more qualitative works on digitally mediated memory culture, particularly in times of rupture. Meanwhile, Germany in 2019 was characterized by a steady rise of approval of right-wing extremist formations as represented in the election results of the European Parliament in May 2019, highly stipulated by joint identification and organization, in novel digital media channels e.g., Telegram groups led by Attila Hildmann and Xavier Naidoo. Such turn towards conservative, nationalist values that share some similarities with the societal situation in the late 'Weimar Republic' bear the potential of glorifying a long-forgotten past. The decrease in relation to the past through digital media contrarily points in a different direction that fall in line with the usual claims of the 'pro-longed present' (for a detailed explanation compare (Faust, 2020b)). These developments point to an existence of "multiple temporalities" (Pentzold, 2018; Sharma, 2014) mediated by digital media and have effects on memory

¹ China Daily (中国日报) is an English mainland-based newspaper under the auspices of the CCP. For the sake of comprehension, an English article is cited here, however, representing the voice of the Mainland China government.

culture and thus enable a paradox ‘past’ perspective. This also means, on a theoretical level, that late modernity’s temporal change must be conceptualized in a nuanced way in future studies. For example, while we saw acceleration (Rosa & Trejo-Mathys, 2013) for Germany on base of the capitalist logic (Wajcman, 2015) whereas for China, people faced “socialism with Chinese characteristics” (中国特色社会主义), yet simultaneously a positive future through joint revolutionary activities of the transnational working class based on mutual trust (Qiu, 2018; Wu, 2010), the past becomes increasingly intertwined with the digital. The digital more and more becomes the space of memory culture of lived communities (Dushakova, 2021) and is expected to increase, as in a few decades there will be on-liners resp. digital natives only. This novel and differentiated perspective of the ‘digital past’ must be critically examined.

iv. Surveillance, Filter Bubbles and Internet Censorship – An Update

We previously highlighted that the article on internet censorship and filter bubble (Faust, 2019) serves the function of a digression in the overall aim of comparability of temporal change in the two cultural contexts. However, when turning to such normative questions of cultural comparability in 2021, the digital spaces of China and Germany have once again substantially changed. While, on a temporal level, digitalization through COVID-19 has had a profound impact, two politically motivated changes brought considerable alteration: the Chinese Social Credit System introduced in 2020 in China (Drinhausen & Brussee, 2021), and in Germany the Act to Improve Enforcement of the Law in Social Networks (NetzDG) in 2021 (Bundesministerium der Justiz und für Verbraucherschutz, 2021). Already in 2018, Wong and Shields Dobson argued in a similar direction when comparing the Chinese Social Credit System with digital platform ratings technologies in Western democracies: “In view of the above, China’s social credit system should be viewed as a warning to Western liberal

democratic countries of what may be to come. As our technological age allows for vast amount of data to be collected from individuals across multiple platforms, integrated and used to construct representational profiles and map patterns and behaviours, as well as the continuous rating of others via rating applications, the digitising of identity and reputation is already well underway (Wong & Dobson, 2019, p. 228).” In 2021, the ranking of the press freedom for example – which can be seen as a good indicator for the general freedom on digital media and surveillance, censorship, and democracy threatening tendencies – showed that Germany ranked 13 and China 177 out of 180 countries (Reporters without Borders, 2021). Though the two countries can be perceived on the most extreme ends of the press freedom spectrum, over the years their position has remained relatively stable. However, in order to remain this way, it is mandatory to watch, investigate, and evaluate these processes steadily, as is and was done so in recent research projects, and face and tackle authoritarian tendencies that are on the rise (for Germany compare: (London School of Economics, 2018; Markert, 2020; Reinhardt, 2018) and for China compare (Sommer, 2019; Strittmatter, 2018; Warnke & Woesler, 2021)). In conclusion, it remains important to highlight the following: First, comparability of internet content must be differentiated between functional equivalence and structurally induced political resp. media system differences in online content. Both levels of investigation are equally important but they should pay tribute to the research question at stake and thus lead to different levels of analysis and conclusively to different results. Second, whilst we are still far off from seeing an ‘authoritarian’ Germany in 2021 – historically, there were other periods, e.g., the second World War II, the times of the GDR, etc. – we should nevertheless watch these tendencies closely, especially considering that this shift seems to be a global process in line with fake news, post-truths, and the political radicalization in many states worldwide. As China’s rise to power is expected to continue in the coming decades, it remains mandatory to examine the arenas of influence that – consciously or subconsciously –

shape the interplay between the Western World and the Southern hemisphere. Simultaneously, ongoing efforts to reflect on best practices of content moderation (see for example (Council of Europe, 2021)) must continue and shape the legal processes on the way.

3. Discussion of Empirical Results

a. Brief Summary of Findings

i. Reasoning for Article 5 to Article 8

Article 5 frames the following data analysis within German and Chinese culture standards and paves the way for contextualization. Situation, context, and time, as an approach to understand culture (Fang, 2012), are essential to contextualize findings even in a quantitative research context and go beyond simplistic explanation approaches which dominate this realm of research. Article 6 then shifts towards the empirical ex-post-facto-research design and discusses the bi-lingual-questionnaire in German and Mandarin (Simplified). The questionnaire mainly consists of already tested scales where the instruments were verified for both language settings. Finally, article 7 lays out the results: It was found that there are differences in temporal understanding across all four groups (German internet users, German non-users, Chinese internet users, and Chinese non-users). Moreover, degree of urbanization had an effect, while gender differences were not found to be significant. The findings showed that digital media change the way we deal with and plan time significantly.

ii. Key Findings: The Field in 2021

In 2021, the field of empirical research – and in particular that of social time issues – is characterized by the following major trends: First, we see methodological shifts, for example, due to automation in data gathering, processing and analysis. Second, the rupture of COVID-19 has marked a significant shift in the global societal orders, thus, leading to social time

research with emphasis on this rupture. Finally, we need to reflect what cross-cultural research must imply in the 2020s.

In previous years, the buzz words big data, automation and machine learning have entered the field of communication and media studies, but more broadly the social sciences in general, and even more so advancing new fields of empirical methodologies. Mixed-method approaches eventually gained popularity in the last decade, where nowadays new trends like digital methods arose. Schumann et al. (2015) write that the amount of data, the unstructured nature of online communication artifacts, individualization, the non-accessibility of data, and finally the non-observability of socio-technical determinants led to these trends of new method developments. In contrast to what is actually feasible and possible these days, this study was based on a classical ex-post-facto-design or quasi-experimental set-up with both off-liner and on-liner questionnaire. This relatively ‘old-school’ approach of course bears the limitations that participant-reliant methodologies bring when compared to observable data, e.g., tracking of online patterns, etc. This old school debate of survey methodologies – with particular focus on its limitations – brings the classical issues to the fore: How conscious are people when reporting on behavior, attitudes, norms, and beliefs? At the same time – and this might be one of the unique points of interests of this study – it was found that quantitative research on temporal digital change is scarce, even more so when reporting for Chinese trends. The clear focus to address this desiderate might outweigh the benefits more sophisticated digital empirical designs might have these days. Moreover, when Schumann et al. (2015) write that manifold methodologies are needed, and, even more important, approaches to systematize the methodologies, it becomes even more evident that the *appropriateness* of methods – in our case, the reasoning was thoroughly shown in both article 6 and 7 – outweighs ‘fancy’ digital methods just for the sake of novel designs. One aspect that increasingly became more prominent over the course of the last years is to pay more tribute to

context-sensitivity, which we will touch upon later. And finally, while digital methods these days may allow for more context-sensitivity and considering manifold influences, it is important to not forget that the overall aim of research to reduce complexity does not lose ground altogether in the light of digital methodologies.

Discussing the COVID-19 pandemic is en vogue – the (social) sciences do not halt at this endeavor. Many conferences and research projects over the course of the last 1.5 years dedicated sections or even full formats to such conversation. Historical traditions often argue that the scope of the consequences is not entirely foreseeable yet, while present oriented communication and media studies are already trying to make sense and give meaning to this rupture. Methodologically, the surge in online time actually pushed the rise of digital methods. Simultaneously, the China-topic was more pertinent in the media, and studies become increasingly valuable to society in understanding the scope of China's global rise (European Commission, 2021b; Kostka, 2021; UNESCO, 2021). Besides the methodological digitalization through the pandemic, cross-cultural research on and with China has become more demanding in 2021 – entry bans of certain researchers and political figures from Europe have become the new normal. The critics eventually made it on a Chinese sanction list following their criticism of China's actions in Xinjiang (新疆) province (Global Times, 2021). Nevertheless, it remains crucial to consider the costs and benefits of such research and it is up to Westerners to question themselves in how politically sensitive their own research should be and which risks they wish to take. A similar controversy has been going on around the role of the Confucius Institutes in Germany as political mouthpieces of the Chinese government, which led to divisions both in these institutions as well as in the East Asian faculties in Germany (BR24, 2021). So what can we conclude for empirical, cross-cultural research with China in the realm of this political debate? First, following Weber's 'Werturteilsfreiheitspostulat', it remains questionable and debatable how moral and ethics

should intervene in research on China unless the topics explicitly address Chinese internal and external political affairs. Moreover, China’s role in the pandemic even pushed this topic and it is very unlikely that a streamlined opinion and criteria on research with/or about China can be found. Thus, it remains to conclude that, following the ongoing pandemic, each individual researcher pursuing cross-cultural research on China must follow his own balanced ethical considerations when touching sensitive topics, withdraw from or alter the methodologies balancing his personal risks against the perhaps novel, insightful, and urgently needed research findings on and with China.

In the next section, we briefly address the key findings of the three empirical articles: The fifth article of this thesis laid the foundations for solid data interpretation that overcomes cultural stereotyping. Traditionally, cross-cultural research focused on cultural differences and laid these out in forms of dimensions. Emic perspectives were scarce. Based on Thomas’ (2003) culture standards, which were deduced from critical interaction situations considering the distinct features of each culture, this article discussed German and Chinese culture from a Yin Yang perspective.

Table 2. German and Chinese Culture Standards

No.	German Culture Standards	Chinese Culture Standards
1	Task/Object orientation	Tricks/Tactics
2	Regulation Orientation	Social Harmony (和)

3	Interpersonal Distance Differentiation	Face (面子)
4	Internalized Control	Social Ties (关系)
5	Differentiation of Personality and Life Areas	Work Unit (单位)
6	Time Management	Hierarchy
7	Direct Communication with Low Context	

All culture standards were discussed on the backdrop of context, situation, and time (Fang, 2012), and it was shown that each of them show variance in extent and scope of application and form. In conclusion it was found that for quantitative research that through the means of culture standards statistical “outliers (e.g. standard deviation and variance) could be interviewed qualitatively with a mixed method approach. Such interviews would provide an understanding to context, situation, and time” (Faust, 2018, p. 32). In the context of this thesis, we follow the second suggestion in interpreting the data on the backdrop of the culture standards, which will be shown in the remainder of the chapter. They help to clarify the “explanation process” (Faust, 2018, p. 32), which is usually deduced from theory but may be enriched post priori.

The sixth article lays out the methodology. Conceptualized as an ex-post-facto cross-cultural survey design, the bi-lingual questionnaire in both German and Chinese (Simplified Mandarin) is discussed. The questionnaire was based on the theory of triadic causes (Früh, 2003) and

temporal understanding as dependent construct with its respective measurements. Figure 1 shows the applied triadic causes of the questionnaire.

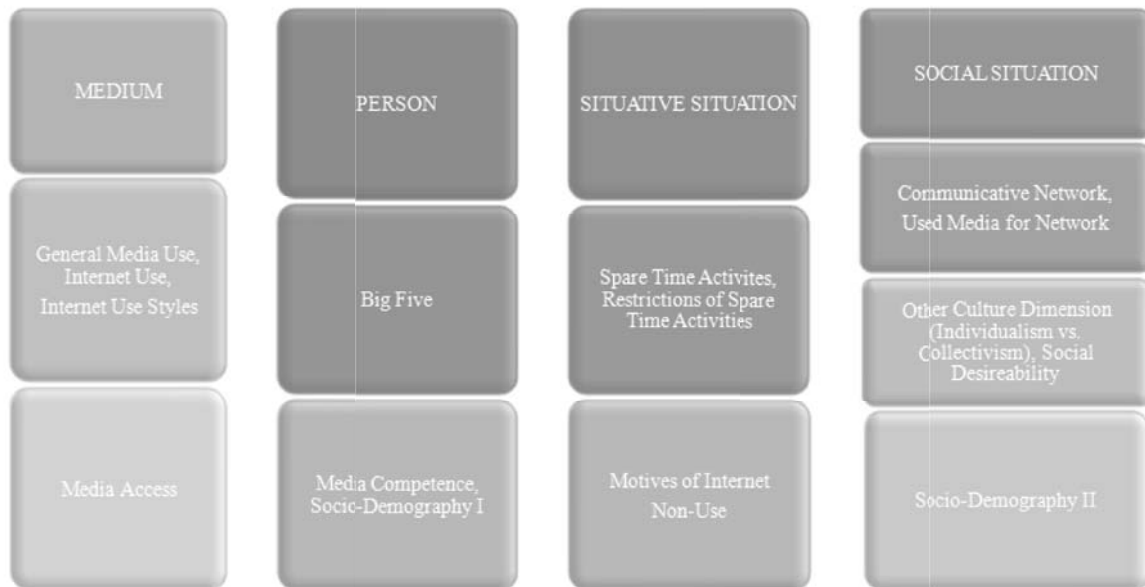


Figure 1. For Research Purposes Selected Key Constructs of Triadic Causes (Faust, 2020a, p. 136)

Generally it implied that “(s)ince both German and Chinese survey items had to be considered, this sometimes meant to accept ‘weaker’ scales regarding reliability and validity in favor of more accurate multilingual translated scales (Harzing, Reiche, & Pudelko, 2013). However, for some scales back-translation was applied to develop new scales where no construct-matching instruments were found (Rippl & Seipel, 2008) (Faust, 2020a, p. 137).”

The final article presents the empirical findings of the thesis. Generally, it was shown “that digital media enhance the focus on social time, namely 8 out of 9 dimensions of temporal understanding as a specific form of how people deal with and plan time in Germany and China. Moreover, there (we)re significant differences between online users and off-liners both within and across the countries. The degree of urbanization prove(d) to have an influence on

temporal digital change, while gender differences were not found to be significant in our study (Faust & Jin, 2020, p. 165).” Following the hypotheses, laid out in Table 1, as Meta Trends, when partial significant correlations were found in the initial set of variables, multiple linear OLS regressions were conducted. Age (coded as variable X), the respective duration of internet use (work day or free day) or the specific internet use styles (coded as variable Y) were used as the main explanatory variables.

Table 3. Findings of Hypothesis Testing (Faust & Jin, 2020, p. 177)

H	Testing	Explanation and Equations for Verified Hypothesis
1.1.	Falsified	We can report an increase in the sub dimension ‘ <i>past</i> ’ for the following cases: when users go to check for news in short intervals and when they often switch between different browsers. This is also the case when they keep on looking around after their online duties and when they are online during the same time on a weekday. Moreover, the increase takes place when they follow a strict plan for online content browsing. However, none of these internet use styles necessarily contributes to memory culture or nostalgia as such, e.g., like internet use style 6 would indicate with storing online news or content. Thus, we decided to falsify the hypothesis.
1.2.	Falsified	No decrease in the sub dimension ‘ <i>past</i> ’ was found.
2.	Verified	An increase in the sub dimension ‘ <i>present</i> ’ was found. Two internet use styles attributed to this: the fact that people stayed online after their internet duties ($Z = 4,089 + 0,14X + 0,87Y$) and that they systematically and not randomly searched for information ($Z = 3,922 + 2,04Y$).
3.	Falsified	Contrary to the hypothesis, we actually found an increase in ‘ <i>future</i> ’ orientation; this was this case the longer people spent online on a working

		day, when they carried out other activities simultaneously, when they stayed online after their duties on the net, or when they had regular times on weekdays where they went online.
4.	Falsified	Again, contrary to theoretical assumptions, we report an increase in ' <i>instrumental experience (monochronicity)</i> ' for such situations when onliners tend to answer online messages immediately, when they have a very systematic online search behaviour, and when they follow a strict order in their online searches.
5.	Verified	The increase in ' <i>interacting experience (polychronicity)</i> ' could be verified. The longer a person is online, regardless of work day ($Z = 3,916 - 0,009X + 0,025Y$) or free day ($Z = 3,405 + 0,061Y$), the more this dimension increases. This furthermore holds true that people tend to carry out other activities during their internet presence ($Z = 3,897 - 0,015X + 0,079Y$) or when people start looking for other information after they are done ($Z = 3,653 - 0,020X + 0,149Y$).
6.	Verified	' <i>Fatalism</i> ' also increases as stated in H6. Again, it is depending on the online duration of a working day ($Z = 3,710 + 0,018Y$) or free day ($Z = 3,606 + 0,042Y$). Moreover, it also gets increased through the habit of answering messages immediately, though a solid significant regression equation cannot be reported.
7.	Falsified	An increase in the sub dimension ' <i>pace of life</i> ' could not be reported.
8.	Falsified	' <i>Future as planned expectation and result of proximal goals</i> ' did not decline. Actually, in one instance it increased, namely when people continued to be online after their mandatory online tasks.

9.	Verified	As stated, here we tested for Chinese participants only. Contrary to the overall trend, Chinese participants' use style highly increased <i>'future as trust based interaction and result of present positive behavior'</i> . This took place through leaving several browser windows open ($Z = 3,357 + 0,037X + 0,228Y$), carrying out multiple activities online and offline ($Z = 3,647 + 0,041X + 0,162Y$), frequent checking for news (with no significant regression equation), switching between sites ($Z = 4,015 + 0,038X + 0,110Y$), archiving articles (with no significant regression equation), continuing to look for other information ($Z = 4,107 + 0,029X + 0,131$), and following a strict navigation order ($Z = 4,049 + 0,029X + 0,140Y$).
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All nine sub-dimensions of temporal understanding were tested through ANOVAs in order to check whether the four groups (German users, German non-users, Chinese users, and Chinese non-users) proved to be distinct in terms of temporal understanding. It was shown that the four groups showed significant differences at $p = .001$ level except for 'pace of life' $p = .337$ (Faust & Jin, 2020, p. 177). In terms of influence of degree of urbanization, it was found that 'pace of life' is not related to temporal understanding, though 'interacting experience' was. Moreover, both duration of internet use on work and free days correlated with degree of urbanization. Finally, gender differences² were not found, implying that digital media do equally affect males and females in terms of temporal understanding. This has to be critically reflected though: Most studies investigating and/or discussing social time with regards to

² In our study, data was gathered from early until late 2019. Even though by the end of 2018, Germany introduced a third gender, in China there are no third gender options in neither the ID card nor the passport or any other forms in mainland China. Moreover, one cannot be registered as third gender in hospital or birth certificate. Thus, it was decided that for the sake of comparability, participants had to class themselves as either female or male in both cultural contexts, though there is evidence of a transgender community in China, e.g., see Xie, Gao, Ho, Cheng, and Zhang (2021).

gender (e.g., (Kaufman-Scarborough, 2006)) do highlight such differences which are self-explanatory, when, e.g., looking at the figures how especially care-work is still more prominent amongst females. However, participants of this study were over-represented in terms of younger ones (especially twenty-somethings and early 30s) as well as over-represented in terms of pensioners (particularly 65 years old and up). The applied snowballing technique in combination with the need to find non-users in both cultural contexts accounts for this skewed age distribution. If the age distribution of the sample followed a pattern similar to the age distribution in German and Chinese society, it could only be speculated what this meant for gender differences in terms of digitally induced temporal change. Despite the scenario that women are more affected by a change in temporal understanding due to their care burden, also the contrary picture could be the case, as males are still more internet and tech-savvy. Future studies should pay attention to include gender differences in their research designs.

Since both methodology and empirical findings have been discussed, we would now like to pinpoint the limitations and challenges that occurred during fieldwork, data analysis, and discussing the findings.

b. Limitations and Challenges of Method and Findings

i. General Remarks

Now we would like to shed light on a few general methodological issues. One of the key issues of this project was to find a balance between a multi-causal approach – following the central ideas of the Dynamic-Paradox-Approach (Faust, 2017) and the Dynamic Transactional Approach (Früh, 1991) – and the general notion of research to reduce complexity. Even though a panel design would have allowed for clearer causal proof, and a method triangulation including qualitative interviews to explore the causal mechanisms in more depth would have been beneficial, the cross-cultural endeavor and the solid theoretical formulation

considering the interdisciplinary theoretical approaches alongside the empirical operationalization already had challenges in its own rights. Both financial and time resources were limited in scope, though future studies could advance the direction in terms of panels or method triangulations. Moreover, prospective research should explicitly ask for the relevance of digital media alongside other societal, personal, and media factors. Due to the pandemic, the relevance of each of these factors altered, and while we saw in the findings weak to medium effects, this might have gradually changed in the meantime with more time spent online globally.

Another important methodological issue concerned gathering data in Germany and China. From a mere technical perspective, we still dealt with a censored internet environment in China. In an ideal world, the instrument should have been the same for all four groups (users and non-users in both cultural contexts). However, when initially gathering data in 2014 at Renmin University, Beijing, PRC, a self-administered paper and pencil questionnaire was distributed, with a response rate of approximately 320 Chinese internet users. Such self-administered paper and pencil questionnaire was initially planned across all four groups. Even back then, it turned out that it was hard to find non-users, which eventually in 2019 – when the fieldwork was repeated – led to the decision to find a strong Chinese partner. However, in 2019 the decision to survey people with a mix of online questionnaires, PAPI and self-administered paper and pencil questionnaire was mostly a pragmatic one due to limited resources. Moreover, especially the online questionnaire required substantial proxy tests in the cities Beijing, Shenzhen, Hangzhou, Ronchang, Guilin, Chengdu, Heifei, etc. because the online questionnaire was hosted on a German server of the University of Applied Sciences Mittweida. This procedure ensured that the web questionnaire ran smoothly both on German and Chinese devices of various kinds, and did bypass any kind of online censorship China might have applied in other web realms.

Altogether, the methodology must be seen substantially sufficient considering the scope, the novelty and the pilot character of the project. As of 2021, it still remains the first quantitative study on how digital media changes the way people deal with time in China, considering English sources and Chinese sources checked through the CrossAsia database (XAsia, 2021) alike. For Germany, other quantitative studies (Gerold & Geiger, 2020; Görland, 2020) have been carried out in the last years, though the findings acquired had more specific research questions in scope.

ii. Trans-Cultural Research in Practice

Even though a lot of hands-on literature is out there that familiarizes one with working with partners in East Asian, or particularly Chinese contexts, which especially emphasize traditional Chinese communication patterns such as face, indirect communication, gift giving, etc., the reality often challenges the literature. When in January 2014 I initially set out to gather data in China, the circumstances were particularly demanding. Not only was my proficiency of the Chinese language not sufficient, nor were working conditions clear and ordered; besides the fact that I had never been to China nor had I considered the relevance of the Chinese New Year that was up coming. At the same time my respective partner at Renmin University perhaps felt pressured by the strict time schedule I had set up in advance, that neither considered the holidays nor the Chinese way of trust-building. The intercultural encounter led to a diversity of misunderstandings – from gift-giving to gathering over dinners where the focus of my view on its importance was clearly not sharp enough. When in 2019 I asked my Chinese colleague Assoc. Prof. Xuelian Jin (靳雪莲) for help, we had a much better prospect at hand. I had met her at the Chinese Internet Research Conference in 2012 at Oxford University, UK, and in 2014 I paid a visit to her in her hometown Chongqing. During my holidays in 2014, we jointly visited a temple a cultural event at her home uni Chongqing University of Posts and Telecommunications, we took a cable car crossing Jangtse river and

we saw the skyline of the largest city in China at night. We had hotpot together and various other meals, and I met her best friend and son during these days. We did what friends would do – spending time to get to know each other. Bearing these things in mind, when I turned to her in 2019 for support, we knew both cultural and personal beliefs, values, and behavior of one another. When trans-cultural or cross-cultural encounters take place, it usually leads to subtle or outspoken conflicts, and intercultural learning takes time to understand one another. The Chinese perspective on such encounters – to get to know each other first, before working with each other – is usually seen as very contrary to the often work-focused attitude of the Western world. At the same time it inherently pays respect to what most intercultural communication models propose – to take it slowly to learn from the encounters and adjust. Having learned these things the hard way, and realizing how indirect and yet caring Chinese people can be at times, eventually led to successful results in terms of fieldwork.

Rather than reiterating what various cross-cultural communication handbooks would tell, I personally found it especially rewarding to figure out how the mix between personal and cultural characteristics of an individual is. Hands-on research in a culturally unknown setting – as much as literature can be supportive, guiding and useful – has to be “experienced”. Phenomenological approaches speak in other research contexts of “lived experience”, e.g., in psychology or cognitive sciences. Moreover, ethnography and anthropology even pay tribute to this immersion of the researcher into the cultural setting – the boundaries of the field, and fieldwork as such, became new objects of discussion in the early 20th century. Speaking of boundaries, it remains to be critically questioned if the boundaries of quantitative research are more defined as such. Once a researcher immerses oneself in a new cultural setting – and this change is even more drastic when it comes to East Asia vs. the West – he will not be able to completely distance oneself from the academic work one does. This immersion, even in quantitative studies, cannot be discussed as interviewer effects or social desirability only, but

certainly reflects in both directions – from the participant to the researcher and back. It can be hypothesized that this process of cross-cultural learning between participants, researchers, co-researchers, etc., is equally dynamic-transactional as the change in temporal understanding, as expectations and patterns mutually influence each other. This unfolding dynamic is easier to grasp and to be understood through lived experience. Though handbooks might provide a start, the result of engaging with the Chinese culture over years actually provides more accuracy, comprehension, and finally mutual cognitive but even more important emotional understanding of one another's differences and similarities.

iii. Response Patterns of German and Chinese Participants

Another methodological issue that needs discussion is the issue of response patterns in both cultural contexts, which is closely linked to the aforementioned issue of trans-cultural research in practice. Though the questionnaire (Faust, 2020a) included scales to measure collectivism and individualism as well as social desirability, these were not considered in the data analysis of the study. This is a clear limitation, though at the same time it remains debatable if questions on digitally induced temporal change actually generate answers that might be socially desirable altogether. Generally, Chinese people are more likely to respond socially desirable and also tend to give answers with a middle tendency (Harzing et al., 2013). Such patterns are usually attributed to their collective culture and indirect communication, which – as we saw – highly vary depending on context, situation, and time. Future studies should investigate these effects in more detail which, especially for research topics like this one, are not considered politically or societal sensitive.

Moreover, regardless of the sensitivity of the research topic in question, cultural change is very likely to change such response patterns as well. Research institutions such as GESIS in Germany need to pay close attention to this and adjust their recommendations for cross-

cultural research of formerly very indirect cultures. Especially the use of social media – in China Douyin (抖音, the Chinese version of TikTok), in other parts of the world TikTok at the forefront – produces new cultures, formats, and therewith expression modes (e.g. see (Abidin, 2020)). At the present stage, this cultural change is not foreseeable in scope and extent, however, considering own anecdotal experience in working with various Chinese researchers (Professor Emeritus, Assoc. Prof. and an LLM student), their indirect communication patterns increased with their age. Of course, such generational effects might be influenced by status, hierarchy, and country of residence (ex-pat Chinese vs. home based Chinese), though a working hypothesis might be to assume that social desirability decreases in the Chinese cultural context. Long-term methodological studies should shed new light on these processes.

iv. The Role of Off-liners in Digitally Induced Temporal Change

In the first part of this summary we already touched upon cultural change from a theoretical perspective. One particularly pertinent issue is the lack of exposure to digital media by non-users in both cultural contexts. So while theoretically it remains vague to argue that the off-liners are really not affected – for example, considering indirect online exposure effects and their self-socialization – methodologically, this touches upon a variety of problems.

Methodologically, this study could not be clearly distinguished between ex-post-facto-design vs. quasi-experimental set-up. One of the characteristics of ex-post-facto-designs is that the independent variables, here the two groups (on-liners vs. off-liners), are classed afterwards, since there is variance in the independent variables. However, during the sampling procedure, we distinguished explicitly between the two groups and targeted these two in both cultural contexts, which would imply the design to be a quasi-experimental setup. Sampling was only finished once an adequate number of participants ($n > 100$ for users, $n > 40$ for non-users) was

achieved. From a methodological point of view though, this classification from a quasi-experimental set-up would imply that the two groups are distinct and not confounded. This leads to the theoretical problem that off-liners are by nature always affected through indirect effects. In his pioneering study Lazarsfeld et al. (1968) found as early as in the 1940s that media have indirect effects through opinion leaders. While his studies were criticized and revised over the course of the years, one key aspect still applies: that communication networks do affect less active members of society, not as intensely exposed to the media. It can be concluded that the same effects apply to non-users in both cultural contexts. How and to which extent and scope this also changes non-users temporal understanding remains critical for prospective studies, which will benefit from multivariate analysis methods to pay respect to such indirect opinion – or, more broadly speaking, digital media leader effects.

v. Disadvantaged Communities

The notion of disadvantaged communities is generally speaking both a definition and a methodological issue at the same time: First, we focused on Mainland China in our study, thus, also gathering data in this territorial part. As of 2021, in Hongkong, Taiwan, and Macau – sometimes classed as Greater China, asides Singapore and other parts – territorial and political conflicts prevail, making it complicated to set clear definitions and boundaries for the study. Moreover – and this was discussed in various articles – it remains an issue to define culture as national culture, as it bears some limitations and pitfalls. Second, disadvantaged communities – sometimes discussed more intensely in subaltern studies, for example – are marginalized ethnically (e.g., the Uyghur people in China, or the Roma and Sinti community in Germany, though to different extents, ...), and thus also have less chance to participate in this study. The majority of participants taking part were Germans and Han Chinese. Future studies must consider these issues in more detail, as exclusion and invisibility of certain communities also provide insights on marginalization processes. When we turn towards the

invisible, we actually enhance the focus on the ‘unseen, unheard, and unvoiced’. This school of thought is also often found in post-colonial studies, critical race studies, and other activist research traditions. There the focus is often on participatory approaches, with a general tendency towards more non-standardized studies and qualitative notions. However, such binary logics should be overcome in future research in the social sciences – the chance to include disadvantaged communities in quantitative research bears the potential to diversify empirical evidence and to gain a deeper understanding of the cultural complexities in Germany and China in relation to temporal digital change.

vi. Modeling Micro-Meso-Macro Level in Data Analysis

One of the key issues that prospective studies need to investigate more thoroughly concerns the issue of modeling micro-meso-macro links in data analysis more thoroughly. As of 2021, a variety of methodological approaches are out there. One of the most promising ones would be multilevel modeling, also known as hierarchical linear modeling. In this specific case, sampling procedures would also require data on various levels. Such hierarchical data, for example, could be grouping data on three levels, i.e., on micro level students, on meso level school classes and on macro level it would be schools. The lower level has to be adequately represented in the hierarchical higher level.

In our study, we took a different approach: even though some of the data structure would have allowed for hierarchical linear modeling, e.g., one participant’s responses in terms of his or her relation to temporal understanding on a micro level and his or her nationality which could be classed as a macro indicator, we did not make use of it. Instead, we tried to argue, especially for temporal understanding, how the nine dimensions of it do actually cross micro, meso and macro level (see (Faust, 2020b)). It was theoretically argued how the item batteries were selected to consider both individual and social resp. cultural aspects of time. Despite

these efforts, one of the pitfalls could have been an ecological inference fallacy. Freedman writes that “(a)ggregate data are often easier to obtain than data on individuals, and may offer valuable clues about individual behavior. Ecological inferences will therefore continue to be made. The problems of confounding and aggregation bias, however, are unlikely to be resolved in the proximate future (Freedman, 1999, p. 5).” The so-called “Coleman Bathtub” (or “boat”) (Coleman, 2000) actually leads to the Meta-theoretical problem that underlies the whole issue: how and to what extent there are causal relationships between the various classification levels and how these must be bridged through solid theoretical hypotheses. We tried to address this issue in the fifth article modeling the links (Faust, 2020b). Thus, nowadays, even though advanced statistical methods might support such data analysis in more sophisticated ways, we should not underestimate the methodological issues that underlie the problem at stake.

Finally, methodological expertise from research institutions should be bundled. With the rise of expertise on digital well-being, shifting temporalities, stress, and sustainable living, research co-operations are needed for both data gathering and analysis. Nation-wide or cross-cultural studies such as the European Social Survey (including Schwartz’ values), the Micro Census in Germany, or the Chinese Internet Network Research Center Report must focus on more integrative survey designs and methodological implementations and analysis. The digitalization of the everyday life globally shifts the focus to the entanglement of the ‘real’ and the ‘digital’, and thus, how time *changes* and changes in *time* take place.

vii. Structural Equation Modeling

One of the deficits of this study were the insufficient and only partially tolerable results of structural equation modeling – both for the confirmatory factor analysis of temporal understanding and eventually a proposed eighth paper, which was not published.³

First, the confirmatory factor analysis in article 7 showed only a reasonable fit. We tried to reflect this issue in the paper and argued that further improvement of the scales will be required in the future. Moreover – and this is something we did not sufficiently address – there is a possibility that spurious correlations altered the true results which were to be reported. However, this undermines the notion of a sufficiently high construct validity, which needs further refinement prospectively. Finally, we argued that content validity was a strong criterion to accept the CFA of temporal understanding nevertheless. Ultimately, future studies need to pay equal attention to the various validity issues altogether.

For the eighth article, we initially set out to answer the following research question:

RQ: How can we statistically model digital temporal change in German and Chinese cultural context considering the relative influence of person, situation and media factors?

The novelty of this approach lies in the first advanced multivariate quantitative analysis of processes of digitally mediated temporal change, providing differentiated perspectives on the matter. Thus, we sought to identify the relative influence of a diversified set of variables to accommodate for such digital temporal change. Structural equation modeling is one way to embrace complexity as well as diversity (Deng, Yang, & Marcoulides, 2018) to understand

³ The article was initially planned for a special issue on “China and the World – Cultural Differences, Transmissions and Transitions” in the Journal “Frontiers in Sociology”, guest edited by Prof. Dr. Marc Oliver Rieger, Prof. Dr. Mei Wang, and Assoc. Prof. Yongjing Zhang, PhD, all of whom have extensively published on time and China.

the process of change in social time, here specifically temporal understanding. In order to test the relative influence of digital media and context variables on temporal understanding, we conducted structural equation modeling using SPSS AMOS V25. Moreover, we will add a few words regarding the methodology used. Temporal digital change, theories as described above (e.g. (Wajcman, 2015)), usually stem from a media philosophical tradition, with little causal explanations, i.e., hypotheses, a SEM would require. Thus, normally exploratory structural equation modeling (ESEM) would have been the data analysis method of choice (Marsh, Morin, Parker, & Kaur, 2014). However, traditional SEM can also facilitate and seek to provide empirical answers through specification searches, which allow model generating (MacCallum, 1986) Moreover, we drew upon a method proposed by Latzer and Büchi (2016), who describe summaries, histograms, and zero-order-correlations between variables as an approach to building a model. Thus, we used an *iterative* procedure of hypotheses as guiding ideas due to a clear lack of explicit construct specification, specification searches, and descriptive and bivariate statistics to address the RQ. Based on zero-order-correlations of the variables from the questionnaire (Faust, 2020a), we selected the following variables: 14 manifest variables from social situation, person, and medium as exogenous variables, and 3 indicator variables from medium pointing to one latent variable. The endogenous variables consisted of the nine dimensions of temporal understanding, namely ‘past’, ‘present’, ‘future’, ‘monochronicity’, ‘polychronicity’, ‘pace of life’, ‘fatalism’, ‘long-term future’, and ‘future as trust based’, each with the respective items as indicator variables.

Model estimations were conducted using maximum likelihood estimation, which is robust to multivariate non-normality. To evaluate overall goodness of fit, we considered several indices. Generally, a chi-square to degree of freedom ratio (χ^2/df) less than 3.0, a comparative fit index (CFI) and norm fit index (NFI) greater than .90, and a root mean square error of approximation (RMSEA) of .08 or lower indicate adequate fit (cf. Bentler, 1990; Browne &

Cudeck, 1992; Kline, 2005). However, it turned out that fitting indices after the SEM were not sufficient. We tried various options in the following order:

- i. selecting up to three sub-dimensions of temporal understanding to build a solid CFA of temporal understanding with just selected items of each of the sub-dimensions, eventually merging the three small SEMs to model the nine-dimensional SEM; in this case, without missings in the data set, sufficient fitting indices were achieved
- ii. we then included just one exogenous variable, still providing sufficient fitting indices – however, as missings were included, the fitting indices surpassed the threshold
- iii. even when just modeling each of the nine sub-dimensions of temporal understanding individually (first without missings, then including missings using common procedures to estimate the missings, moreover, using regression plot analyses), the fitting indices did not suffice, as Cronbach's Alpha was below 0.8.

In summary, various problems occurred simultaneously, which made it impossible without sufficient knowledge of SEM methodology to detect the cause. Obviously, the poor scale reliability of some sub-dimensions of temporal understanding played a key role, besides unclear steps how to proceed when modification indices suggested various options. Moreover, in some instances the model remained unspecified, lacking a sufficient degree of freedom ratio altogether. In addition, the issue with the only adequate confirmatory factor analysis of the dependent variable led to bad fitting indices when trying to include other influencing variables. The fitting indices Chi Square, RMSEA and CFI were always just slightly below the mandatory threshold for a perfectly fine fit. However, since they were under the threshold it meant that the whole SEM did not work and path coefficients were thus meaningless.

In order to improve the data analysis, the whole model would benefit from sound fitting indices. Bootstrapping could be an option as a lot of the data is not normally distributed. This

also has to do with the specific age structure of the sample, which had a lot of old non-users and a lot of young internet users, with middle-aged people lacking in the sample. Moreover, it remains unclear if the non-users in Germany and China evince the same age structure, which could also have a bad effect on the overall calculations.

Considering the results of descriptive statistics, i.e., the mean structure of the four groups which we commuted (see Table 4 below), it makes perfect sense to take up the idea of ESEM or SEM at some point in time with the same data set. Moreover, since some of the sub-dimensions (e.g., ‘past’ and ‘monochronicity’) had high Cronbach’s Alpha, it could also be an option to model the SEM just for each sub-dimension of temporal understanding individually, where one could draw on the data set gathered in the context of this thesis. What is more, Table 4 shows that the changes between users and non-users in Germany and China in the sub-dimensions for each of the nine dimensions were not the same, i.e., implying that in one culture a specific sub-dimension increased whereas in the other it decreased. SEMs should thus be modeled for each culture individually. Last but not least, further studies should also address novel ideas on scale development in terms of temporal understanding. Considering the low reliability of temporal understanding, survey methodologists must address this problem – statistical techniques can only be as strong as the measurement instrument is in the first place. Finally, it should be critically asked if the effects of digital media on temporal understanding are really linear. We clearly saw that in Article 7 effects of digital media on temporal understanding were found – thus, in case SEM is not a viable option to address such change, other non-linear multivariate analysis techniques or machine learning methods could try to address such non-linear effects and make them visible. This also raises further theoretical and philosophical debates – if temporal change is non-linear, which new forms of marginalization and social/digital/cultural inclusion and exclusion arise? Since the number of non-users will be on the decline – which even raised analysis issues for the SEM here with the

low non-user numbers – how will digitalization shape temporal understanding in the future? COVID-19 has drastically increased these digitalization processes, with a new era of temporal paradox in the process of making in late 2021. It remains to be researched empirically how such rapid change due to the pandemic – which is very likely to be irreversible – can be modeled, analyzed and finally, understood.

Table 4. Descriptive Statistics of Temporal Understanding across Overall Sample and Differentiated by Sub Groups

Temporal Understanding	Overall Sample		German Users		Chinese Users		German Non-Users		Chinese Non-Users	
	M	SD	M	SD	M	SD	M	SD	M	SD
TU1: Past	4.1	1.4	3.7	1.4	4.4	1.1	4.1	1.6	4.9	1.4
TU2: Present	5.1	1.0	5.1	1.0	4.8	0.8	6.1	0.7	4.3	0.6
TU3: Future	4.4	1.5	4.5	1.4	5.2	1.0	3.0	1.7	4.1	1.1
TU4: Instrumental Experience	5.0	0.9	4.7	0.8	5.0	0.7	5.6	0.9	5.3	1.0
TU5: Interacting Experience	3.7	0.9	3.5	0.8	4.2	0.5	3.3	1.0	3.5	1.0
TU6: Fatalism	3.8	0.9	3.4	1.0	4.2	0.7	3.8	1.0	4.0	0.7
TU7: Pace of Life	4.1	1.2	4.0	1.2	4.0	1.0	4.3	1.4	3.9	1.1
TU8: Future as Planned Expectation	4.6	0.8	4.6	0.8	4.3	0.8	5.0	0.8	4.5	0.9
TU9: Future as Trust Based	5.9	0.8	5.8	0.7	5.5	0.8	6.8	0.4	5.9	0.8

The table clearly shows, that the four groups vary highly, showing an increase in each of the dimensions due to digital media. However, we must critically ask what role other variables play, surpassing stimulus-response-models in favor of multivariate and thus context-sensitive approaches. Future studies – even using the existing data set – should address such questions.

viii. Interpreting in the Light of Culture Standards

A key issue of this work – following the line of De-Westernization – is to look at the findings from a context-sensitive approach. The approach to contextualize the change of temporal understanding through structural equation modeling, i.e., identifying various independent variables causing this change, did not work out in this thesis. Nevertheless, I now pursue an approach based on the findings from Article 7 and the mean scores from Table 5 which were tested through ANOVAs and proved to be significant. I seek to contextualize each of the nine dimensions of temporal understanding individually through the culture standards.

For the ‘past’ dimension Chinese non-users scored the highest with 4.9 compared to 4.4 for Chinese users. German non-users scored 4.1 compared to 3.7 for German users. This implies that past focus has decreased due to digital media. When we looked at these findings in more detail in article 7, a few internet use styles actually painted a different picture: An increase in the ‘past’ dimension was shown “when users go to check for news in short intervals and when they often switch between different browsers. This is also the case when they keep on looking around after their online duties and when they are online during the same time on a weekday. Moreover the increase takes place when they follow a strict plan for online content browsing (Faust & Jin, 2020, p. 178). Internet use styles related to digital memory culture, however, did not lead to an increase in this dimension. Which culture dimension can now address these findings? Generally, Chinese people scored higher on the ‘past’ dimension in both groups. This could be explained by looking at the concepts of *guanxi*, i.e., strong social ties, and

harmony between people in China. Both concepts are entangled with the idea of collectivism in China and may indicate that cultural memory is a collective process, even more so in China than in the West. Though we could not find that digital media do not enhance it, it was shown, that the non-users have a stronger 'past' focus. Another explanation might be that older people – and the non users in this study were older on average – generally lean more towards the 'past', as was found in other studies, too.

'Present' focus was found to be opposite: Chinese non-users scored 4.3 and users in China 4.8, with German non users scoring 6.1 and German users 5.1. Whereas in article 7 we confirmed this increase for both user groups and verified manifold digital media theories pro-claiming such increase, we now see that in Germany actually a 'present' decrease occurred, and only in China 'present' focus increased. In terms of culture standards, the interpretations would remain vague and speculative – none of the German or Chinese culture dimensions actually underline these paradox changes and the interpretation would remain arbitrary.

The 'future' dimension evinced the following means: 4.1 in Chinese non-users, 5.2 in Chinese users, 3.0 in German non-users and 4.5 in German users. Thus, an increase was found. Moreover, for users, an increase was found the "longer people spent online on a working day, when they carried out other activities simultaneously, when they stayed online after their duties on the net or when they had regular times on weekdays where they went online." (Faust & Jin, 2020, p. 178) It can be presumed that high task and object orientation, a German culture standard, can explain these findings, alongside perhaps, that non-users did not have a strong focus on the 'future' due to their age, though in article 7 we controlled for age. Further investigation needs to look at the life course effects in more detail.

This process goes hand in hand with 'instrumental experience', which evinced the following means: Chinese non-users 5.3, Chinese users 5.0, German non-users 5.6 and German users 4.7.

This implies that through digital media, ‘instrumental experiences’ decreases. Article 7 found that an increase only for “such situations, when onliners tend to answer online messages immediately, when they have a very systematic online search behavior and when they follow a strict order in their online searches.” (Faust & Jin, 2020, p. 178) So, while we saw an increase in ‘future’, we found an increase only for some internet use styles which relate to high task and object orientation. It might be reasonable to assume that in both cultural contexts these are people who work in the IT sector or any other area where they access digital media mainly for work purposes, which would relate to the German culture standard separation of personality and living spheres. Alternatively, the personality trait conscientiousness could explain for it. Generally, people seem to lean more towards a non-instrumental experience when using digital media. This can lead to a paradox situation since at the same time they show an increase in the ‘future’ dimension.

Very much in line with this, fall the results from the ‘interacting experience’ dimension as the scores are as following: Chinese non-users 3.5, Chinese users 4.2, German non-users 3.3, and German users 3.5. Such an increase was not only found between the user and non-user groups in both cultural contexts, but also the longer someone is online on a work or free day and when “people tend to carry out other activities during their internet presence, or when people start looking for other information after they are done.” (Faust & Jin, 2020, p. 178) ‘Interacting experience’ as initially framed and defined by Hall (1990) is prevalent in high context countries and relates to guanxi (关系). This is even more interesting in the sense that we now see Germany with low context as culture standard experiencing the same cultural shift, though to a much smaller degree considering the mean score shifts outlined above.

As far as ‘fatalism’ is concerned, the following mean scores were found: Chinese non-users 4.0, Chinese users 4.2, German non-users 3.8, and German users 3.4. In article 7 we

confirmed that such an increase depends on the online duration of a working day and free day and through answering messages immediately (Faust & Jin, 2020, p. 178). Interestingly, we obviously see a decrease in the German population and an increase in the Chinese one. This runs very contradictory to the findings that a lot of fake news studies suggest: an issue with fake news in the West, whereas China as centralized state with less media freedom and streamlined media coverage. Culture standards give little explanation to this phenomenon, though it has to be critically asked how the younger Chinese population perceives the framing of the Chinese governmental news. And moreover, as much as there are tendencies towards a shift in authoritarianism in Western countries as indicated in article 3, we should ask the crucial question if such authoritarian tendencies are not a much bigger problem in China enhancing fatalistic views. Further research needs to be done to entangle such phenomena.

Pace of Life was not found to be significant due to the low Cronbach's Alpha and thus will not be interpreted here.

For the dimension 'future as planned expectation' the following mean scores were found: Chinese non-users 4.5, Chinese users 4.3, German non-users 5.0, and German users 4.6. Contrary to the results reported in article 7 (Faust & Jin, 2020, p. 178), which looked at online duration and internet use styles, the decline was found to be significant between the user and non-user groups. Only "when people continued to be online after their mandatory online tasks", an increase could be reported (Faust & Jin, 2020, p. 178). This general decrease of 'future as planned expectation' is considerably remarkable, as generally older people – here the non-user group – lean less towards the future than younger ones do. In terms of culture standards, it actually implies that such standards are in flux – here, for example. German time management as a standard faced a decrease. Culture standards are not only context-dependent but dynamic themselves; as cultural change is per se.

Finally, ‘future as trust-based’ saw the following shifts: Chinese non-users scored 5.9 with Chinese users only scoring 5.5, and German non-users scored 6.8 with German users ranking 5.8. Initially conceptualized as Chinese dimension, it was applied to both cultural contexts in our study. It strongly relates to *guanxi* (关系) and harmony (和). However, though in both cultural contexts a decrease was found – which is not surprising, as digital media enhance the focus on the online world and substitute real-life relationships with digital ones –, the more surprising aspect is that Germans scored higher in the first place. We presumed this to be a Chinese dimension of temporal understanding – however, it appears some of the values underlying it, such as good social ties to one another and trust as base to form good relationships in the future, seem to be culturally universal, and therewith part of the anthropological foundations of mankind. If now these values are on the decline, it remains to ask what this means to living in collective entities of any kind in the world.

4. Summary

We have seen that certain assumptions underline the argument being made: Social time processes are always three-fold in terms of synchronization – on the one hand, we see shifts in the nine sub-dimensions (‘past’, ‘present’, ‘future’, etc.), then, we see the paradox changes between two cultural contexts, and simultaneously we cannot neglect dynamics as such, i.e., what we initially discussed as objective or natural time. Thus, when we conclude with a temporal paradox, it can be either the newly refined relation between social/subjective and objective time, or also the empirically manifested interplay between the nine dimensions. Finally, we see the shifts between the two cultural contexts which do not always evince the same dynamics. The paradox and contradictory nature of temporal understanding – it was shown that new ruptures of increase and decline exist between and even within each of the 9 dimensions and across cultures – describes a new formation of late modern societies and cultures. Bachmann-Medick et al. (2020) diagnose specific futures of cultures, resp., we enter

an age of singularities (Reckwitz, 2020) beyond the mass media industry that Adorno diagnosed for the mid and late 20th century. Dorling defines this era as the ‘great slowdown’, as the capitalistic mass production falls down from its peak and enables different paces in society (2020). As each generation and culture is influenced by disruptions and crises – globally, for example, WWII, the fall of the majority of communist states, eventually the financial crisis, climate change, and now the COVID-19 pandemic – we see a shift in values, beliefs, patterns, and ultimately behavior. Now how does this relate to the three-fold temporal paradox, which we described and explained as a cultural phenomenon? Such disruptions – in our case deep digitalization before the pandemic – always bring both advantages and disadvantages in a culture to the fore. The real challenges for societies and cultures are – however – the disadvantages, or more neutrally defined, the issues that are at stake. Advantages easily, elegantly, and mundanely blend into everyday life. Issues caused by such disruptions however change the social order, its cohesion, and impose new constraints. Digitally mediated communication, which hinders long-term planning and enables more interacting experiences, may cause a lack of flow in the life of ordinary people. It substantially changes memory culture – the past becomes visible, accessible, and omnipresent, with all positive and negative consequences alike. Social expectations, that are more short-term focused, lack the clarity to tackle foreseeable issues such as the rise of the Global South and a sustainable nature-nurture relationship. Moreover, as more and more time is spent online, the cultural process of personal interaction is substituted by a non-sensual experience of life, with people working in the digital sector affected the most and digital labor on the rise. We hear, we see, we feel only through the mediated, and our experiences are shaped and gathered by and through the virtual. The lack of sensual experience furthers disharmonies, misunderstandings, and ruptures. While our new social time-space-continuum is characterized by new digital proximities and intimacies, such global connections enfold a temporal order

that is characterized by the simultaneous, diversification, new stratifications, and a paradoxical contradiction that is felt and experienced by each and everyone, here shown for German and Chinese cultural context. Thus, if we speak of cultural homogenization between the two contexts, it is not a streamlining process, but a simultaneous increase and decrease in the dimensions of temporal understanding in both contexts, which even remain contradictory in itself. So, whilst temporal understanding as such remains paradoxical, we tend to see the same trends in Germany and China, e.g., a decrease in the ‘past’ due to digital media, an increase in ‘interacting experience (polychronicity)’, etc., and at the same time, we see contradictory trends in both cultural contexts (e.g., for ‘present’). Digitally induced temporal homogenization must then be defined as the process of simultaneous, parallel, similar, and partially contradictory cultural change for both Germany and China and not as cultural alignment, i.e., the merging of cultures. This newly defined homogenization has different starting points, though: It was shown through mean score calculations of each of the nine dimensions that the initial level of each dimension scored higher in China. This increase and decrease bears an intrinsic risk: ‘Interacting experience (polychronicity)’, for example, has its end in cognitive processing capacities and human behavior. We cannot accelerate, and multi-task to an infinite end, but we are constrained by our very nature, both physically and psychologically.

However, before we shift towards the societal, political, and cultural relevance of this temporal paradox in Germany and China, we must return to two key issues raised in the thesis which foster this process: de-Westernization and the dynamic paradox approach. De-Westernization implies that “(c)ultural differences should be seen as sources for further development, as starting points to facilitate new perspectives, and they should help us to recognize the as-yet ‘unthought’. To understand ourselves, we always need a counterpart. This prepares the way for uncovering our own way of thinking and for being sensitive to our

differences that are being reflected back to us in a constant oscillation between ‘Self’ and ‘Other’ (Herdin, Faust, & Chen, 2020, p. 13).” It is only a matter of time that, after the rise of China, we will be faced with the surge of the remaining BRICS countries and the rest of the Global South. It is vital for science to take up the challenges that this changing world order implies and to move beyond Western hegemonic power interests, which are still virulent in the knowledge production of a Western centered academia. Meghji sees decolonizing, which does not equal de-Westernization but sees the same obstacles of a Western knowledge production as de-Westernization, as process about *adding knowledge* (Meghji, 2021). German communication and media studies and, to a large extent, social science academia has long turned a blind eye on China and the East Asian world apart from East Asian departments, which long prevailed as islands of thoughts in an otherwise (sub-?)consciously ignorant Western knowledge production sphere. This thesis tried to address this desiderate both as a matter of novel theoretical inquiries, empirical results beyond the Western world, and finally, as a Meta-theoretical approach of more holistic, comprehensive and thus more elaborate perspectives. Using the Dynamic-Paradox Approach in order to frame such de-Westernized centered research, we can conclude that dynamics (*change of time* and *time as change*), paradox (temporal paradox through digital media *within* and *across* cultures), and contextualization (comprehensive, de-Westernized theoretical perspectives as a way to contextualize the findings, here achieved, e.g., through culture standards and multivariate analysis) provided a nuanced, differentiated, and most importantly comprehensive perspective on the subject of study at stake. The key take aways of the DPA moreover suggest that the pandemic has accelerated such cultural change through a natural trigger accompanied by an increased digitalization, which is very likely to be irreversible.

Finally, we would like to turn towards the policy implications of this research. We must ask, what are the implications of such temporal homogenization and the paradox that lies within it?

Globally the level of stress steadily not only increases (The World Stress Index, 2021), and well-being in relation to temporal change is not only rigorously discussed (Barcelona Time Use, 2021; ReZeitkon, 2021), but necessary for sustainable living. Digital media, as was shown, contribute to this process alongside general shifts in societal temporalities in the age of the anthropocene (Bødker & Morris, 2021). As research shows, the Philippines, as one of the South East Asian countries, ranks second in the most stressed countries in the world (Cabico, 2019), which only highlights the relevance of this research of temporal digital change in East Asia.⁴ And while the majority of people in the world may have sufficient resilience and coping capabilities to deal with stress, vulnerable groups, whose neurological stimulus processing does not fall in the mid range of normal distribution, face more severe consequences such as heart diseases, burn-out, and other neurodegenerative disorders. These tendencies foster, since biologically some people are more monochrone and others are more polychrone (Brüning, Reissland, & Manzey, 2021). If we globally shift towards a more multi-tasking oriented world – here shown for Germany and China – our stress levels reach a new stage (Volkman, 2017). Besides the cognitively vulnerable, urban inhabitants are also more affected, and it is only vaguely foreseeable how a post-pandemic world will look like. It is clear, though, that a ‘good ICT society’ (Bradley, 2017) and ‘digital well-being’ (see also (European Commission, 2021a)) must not only account for the temporal paradox and its related stress, but also for the tensions, conflicts, and hindrances that arise from it. They must stand side by side with large-scale societal turnovers in social time, e.g., the shaping of infrastructures through the new Silk Roads (Mitchell, 2021). The subaltern, the marginalized, and the vulnerable need to be supported, cared for, and equipped with capabilities and strengths for more temporal autonomy to entangle temporal paradoxes. The youth (for recent Chinese social time developments through digital media see (Pissin, 2021)), the elderly, the

⁴ The author also found that per week approximately 20 to 30 Researchgate reads from around 40 to 60 in total were carried out by Filipino readers.

ones in digital labor, women, disabled people, or such of non-hetero-normative orientations need assets to cope with such entanglements.

Time policy must account for only apparently anachronistic tendencies: temporal autonomy, down-time, time-outs, slow media, and digital detox. Moreover, being online, as much as it is not a human right for all yet, must be channeled in a way to foster healthy, sustainable temporal habits, patterns, norms, beliefs, and values beyond short-visioned digital engagement. The re-conquest of the offline world aside these necessary temporal coping strategies remains the challenge of the progressing 21st century. Beyond the individual counter-strategies such as digital detox, we must ask ourselves critically, and normatively, which culture will be able to take responsibly account of it – and how the Global South, as historically inherently more polychrone cultures, will take advantage of the assets it brings to these new global temporal challenges. Future Literacy can be a starting point to consider these issues at stake (UNESCO, 2020).

So where to does cultural time research move towards to and more important, which way should it take? Social scientists should keep looking for the entanglements between time and culture (Deutsche Gesellschaft für Volkskunde e.V, 2021; Schuman, 2021). But such perspectives must consider for example, a de-Westernized gaze (Jansson, Bengtsson, Fast, & Lindell, 2020). and explore concepts such as Sino-Futurism, Red Futurism and the like, ought to address the growing relevance of audiovisual content (刘瑞一, 2021), and the emergence of other forms of digital media through 5G and 6G networks. Additionally, research processes should equally address emic (Walter & Andersen, 2013), and quantitative time and culture topics (International Society for the Study of Time, 2021), and be context-sensitive (Chen & Lunt, 2021). The growth of China, the BRICS, and the Global South is yet to come in full scope – we must acknowledge that it needs competence in Germany (see for example

(Bundesministerium für Bildung und Forschung, 2021), courage and a balanced view to address these changes. It is only *a matter of time* until the last offliners have vanished across the world, until full internet saturation is reached – for the *time being*, this study found explanations and proof for digital temporal change identified as a temporal paradox in China and Germany before COVID-19 – a historical moment indeed.

“WHAT DOES CULTURE WANT?

TO MAKE INFINITY COMPREHENSIBLE.”

~ UMBERTO ECO ~

5. References

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6. Appendix

a. Publication Strategy

The dissertation regulations of the Faculty of Social Sciences and Philosophy of the University of Leipzig from May 11, 2010, § 9 allow the submission of a cumulative dissertation. The articles should be published in prestigious journals or should be accepted for publication there. In addition, they may not come directly from the Magister or Master thesis and the individual works must have a thematic connection.

The present cumulative dissertation consists of seven articles. All of them were published as articles in specialized journals with single blind or double-blind peer-review procedures. The theoretical relationship between the individual works as well as the most important empirical research results are explicitly set out and clarified in the 'Dachschrift'. None of the submitted contributions come directly from my Magister thesis (2010).

On the one hand, my publication strategy was to target international journals due to cross-cultural comparative character of the study. On the other hand, I sought for outlets that specialized on China as it is a blind spot in German communication and media studies. As early career scholars have lower chances to get published in high-ranked international journals, I targeted special issues for the most part as the research interests between guest editors and me overlapped.

The first article was accepted for publication after a Call for Papers for a Special Issue of the journal *China Media Research* on "Towards an Integrative East-West Communications Paradigm" by Guest Editor Ivana Beveridge.

The second article was invited by IADIS Society for the journal *IADIS International Journal on WWW/Internet* and followed a Best Paper Award I won 2016 at 9th International Conference on ICT, Society and Human Beings, in Madeira, Portugal.

The third article was initially a response to a Call for a Special Issue of the journal *East Asian Journal of Popular Culture* on “Censorship and Media” by Editor Kate E Taylor-Jones. The article eventually got published in a regular issue of EAJPC due to editorial decisions.

The fourth article was invited by Guest Editor Ivana Beveridge and later on published with *China Media Research* in response to a Call for Papers for a Special Issue on “Paradoxes as Sources of Creative Tensions”.

The fifth article was invited by Editor Guo-Ming Chen and also published with *China Media Research*. The Call for Papers was on “Yin Yang Discourse and Human Interaction”.

The sixth article was invited by Guest Editor Irina Dushakova for the journal *Folklore: Structure, Typology, Semiotics* and followed the conference on Mediatization of Culture: Constructing New Texts and Practices, Moscow, Russia.

The seventh article was a response to a Special Issue on “Multicultural Discourses in Emerging States: Communication Challenges of the Digital Age” in the *Journal of Multicultural Discourses* and was accepted for publication by Guest Editors Anna Gladkova and Elena Vartanova.

b. List of Submitted Articles

Article 1:

Faust, Maria (2017): “Bridging East and West: The Dynamic Paradox Approach Integrating Yin Yang and Dynamic-Transactional Approaches.” In: China Media Research. 13(3). 47-59.

Article 2:

Faust, Maria (2016): “How the Internet changes the way we deal with time and plan in China and in Germany.” In: IADIS International Journal on WWW/Internet. 14(2), 1-22.

Article 3:

Faust, Maria (2019): “Does the democratic West ‘learn’ from the authoritarian East? Juxtaposing German and Chinese Internet censorship and filter bubbles” In: East Asian Journal of Popular Culture. 5(1). 55-78.

Article 4:

Faust, Maria (2020): “Meta Trends of Digitally Induced Temporal Change in Germany and China between Micro-, Meso-, and Macro Levels.” In: China Media Research. 16(1). 30-43.

Article 5:

Faust, Maria (2018): "Theorizing German and Chinese Culture Standards: An Emic Approach to Explain Cultural Differences from a Yin Yang Perspective." In: China Media Research. 14(3). 24-36.

Article 6:

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Maria Faust M.A.

Bridging East and West: The Dynamic Paradox Approach Integrating Yin Yang and Dynamic-Transactional Approaches

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Abstract: This paper combines the indigenous Chinese Yin Yang Approach with the Western Dynamic-Transactional Approach. The Yin Yang Approach, Chinese by origin and here applied in its version by Fang, and the Dynamic-Transactional Approach, proposed by two German scholars and published mainly in German, diversify the field of communication, media and culture studies. The Yin Yang Approach by Fang was developed to overcome a static paradigm of culture and communication and similarly the Dynamic-Transactional Approach constituted a new dynamic and more comprehensive perspective of media effects and general communication phenomena. In this sense both approaches deal with three overarching topics: communication, media and culture and can thus be compared to create a new one. The relevance of this combined Dynamic-Paradox Approach lies in a contribution towards the De-Westernization discourse with the goal of achieving a comprehensive Eastern-Western perspective. In conclusion the new approach enables a more thorough understanding of communication, media and culture processes, and presents a comprehensive approach to grasp these phenomena.

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Keywords: intercultural communication, theory building, Dynamic-Transactional approach, Yin Yang approach

Introduction

Two blind spots can be noticed in the field of social science research and with it in communication research. First, various academics, often from the non-Western world, have increasingly criticized the nature of Eurocentric research (e.g. Fang, 2012). Such criticism applies to all stages of the research process: research topics, theory development, theoretical modeling with definitions, empirical research and data interpretation (Glück, 2015; Li, 2011). However, this scarcity of non-Western theories is a result of a bias due to hegemonic mindset rather than an actual lack of theories from outside Europe or Northern America. In fact, such theories are manifold (e.g. Chen, 2002). Apparently, communication and media studies also suffer from a scarcity of non-Western theories. Yet, at the same time there is non-Western communication theory development, even though the academic community may not be aware of it (Gunaratne, 2010). This article introduces Fang's Yin Yang approach (Fang, 2012), which was developed in the field of business research but is certainly relevant for communication and media studies. As an indigenous East Asian approach it comprises the notion of dynamics, paradox and contextualization (Fang, 2012) and it has a long research tradition (e.g. Gunaratne, 2008; Li, 2011; Peng, Spencer-Rodgers, & Nian, 2006). Here we focus on Fang's approach as it specifically seeks to capture communication and culture in the age of globalization and digitalization. As a concept that recognizes change and flux it goes beyond former culture models capturing

culture as a mainly static concept, shedding light on dynamic, paradoxical and contextualized communication and culture processes.

At the same time there is a second layer of bias: English-language oriented academic circles. Academic research, if not published in English, seldom crosses language borders. Communication and media studies are no exception. The national academic community is still very strong, as is the case for nation-centered publications. So even though theory development would enrich communication theory globally, it is still mainly received nationally. A new perspective on mass communication was shaped in 1982 with the development of the Dynamic-Transactional Approach in Germany. This theoretical paradigm seeks to capture communication and media processes and cultural influences. Its innovative concepts – transaction, dynamics and molar context – have not yet been widely recognized in the English-centered academic community.

Concluding from the former two notions (Eurocentrism and English as 'lingua franca'), theory building should focus on a transnational perspective and be accessible to a larger scientific community. Moreover, we saw that the two aforementioned approaches both target communication, media and culture processes from novel perspectives, and this makes them unique and worthwhile to investigate. But we do not seek to stop here because theory building aims at integration and with it knowledge production. Thus, the following research question arises:

What are the elements of a Dynamic-Paradox Approach that would enable a more dynamic and multicausal understanding of communication, media and culture?

The question arises on the relevance of combining two theoretical approaches to develop a new one. First, such approach would contribute towards the De-Westernization discourse in communication and media studies (Glück, 2015; Gunaratne, 2010). Second, further research may benefit from one etic and one emic perspective, when research is carried out in both Western and Eastern contexts. Third, the combined theoretical approach aspires to offer a comprehensive East-Western angle and may lead to a more complete understanding of communication, media and cultural change situations. Hence, such an approach overcomes both Euro-centrism and English-language bias in academic circles.

The paper proceeds as follows: first, de-Westernization discourse is explicated (Glück, 2015; Gunaratne, 2010; Ray, 2012) and key terminology is defined: One has to understand what theory comparison is comprised of and how theories can be compared with each other (Haller, 1999; Opp, 1978; Opp & Wippler, 1990; Seipel, 1999). Further, we make a distinction between approaches and theories and we present the two selected approaches. Fang's version of the Yin Yang Approach will be elaborated (Fang, 2012; Fang & Faure, 2011). Next, the three core notions, namely dynamic, paradox and context are explained drawing from additional sources beyond Fang's version of the approach. Then, Fang's ocean metaphor is introduced as well as his prepositions (Fang, 2005, 2012). Next its Western counterpart, the Dynamic-Transactional Approach, with its three core notions (dynamics, transactions and molar context) will be described (Früh & Schönbach, 1982; Schönbach & Früh, 1984). Its origins can be traced back to early/mid-20th century European/American psychology and social sciences (Früh, 1991). Next, its media related arguments are emphasized and put forward and the two approaches are compared with each other. Also, a certain conception of man (active vs. passive or both) underlying both approaches will be discussed. Finally, the overall conception of Yin Yang as culture/communication model and DTA as media effects model will be compared by looking at the difference between Fang's culture term and Früh's idea of the social situation. Fang's central four prepositions are contrasted with the DTA to investigate eventual similarities. The closing section discusses both approaches in an integrative manner in order to develop a Dynamic Paradox Approach. The following sub-research questions will be answered:

1. What do both approaches contribute towards a more comprehensive understanding of communication, media and culture?
2. How can they be combined alongside the aforementioned points of comparison?

The Dynamic Paradox Approach seeks to combine Eastern and Western premises and contribute towards a de-Westernization perspective. It integrates communication, media and culture studies, consists of three core notions of Dynamics, Paradox and Contextualization. It provides both active and passive mindset of mankind, and thus goes beyond Fang's Yin Yang Approach. It includes micro, meso and macro levels, locating communication/media processes on a micro level, which may lead to cultural change on a macro level. Whereas initial cues are located solely at a micro level as a core to both communication and media processes, trigger events are located at a macro level and are substantial to cultural change.

We look at how the two selected approaches contribute to de-Westernization discourse. At a first glance, both approaches may look alike. However, stemming from Eastern and Western worldviews, they are derived from different cultural traditions. The phenomena investigated are not specific to a certain culture—communication, media and culture as interests of research are universal. However, the approaches stem from different mindset of the scholars who developed them. The Dynamic Paradox Approach aims to provide a general framework for analyzing communication and culture. In this sense, it combines micro and macro levels and integrates Eastern and Western mindsets, although the approaches as such are not labeled as either Eastern or Western. The following section sheds more light on the relevance of such discourse.

De-Westernization Discourse, Comparing and Combining Theories and Approaches

The Yin Yang Approach is Eastern in origin and the DTA is its Western counterpart even though claiming universal applicability. Thus, it is reasonable to ask, in which way could these approaches and their combination contribute to de-Westernizing theorizing? In order to answer this question, we first shed light on the de-Westernization discourse (also compare Averbeck-Lietz, 2012).

According to a number of researches, there is a dominance and hegemony of theories and of the Global West in social sciences and in communication and media studies (Fang, 2012; Gunaratne, 2010; Li, 2011). The Global West consists of the United States and the United Kingdom and the second tier is made up of France, Germany, Japan, the Netherlands and Italy (Gunaratne, 2010). This dominance is contrasted against indigenous knowledge production of the Global South, namely China, India or Latin America (ibid); such

knowledge – most of the time less formalized or more philosophical in nature (Glück, 2015) – could be beneficial to the social science knowledge production in the West. Glück therefore sees de-Westernization in theory production as essential and describes it as an ongoing process and intellectual shift (Glück, 2015). When speaking about de-Westernization we face more than one strain of research and a plurality of notions and this plurality of notions implies integration of ancient and indigenous knowledge from the Global South into Western social sciences for the sake of knowledge gain (ibid). Ray (2012) argues that de-Westernization proves successful when key differences are noticed in the non-Western concepts and then added towards Western theories. Nonetheless, the similarities can also be beneficial for theory building. If overarching principles can be found in both Eastern and Western theories or approaches, it can be concluded that medium-range theories can expand in scope (e.g. in terms of time and space application). Moreover, such application to more cultural contexts and with it a universality of contexts also supports existing knowledge (Glück, 2015). Hence, de-Westernization proves fruitful if *both* similarities and differences are set out. The first approach helps to expand the scope of medium range theories, while the latter enriches the diversity of knowledge.

Much has been written in the Western social sciences throughout the 1960s and the 1970s on the comparison of theories during the time of the positivism debate (Seipel, 1999). Haller describes theories as a system of universal statements which have a relation to empirically observable phenomena (Haller, 2003). Comparing theories can therefore be described as a process of confronting given statements about different approaches whereby less superior statements are eliminated throughout the process of comparison (Opp, 1978). There is no clarity on the process of comparing theories (Giesen & Schmid, 1978). Therefore we follow Opp's suggestion that the theories are first selected, then verbally precisely described, formalized and finally compared in terms of their logical relations; in the process, the researcher has to identify the key variables throughout theoretical comparison and then contrast them to one another (Opp, 1978). Although for the most part, empirical comparisons are carried out, here we deal with a theoretical comparison (Seipel, 1999), even though both approaches offer solutions for empirical operationalization and have been applied to various phenomena (Gehrau, 2016). Thus, it is essential to compare the key terminology and notions (Lindenberg & Wippler, 1978). The ultimate goal is to eliminate the inferior theory and ideally to further develop the superior theory (Opp, 1978). Seipel (1999) adds specification and modification of the theories or approaches, and this is particularly relevant for our research, in order to create new knowledge by pursuing

theory integration. Even though both approaches are not a theory as such as they do not explain strict universal laws (Haller, 2003), a comparison can still prove fruitful. Approaches operate on a Meta theoretical level providing a frame of reference for any theoretical modeling. Rather than comparing individual variables we seek to compare the central notions of the approaches and then develop the Dynamic Paradox Approach.

Yin Yang Approach

The following chapter discusses the Yin Yang Approach to culture and communication as developed by Tony Fang. We first explain the origin and the symbolism of Yin Yang as a worldview and a philosophical concept.

Origin, heritage and description of Yin Yang

Yin Yang is a concept found in the ancient Chinese philosophy and describes a holistic, dynamic and dialectic worldview (Peng & Nisbett, 2000). It translates to the dark and the sunny side of the hill (Hampden-Turner, 1993). It is deeply rooted in Chinese dialectical thinking and “accepts the unity of opposites and regards the coexistence of opposites as permanent” (Peng & Nisbett, 2000, p. 1067). It implies holistic thinking and that “opposites contain [...] within them the seed of the other” (Chen, 2008, p. 5). According to Yin Yang philosophy, “all universal phenomena are shaped by the integration of two opposite cosmic energies, namely Yin and Yang” (Fang, 2012, p. 31). Fang adds that the “white dot in the black area and the black dot in the white area connote coexistence and unity of the opposites to form the whole” (p. 31). The curved line and the complementary dots suggest that there is no such thing as absolute separation of opposites (Fang, 2010). Fang (2012) stated that

Yin and Yang coexist in everything, and everything embraces Yin and Yang; Yin and Yang give rise to, complement, and reinforce each other; Yin and Yang exist within each other and interplay with each other to a form a dynamic and paradoxical unity. (p. 5)

This development of all universal phenomena can be described as a dependence of a continuous balancing process between Yin and Yang (Fang & Faure, 2011). Yin Yang consists of three central principles: Paradox, Dynamics and Holism. Different authors have different perspectives as for which of the three principles are most important (Fang & Faure, 2011; Gunaratne, 2012; Li, 2011).

Paradox

The term paradox comes from the Greek terms *para* which means “contrary” and *doxo* for “opinion”. It

is short sighted to subsume paradox just under contradiction (Regenbogen & Meyer, 2013), and paradox is defined as two contrary, yet interdependent and therefore compatible elements that exist as opposites in unity. Li (2008) states that they confirm each other due to consistency and balance and negate each other due to completeness and change. Lewis defines the paradox as “contradictory yet inter-related elements – elements that seem logical in isolation but absurd and irrational when appearing simultaneously” (Lewis, 2000, p. 760). Chinese dialectics has a different approach: it negates true contradiction, accepts the unity of opposites as interdependent and takes the coexistence of opposites as permanent (Fang, 2012; Peng & Nisbett, 2000). Starting point is to acknowledge the interdependence of the two opposites. This is achieved through the Chinese middle way perspective (Zhong Dao, 中道). It is important to achieve harmonic integration, not compromises (Chen, 2002), and a both/and, rather than either/or perspective. The unity of opposites must be acknowledged as a new theoretical construct or phenomenon (Chen, 2002, 2008). It is of great importance that the opposites do not annihilate each other, but combine each other and form a new unity (Chen, 2008). Moreover, the opposites define themselves with regard to its opposite (Chen, 2002).

Dynamics

Dynamic duality can be described as following: under all given circumstances Yin Yang transform in a balancing process. According to Peng change is the only constant phenomenon in the universe. Reality is not stable but is in constant flux (Peng et al., 2006). Change has an ontological status because the dialectical interaction of Yin Yang is infinite and cyclical. These notions have been found in the early works of *Yi Jing* known as *The Book of Changes* and are still valid today.

Holism

The last aspect of Yin Yang is holism (Peng et al., 2006). A phenomenon or entity is only complete if two contrary elements are part of it. Furthermore, nothing exists in isolation or independently, and everything is interconnected (Gunaratne, 2012). Through dialectical connection each aspect is relational (Peng et al., 2006). If Yin Yang is applied to research, it is particularly important to understand the connections of the object under investigation. Moreover, it is useful to know how it influences everything else and how this in return influences the object. As the whole is more than the sum of its parts, all relevant factors of the system have to be considered (Gunaratne, 2012). In addition, it is relevant how the parts contain meaning with regard to the whole (Peng et al., 2006). The ideal state is when humanity and heaven are in unity (Tian Ren He Yi, 天人合一)

(Peng et al., 2006). The idea of holism also explains that abstract logic is of marginal importance in the Chinese thought characterized with concreteness and pragmatics. Contextualization is therefore given a priority (Peng et al., 2006).

Ocean metaphor for describing culture

Fang (2005) provides a new perspective on culture in contrast to static bipolar paradigms. According to his understanding, culture is a more complex phenomenon which needs to surpass the onion metaphor created by Hostede. Therefore, he crafted the ocean metaphor as he argues that metaphors shape the way we perceive certain phenomena (Fang, 2005). He states:

Culture can be compared to an ocean. In a given context at a given time, we identify visible values and behaviors just like we identify visible wave patterns on the surface of the ocean. Nevertheless, the culture we see at this moment does not represent the totality and the entire life process of that culture. The ocean embraces not just visible wave patterns on its surface (compared to visible cultural values and behaviors) but also numerous ebbs and flows underneath of amazing depth (comparable to “hibernating”, unseen and unknown cultural values and behaviors). Given internal mechanisms (yin-yang) and external forces (e.g. globalization, institutional, economic, technological, situational factors), invisible and “unconscious” values and behaviors (ebbs and flows) beneath the water surface can be stimulated, powered, activated, promoted, and legitimized to come up to the ocean’s surface to become the visible and guiding value patterns at the next historical moment. (Fang, 2005, pp. 83–84)

The four propositions of the Yin Yang Approach

In his further argument, Fang develops four propositions to describe the dynamic, paradoxical and holistic elements of culture. The propositions state the following and will be relevant when discussing the concept of men and the new Dynamic Paradox Approach:

Proposition 1: If there exist $\{‘+V1’, ‘+V2’, ‘+V3’, \dots ‘+Vn’\}$ in a culture, $\{‘-V1’, ‘-V2’, ‘-V3’, \dots ‘-Vn’\}$ can coexist in the same culture depending on the situation, context, and time. (Fang, 2012, p. 36)

Proposition 2: To guide action in a given context at a given time, human beings choose the most relevant value(s) from the full spectrum of potential value orientations ranging from $\{‘+V1’, ‘+V2’, ‘+V3’, \dots ‘+Vn’\}$ to $\{‘-V1’, ‘-V2’, ‘-V3’, \dots ‘-Vn’\}$. (p. 38)

Proposition 3: In a culture in a particular context at a particular time some values {'+V1', '+V2', '+V3', . . . '+Vn'} can be promoted, while other values {'-V1', '-V2', '-V3', . . . '-Vn'} can be suppressed, thus resulting in a unique value configuration. (p. 39)

Proposition 4: Each culture is a unique dynamic portfolio of self-selected globally available value orientations ranging from {'+V1', '+V2', '+V3', . . . '+Vi'} to {'-V1', '-V2', '-V3', . . . '-Vi'} as a consequence of the culture's all-dimensional learning over time. (p. 41)

Communication and media premises

Fang and Faure rely on the work of Edward Hall to investigate communication, suggesting that communication is culture (Fang & Faure, 2011). Thus, they conclude that the notions of Yin Yang can be applied to culture as well. According to the authors, older Chinese communication characteristics have not disappeared, but they exist side-by-side with newer ones. They rely on former work of Gao and colleagues, who distinguished five different types of communication styles in China (Gao & Ting-Toomey, 1998; Gao, Ting-Toomey, & Gudykunst, 1999). However, Faure and Fang suggest a situation-dependent selection of communication style. Therefore, they argue that each of the following pairs occurs depending on situation, context and time (Fang & Faure, 2011, p. 325):

1. Implicit communication vs. explicit communication; Listening-centered communication vs. speaking-centered communication;
2. Polite communication vs. impolite communication;
3. Insider-oriented communication vs. outsider-oriented communication;
4. Face-directed communication vs. face-undirected communication.

Fang does not specify the role of Internet or another media. However, he sees it as potential area of research interest (Fang & Faure, 2011, p. 331) and acknowledges its importance.

The Dynamic-Transactional Approach

In 1982 Früh and Schönbach developed the Dynamic-Transactional Approach in order to conceptualize a new paradigm for media effects (Früh & Schönbach, 1982). Its origins can be traced back to early/mid-20th century European/American psychology and social sciences (Früh, 1991). In 1991, Früh drew upon earlier work to develop the dynamic-transactional model. Whereas the latter claims to be a flexible module system, the Dynamic-Transactional Approach is a

paradigmatic reasoning and a line of thought. In this article, the main ideas stem from the Dynamic-Transactional Approach, however, latter ideas from the 1991 publication are also included (Früh & Schönbach, 2005).

Originally modeled in the tradition of communication studies, the Dynamic-Transactional Approach integrates both the classical Stimulus-Response-Model and the Uses-and-Gratifications Approach. The S-R-Model, also known as transmission belt or hypodermic needle, claimed a uniform mass audience experiencing the same effects. Conversely, the Uses-and-Gratifications-Approach proposed a self-selecting audience with needs they are aware of and where the audience was conscious and reflexive in their media use. When developing the Dynamic-Transactional Approach Früh and Schönbach realized that neither perspective was sufficient to grasp reality and they therefore aimed at integration (Früh & Schönbach, 1982). Such integration means that recipient and communicator are both active and passive throughout the communication process (Früh & Schönbach, 1982,). Activity and passivity may occur alternately or simultaneously (Früh & Schönbach, 1982). Activity means selection and avoidance of information in the media offers. The content of the communicator is elaborated and the recipient draws connections based on skills and knowledge, which are key to the reception process. The recipient is also passive and the selection processes is restricted by the media content. Habitualized behavior in the daily routine indicates passivity of the recipient. Activity on the communicator side is characterized by selection and weighting of information. The communicator anticipates audience characteristics. He is also passive in so far that medium or recipient set certain restrictions. Four components characterize the Dynamic-Transactional Approach: a more complex understanding of effects, dynamics and transactions, and the molar context.

Concept of effects

The Dynamic-Transactional Approach is characterized by a more complex understanding of effects compared to former communication theories. Causality as a one-sided relationship, implying the division into cause and effects, as a relationship between independent and dependent variable, is just one way to describe effects. Such connections, where events take place one after the other and where earlier create the latter (Schönbach & Früh, 1984), as well as contingency relationships and interactions still occur side by side (Früh & Schönbach, 2005). However, the innovative part is that transactions occur where cause and effect are bound together. Another novelty is that the Dynamic-Transactional Approach introduces the idea of multi-causality, which also affects the concept of effects. Characteristics of the

audience and the media, as well as situation influences may influence the media effects (Früh & Schönbach, 2005). Such effects can be either causal as cause-effect-relationship or transactional as explained before and later on in detail. Such transactions are dynamic. In this case, effects occur on all variables even the cause variables, implying a multi effect model (Früh, 2001a, 2001b).

Transactions

As mentioned above, causal relationships do not allow a comprehensive explanation for all forms of effects processes. Thus, Früh and Schönbach introduce the transaction which can be defined as

... simultaneous interplay between A and B, during which both the transitive effect aspects $A \rightarrow B$ and $B \rightarrow A$ are only defined through their complementary effect aspect: As $A \rightarrow B$ evolves, $B \rightarrow A$ is already considered within, i.e. each of the two analytically isolable partial relationships does not exist without 'self-reflexive co-orientation'. (Früh, 1991, p. 123)

There are active influencing and passive-influenced components on both sides, implying that causes also change due to their effects (Früh, 1991). In contrast to interactions, transactions are not devisable into

individual, alternately affecting causal relations (Früh, Schulze, & Wunsch, 2002). This type of relation can also be called oscillating interplay (Früh & Schönbach, 1982). Generally transactions can be viewed as vertical/ horizontal transaction or Intra-/ Inter-Transactions. Vertical transactions refer to different hierarchical transactions between system and parts (Früh, 1991). Interdependencies between the same hierarchical levels are characterized as horizontal transactions (Früh, 1991). Different transactions relate specifically to either micro, meso or macro level. Regarding the communication process, Intra-Transactions take place in the cognitive system of the recipient between activation level (level of receptiveness), his pre knowledge and his imaginations (Schönbach & Früh, 1984). In this sense, the media stimuli are received, but change throughout the reception process (Früh & Schönbach, 1982). Therefore, the media message is not fixed (Früh, 1991) but relies also on characteristics and conditions as well as the interpretation means of the recipient (Früh, 2001a, Früh et al., 2002). Furthermore, Inter-Transactions are defined as „imaginary or real interaction processes between communicators and recipients, in the case of mediated communication often mediated by the medium message” (Schönbach & Früh, 1984, p. 315).

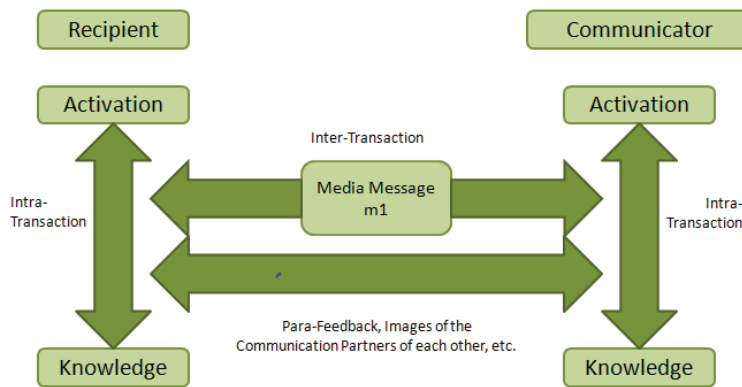


Figure 1. Model of transaction processes (Schönbach & Früh, 1984, p. 323. Translated and slightly modified)

Figure 1 shows the model of a transaction. The communication process takes place between two communicators which can either be mediated by a medium or communicate directly. Früh adds that the model can be specified depending on the context of the communication process (e.g. interpersonal communication, internet-mediated communication etc.), suggesting further research, such as Rössler's (1998) work on internet-mediated communication. Even though much research has been done on intra-transactions,

inter-transactions are highly under-researched. When comparing the two approaches in terms of paradox vs. transaction this has to be looked at and eventually elaborated in the Dynamic-Paradox Approach.

Dynamics

According to Früh, dynamics implies analyzing gradient characteristics and process patterns. Furthermore, it is essential to capture these methodically and identify process figures (Früh, 1991). A static

perspective is not excluded but is less important focus on process characteristics. Such processes are rarely linear and rather unpredictable. However, in order to identify them, tendencies of gradients have to be identifiable and clearly distinguishable from random developments. Thus, a static description after certain intervals should be substituted by a procession description (ibid). Two types of dynamic effects relationships can be distinguished: dynamic causal relationships and Dynamic-Transactional relationships. The second type is characterized by a simultaneous interplay with aforementioned process patterns. After identifying the process type it is important to identify phase length, dynamic or interference with parallel processes. Phase length is defined as duration of the interval in which developments take place (Früh, 2001a). The phase length and interferences of the communication process with other parallel, media external processes are relevant and both processes can enhance, hinder or neutralize each other (Früh, 1991). Finally, mediated communication is also in competition with functional alternatives as processes that occur side by side and may interfere with one another.

Molar context

The third central element of the Dynamic-Transactional Approach is the molar context. It is called molar or ecological perspective and can be divided into three sub-dimensions. First, object and measurement are connected and rely on each other. Inner-psychic processes, which are only externalized through measurement, are Particularly affected by this phenomenon (Früh, 2001a). Second, object and limiting conditions depend on each other. Due to high complexity of such limiting conditions it is hard to control them statistically. Therefore it is even more important to select only the relevant limiting conditions for analysis. Therefore, it is important to find out about the relative potential of influence of the limiting conditions (Früh, 1991). Third, not only individual variables but also entities of higher order as emergent phenomena can have an influence. This type of

phenomena surmounts the influence of individual variables and it is important to determine the relative importance of such groupings (ibid). The molar context is also described as methodic manifestation of the research phenomena, object-oriented determination of the relevant effect constellation and meaningful complexation of variables (Früh et al., 2002). As aforementioned, one can generally distinguish between combined causal relations and combined transactions. Depending on whether the variables are autonomous or transacting, one has to select accordingly (Früh, 1991). Furthermore, one can distinguish between additive effects and interaction effects of the two factors relevant (Schönbach & Früh, 1984). Früh adds that all relevant factors cause the effects. According to the idea of the transaction – if the relationships are transactional ones – all factors are influenced as well (Früh, 1991). However, one can distinguish between variables and constant factors, initiating/ dynamizing and other variables (ibid). Früh and Schönbach have mainly specified the molar context on a very abstract level however Früh (2002; 2001b) also specified the relevance for media effect processes. He also describes it as cause fitting where the variables are interconnected through transactions. The so-called triadic fitting consists of three variable groupings: media offer variables, person variables and situation variables (Früh, 2003a, 2003b).

Comparison of Yin Yang Approach and Dynamic-Transactional Approach

Yin Yang and Dynamic-Transactional Approaches can be compared to achieve a more dynamic, paradoxical and multi-causal understanding of communication, media and culture processes. In the de-Westernization discourse it was argued that both similarities and differences are fruitful for investigation.. Drawing on the main criteria of the two individual approaches, we take a comparative stance to develop main categories for comparison, as shown in Table 1.

Table 1. Main Categories of Comparison between Yin Yang Approach and Dynamic-Transactional Approach

Main Categories of Comparison	Yin Yang Approach	Dynamic-Transactional Approach
Field of Study		
Culture	Ocean Metaphor (Fang, 2005) Four Propositions (Fang, 2012)	Part of the Social Situation (One Factor aside Others) (Früh et al., 2002)
Communication	Communication as Culture (Fang & Faure, 2011)	Communication as transactional process (Früh & Schönbach, 1982)

Role of the Media	Not specified, but influential role of the Internet (Fang, 2012)	An approach to explain media effects (Früh & Schönbach, 1982)
Central Notions		
Dialectics	Paradox as broad concept to explain Culture (Fang, 2012)	Transactions as broad concept to explain (Mediated) Communication (Früh & Schönbach, 1982)
Dynamics	Dynamics to explain Cultural Change (Fang, 2005)	Dynamics to explain (Mediated) Communication Processes (Früh & Schönbach, 1982)
Holism	Context, Situation and Time (Fang, 2012)	Molar Context (Früh et al., 2002)
Effects	Interdependent Effects (Fang, 2012)	Multicausality (Früh & Schönbach, 1982)
World View and Indicators for Processual Change		
Perception of Men	Active as indicated in Four Propositions (Fang, 2012)	Both Active and Passive as Indicated in Roles of Communicator and Recipient (Früh & Schönbach, 1982)
Initiators	Trigger Events as Initiators of Cultural Change (Fang, 2012)	Initial Cues as Initiators of Communication Processes (Früh & Schönbach, 1982)
Societal Level		
Micro Level	Self-Selection of Values as Freedom of the Individual (Fang, 2012)	Intra-Transactions as Processes within the mind of the Individual
Meso Level	Cultural Learning (Fang, 2012)	Interactions and Inter-Transactions as Processes between Individuals (Früh & Schönbach, 1982)
Macro Level	Value Change over Time as Cultural Change (Fang, 2012)	Vertical Transactions between Micro and Macro Level as Societal Change in Terms of Communication (Früh & Schönbach, 1982)

The Dynamic Paradox Approach

The rest of the article discusses how communication, media and culture are related to one another and what they contribute towards a more comprehensive understanding when discussed in relation to one another.

Communication, media and culture

Früh argues in the development of the molar context that cultural factors are part of the social situation, however it seems more plausible to draw on Fang's notion that culture is not *one factor* besides others, but *the factor* in which social life takes place: media and communication are part of culture and not isolated from it. When Fang states that communication is part of culture, we see a clear ordering of communication and media as part of culture as compared to the DTA where communication and media

are factors aside culture. Media are also not isolated from culture. Culture, however, can be described as an ocean with all inherent paradoxes it comprehends. The Dynamic Paradox Approach specifies culture as the surrounding condition. Media messages, as shown in Figure 2 below, serve as initial cues that trigger a reception process, which eventually causes effects. Fang only sees the Internet as the key factor. However, according to Früh and Schönbach all types of media inclusive of mass media and interpersonal communication may lead to effects. Communication can be seen as a process of creating mutual understanding, be it among individuals or via media. Cultural change derives therefore from a multitude of influences as can be seen in the contextualization box in Figure 2. We draw upon Fang's four propositions of cultural change and model it in terms of value change as a central element.

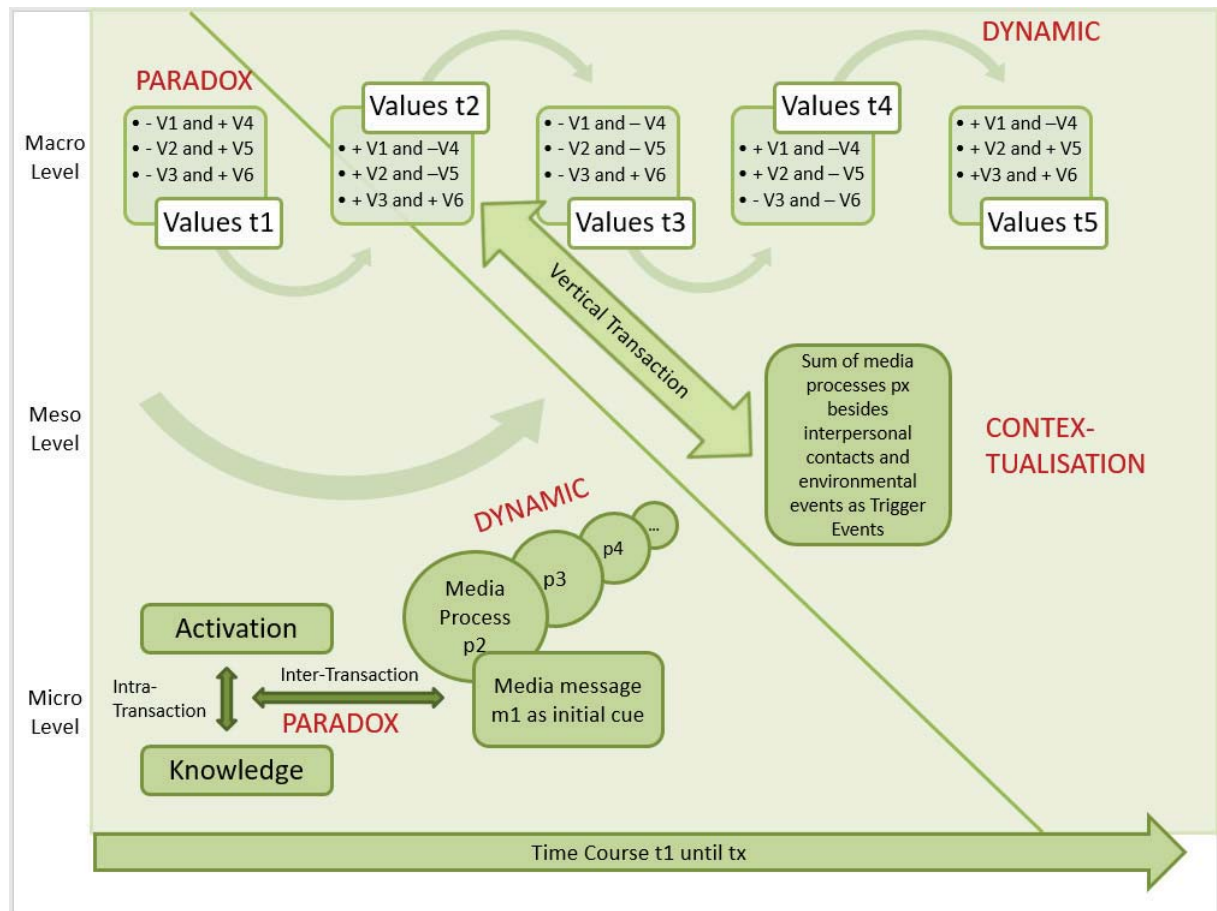


Figure 2. The Dynamic Paradox Approach

Paradox

When it comes to the relation between paradox and transactions, it can be argued that the former comprises the latter. Transactions are one example of a paradox: Fröh highlights such paradoxical situations to capture the essence of reading in sign-based cultures. One sign only gets its meaning out of the complexity of its parts which can only be comprehended when grasping the whole (Fröh, 2011). He argues that we deal with a transaction which has a paradoxical character. Thus, paradoxes comprehend more than transactions is are not limited to them. Figure 2 shows three types of transactions: intra-transactions, inter-transactions and vertical transactions. The first takes place between activation and knowledge, the second between recipient and medium and with the communicator and the third between micro and macro levels. Fröh does not neglect causal relations or interactions which may occur. These transactions are paradoxical in nature, and they particularly new to the DPA. The inter-transaction means that cause and effect have an oscillatory interplay between communicator and medium: the recipient anticipates a certain message or mindset of the

communicator and it affects him straight away. The vertical transaction means the moment an initial cue hits the recipient, simultaneous change occurs at the macro level. It takes more cumulative potential of media processes x , interpersonal relations and environmental events to change a specific set of values thoroughly. However, the very moment the initial cue triggers a media process, a specific value configuration occurs. Paradox occurs on the macro level in the sense that certain seemingly contradictory values exist in the same culture. Fang states that they lay dormant in the culture but may rise depending on context, situation and time.

Dynamics

The notion of dynamics has been researched extensively in communication and media studies, whereas cultural research has not really received much attention beyond intercultural learning. Dynamics was prominent in diffusion research (Rogers, 2005) and knowledge gap thesis (Tichenor, Donohue, & Olien, 1970). For the Dynamic Paradox Approach it is important that both communication processes and cultural processes benefit from this notion. For

communication processes, it is essential to acknowledge the dynamic nature of reception processes. Once triggered by a media message m_1 as an initial cue, the changing nature (with high or low involvement of the recipient thus accelerating between knowledge and activation) causes the process to unfold. Depending on other stimuli, the process keeps going, or new processes come into play. Accumulation of media processes leads to enhancement in media effects. A similar argument has been made in Noelle-Neumann's spiral of silence (Noelle-Neumann, 1974). More important, what comprises the trigger events to set cultural change free? Fang leaves this question unanswered. First, media processes p_x and their effects may trigger it. A similar claim has been made in Gerbner's (1970) cultivation analysis. However, early persuasion research has shown that interpersonal contacts are essential factors of influence in shaping media effects (Schenk, 2002). Finally, environmental factors may also influence cultural change as the interplay between media processes p_x and its effects, interpersonal contacts and environmental factors. According to Fang, cultural change is first a change in values because they are keys to defining culture. He specifies this process of value change through the notion of cultural learning. Figure 2 shows that cultural change goes hand in hand with specific value configurations over time.

Contextualization

The Yin Yang Approach describes situation, context and time. However, Früh's triad of causes also has the potential to specify the contextualization. As has been elaborated earlier, person, medium, social and situative situation make up the context. In the DPA, the context includes situation according to Früh, so we do not take that separately as Fang would suggest. Nevertheless, Fang's notion of time in sense of either pinpointing a phase under investigation or a specific point in time may enrich the DPA. Thus the DPA consists of person, medium, social and situative situation and time. When designing research it is important to specify the five bundles, question if there are phenomena of higher order, and find out in which relationship (causal or transactional) they relate to each other.

The relevance of a balanced view of mankind and the complex role of initiators

Earlier on Fangs took an active stance on individuals as stated in the propositions. However, Früh and Schönbach spoke of activity and passivity of individuals. In the Dynamic Paradox Approach we suggested to follow Früh and Schönbach. Recipients

and communicators are active and passive even when it comes to a specific value configuration they adhere to. According to the former section on contextualization there are certain environmental factors that set limits to the conditions in which a specific value configuration may prevail.

When it comes to initial cues and trigger events, they stand side by side and there is no need to select one or the other for the Dynamic Paradox Approach. We take Früh and Schönbach's notion of a specific media message as the initial cue for the DPA. When it comes to trigger events, Fang's work included a variety of triggers rather than one to function as trigger event. Figure 2 shows the sum of media processes p_x , interpersonal contacts and environmental events that function as so-called trigger events.

The Links between the different societal levels

Both approaches propose theoretical elements on micro, meso and macro levels (Averbeck-Lietz, 2010). However, the DTA is more specific on all three levels. For the DPA we propose the concept of a vertical transaction between levels. Such vertical transactions take place between micro, meso and macro levels. They comprise the phenomena of reductionism and emergence at the same time. Not only do micro, meso and macro levels change simultaneously, but the DTA's molar context also contributes to this. It states that phenomena can be either broken up for the sake of empirical research following a reductionist logic, but it also speaks of entities of higher order which come close to emergent phenomena.

Conclusion

Two innovative approaches were chosen for comparison. Their thoughts and central notions go well beyond the key ideas of other communication, media and culture theories. In the remainder, the Dynamic Paradox Approach was developed in order to provide a more comprehensive understanding of the relationship between communication, media and culture. Nevertheless, this article can only provide a first sketch. Further research should focus on elaborations of the DPA. The DTA does not exclude static states but accepts them as well however it should provide a more thorough insight on how culture can be seen as both static and dynamic. Paradox is a central idea of Yin Yang and so both dynamics and static states should be included in the DPA. This article mainly discusses the individual elements of each approach as separate from one another. Yin Yang and DTA notions are interrelated, and, this interrelation is central for further research. Besides, measurement and operationalization

of all three approaches have not been elaborated. Following are the recommendations for further research at micro, meso and macro levels.

Micro level:

1. The molar context could be specified for DPA. In Fang's terms one could specify high or low context communication. Other interdisciplinary research may support the influencing factors for the molar context beyond medium, person and situation.
2. Paradox and transactions could be defined more precisely. Früh originally emphasized the intra-transaction between activation and knowledge, however, other forms of intra-transactions could be added. For example, there could be accelerating value configurations inside the individual in the communication process, and this paradox would have to be investigated. One could investigate if there is also interplay within the individual in terms of the personality traits which psychology usually considers as stable.
3. The role of the initial cues has to be specified. Fang specifies the trigger events as multidimensional. Therefore, initial cues may not have one specific starting point but a multitude of initial cues in times of mediatization. It would be important to characterize the situative and temporal context for such initial cues.
4. The effect potential could be specified since one media stimulus may trigger different effects.
5. Finally, Fang's proposition contains a very active notion, and researchers working on the DPA may propose passive propositions as well.

Meso level:

1. The DPA still needs a solid meso level and learning theories (e.g. Schenk, 2002) should be considered.
2. Furthermore, group interaction outside of the organizational communication is important and sociology and organizational theory could offer valuable insights.

Macro level:

1. The macro level may be enriched with sociological theories (for an overview see Greve, Schützeichel, & Schnabel, 2009). Micro-meso-macro links are essential to gain understanding of how cultural change takes place on the macro level.

In the first part of the article we have discussed the de-Westernization discourse. De-Westernization is not a one-sided process, and in the long-term it must be conceptualized as a bi-directional process: Westerners learning from the East, Easterners learning from the West. Notably, research phenomena stem from specific cultures. These phenomena are not only part of the cultural context but also inherent to a specific scientific

context. Socialization of the researchers shapes the perspective taken. For example, by reading indigenous non-Western literature a Westerner may assume that Fang's approach lacks a concise definition of culture. However, rather than under-theorizing one could take a different stance and assume it is intentional. His ocean metaphor may be an expression of an Asian research tradition. We should acknowledge that researchers are not neutral, higher entities but have a subjective, maybe even 'biased' perspective.

Last but not least, approaches such as the Dynamic Paradox Approach will enrich theory building across disciplines. Both Yin Yang Approach and DTA discussed the phenomena from a cross-disciplinary perspective. In an increasingly mediatized and globalized world, we need to allow insights to come from a variety of sources.

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ON HOW THE INTERNET CHANGES THE WAY WE DEAL WITH TIME AND PLAN IN CHINA AND IN GERMANY

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ABSTRACT

This article explains the way people in Chinese and German cultural context deal with time and plan accordingly. First, a theoretical framework is developed of the social notion of time in German and Chinese cultural context. It considers Confucian notions in order to take an emic approach for Chinese cultural context, as it is mainly based on Western theories. Second, it will be identified how internet-mediated communication can change temporal behavior. Through the development of habits and eventually through institutionalization, objectification and legitimizing, cultural change is explained. Therefore, this process crosses the individual level and becomes a cultural one. In an outlook, it is asked how quantitative empirical research can cover these issues.

KEYWORDS

Social Time, Germany, China, Internet, Intercultural Communication, Cross-cultural comparison

1. INTRODUCTION

Social time has been an issue in humanities, social sciences, history and psychology for the past decades. Four strains of thought can be distinguished:

- i. social time and the way it changed throughout modernity,
- ii. acceleration phenomena like temporal change as such,
- iii. globalization processes,
- iv. and finally the way it is shaped by technologies in a broad, or media in a narrow, sense.

The processes seem to be interrelated and can only be seen as models rather than empirical reality. For clarification, they are briefly explained. First, modernity as a process of societal change in the past two centuries is mainly concerned with a new development of a temporal order. Social time becomes increasingly linear, and cyclical notions that were existential in an agrarian society were overcome. Second, acceleration phenomena took place during this

overall change and were shaped intensively by technologies (point four). Third, globalization processes refer to late modernity – sometimes discussed as post modernity – and deploy a spatial dimension of social time. Such processes are closely linked to the idea of connectivity and often cross cultural boundaries. The fourth dimension, however, comprehends an idea which is vertical to the aforementioned processes: technologies, or media, were always part of the processes of temporal change. They can be seen as core drivers of such processes. Be it the installment of train systems or the development of the automotive industry, or the telegraph, telephone and in recent decades the internet-mediated communication with e-mails or social media at the forefront these days. Internet penetration has reached a peak with more than 84% of Germans being online in early 2016 with slightly more than 50% in China in late 2015. (Projektgruppe ARD/ZDF-Multimedia, 2016, p. 2; China Internet Network Information Center, 2016, p. 45) Thus, the preceding assumptions give rise to the following question:

Which influence does internet-mediated communication have on the way we deal with time and plan in daily life?

As was argued, social time is not a static construct, but shaped by historical developments, key technological drivers and social interaction in everyday life. In times of globalization and mediatization, it seems plausible to ask if such developments occur on a global scale. Moreover, it seems necessary to contrast two contexts which are quite distinct from each other – therefore, German and Chinese culture were picked. (Hofstede, 2001; Triandis, 1995) And, as this article aims to provide a theoretical framework, for future empirical investigation, the notion of a ‘Most Different Systems Design’ (Anckar, 2008, pp. 389–390) is followed. Usually comparative research tends to contrast Anglo-Saxon cultures with Asian cultures (e.g. USA and PRC). However, China and Germany are even more apart from each other. Moreover, as the author was born and raised in Germany, it provides an emic perspective as well. Thus, the following overarching research question is stated:

Which influence does internet-mediated communication have on temporal understanding when comparing German and Chinese cultural context?

As one can see, we follow a different terminology here which will be elaborated later on in the article. Before proceeding, we try to set out popular and academic research on the change of social time in society.

- i. Exhibitions, documentaries, guiding handbooks as well as workshops and trainings give an insight, that these issues are discussed in public. (Pace Beijing, 2014; National Museum of American History, 2016; Museum for Communication Berlin, 2013; Opitz, 2013). (Long and Schweppe, 2010; Somweber, 2013).
- ii. There are semi-institutionalized formats like open lectures, NGOs or academic research communities which draw upon the notion of social time. (University of Leipzig, 2011; German Society for Time Politics e.V., 2014; The International Society for the Study of Time, 2005)
- iii. In tailored research projects receiving governmental worldwide funding, academic research looks at social time, quite often from an interdisciplinary perspective. Communication and Media Studies increasingly recognize the importance of it and provide international conferences, networks, as well as special issues of academic journals to discuss this matter. (Gamper and Wegener, 2016; Dorsch, 2010; Societe Francaise des Sciences de l'information et de la communication, 2016; Kaun *et al.*, 2016; H-Soz-Kult, 2016)

Finally, an outline of the paper is provided and the importance of such kind of research will be discussed. In a first step, the notion of time will be investigated. This serves the purpose of eliminating research desiderata on time, particularly on social time. (State Ministry for Education and Research, 2010) Second, it will be defined in what way we can speak of a cultural time, which will be termed temporal understanding. This overcomes former

conceptions of cultural time, which were either mainly descriptive (Helfrich-Hölter, 2011) very qualitative oriented (Hall, 1984) or did not withstand empirical investigation (Hofstede, 2001). Eventually, my own model of temporal understanding will be introduced. Third, the process of such temporal change through internet-mediated communication is modeled based on habits and institutionalization, objectification and legitimizing. Wherever possible, both Western and Eastern theories are incorporated, and empirical research on German and Chinese internet use is considered. Particularly Chinese internet usage is a clear research desiderate in Europe (Herold, 2013). Finally, the concluding chapter gives outlooks on how to investigate these issues empirically. As will be shown, the main theories are merely descriptive.

So in what extent can this paper contribute to overall research on internet-mediated communication? As this research focuses on permanent availability, connectivity and flexibility and a new temporal order may be established, it is particularly urgent to integrate time-outs and downtime in day-by-day activities (Nowotny, 1989, p. 42; Rinderspacher, 2011, p. 23). Everyday life relies on physical and mental health as well as well-being. Only a stable state of body and mind serves a functioning society. Last but not least, it must be politicians' chores to guarantee such basic liberties in an increasingly flexible society.

2. ON TIME

Not only have social sciences dealt with the study of time, but also other sciences, such as psychology, physics, biology, or history, to name a few. However, the study of time has always been linked to both epistemological and ontological problems. There is a huge body of literature on the issue, which even gave rise to the ideas of encyclopedia on time (Birx, 2009). However, the notions of time stand side by side there and are rarely interconnected. Other scholars, such as Schöneck (Schöneck-Voß, 2009) tried to approach it from the idea of collecting definitions time. However, such isolationist approaches seldom link the different layers of time to one another, and merely cross the lines of being purely descriptive. Yet, Julius Thomas Fraser, founder of the International Society of Time (ISST) (The International Society for the Study of Time, 2005) has made an effort to develop a hierarchical theory of time. He links physical time to ecological time and eventually to the more social oriented phenomena. He developed his theory consisting of six layers throughout several books (most relevant Fraser, 1975, 1982, 2007) and provides conclusive evidence how the layers are related to one another. The focus in this article needs to be on the distinction between East Asian and Western notions of time. Also in the realm of the ISST, scholars at two conferences – one held in 1983 and the other one in 2014 – discussed such topics thoroughly (follow-up publication: Fraser *et al.*, 1986 and conference proposal The International Society for the Study of Time, 2014). However, as one can see from the conferences the idea of time was and is by no means universal. Even if physics these days has come to a conclusive idea how “time as such” is shaped, this has not always been the case. It is important to notice that the discussion about time has been both a social and a historical phenomenon.

For the West, time has been a notion distinct from space. Kant, for example, set time and space as *a priori* in coming to terms with the empirical world (Kant and Heidemann, 1985] c1966). In German language “Zeit” (time) was and still is separate to “Raum” (space). However, in China 时 (shí) was not a concept until the end of the 19th century. (Mittag, 1997, p. 255) Originally the characters 时间 (shíjiān) referred to time in China. The left character

nowadays means “time”, the right one means “between” though. The distance – referred to as “between” – relates to the distance between human beings and implies that nobody can live alone. This again is linked to 宇宙 (yǔzhòu), the “universe”. The universe is comprised of “space”, which is symbolized by the left character, and “time”, the right character. The upper particles of both characters refer to the “house”. As one could see, the notion of time cannot be treated as a category along the dichotomist axis of objective vs. subjective time. First, Fraser’s model of layered time proved otherwise. Second, the idea of “time” as distinct entity is only a development of the last 150 years in China and has strong Western influences, as Mittag showed. Therefore, it is logical to focus on time as a dimension of culture, which connects to the social sphere (Elias and Schröter, 2005). When we look at “time” in this article, it has to be understood as a human concept. It comprises several layers of sociality, which will be elaborated later on.

3. TIME AS A DIMENSION OF CULTURE

Throughout the 20th century, social scientists, anthropologists and researchers from the field of business and economy have tried to conceptualize the notion of time (some of the most prominent ones Geertz, 1991; Levine, 1998a; Gesteland, 2005). Researchers quite often treated it as one cultural dimension beside others (Kluckhohn and Strodtbeck, 1961; Hall, 1984). Culture dimensions became particularly prominent in the second half of the 20th century, when trying to conceptualize the notion of culture as whole. Such culture dimensions were often seen as an essential issue a social grouping has to cope with and finds means how to deal with the environment. Early research often did not seek to quantify the construct “culture”. Only in 1991, when Hofstede introduced his fifth dimension long-term-orientation (LTO), these efforts really started to kick off (Hofstede, 1991, pp. 159–174). Of course, there were other efforts to do so as well, even before Hofstede (e.g. Kluckhohn and Strodtbeck, 1961). Yet, Hofstede was the first one to approach it from a quantifying perspective. Regardless of his effort, his dimension has not been widely accepted in the scientific community (Fang, 1998, 2003, p. 350). Originally derived from the Chinese Culture Connection (Chinese Culture Connection, 1987) as a distinct “Chinese dimension”, it did not withhold academic scrutiny. There was a clear lack of solid theoretical conceptualization (Fang, 2003, p. 355). Methodologically, even more arguments against Hofstede’s operationalization were put forward (e.g. Fang, 2003, pp. 350–351; Newman and Nollen, 1996, p. 776; Redpath and O. Nielsen, 1997, pp. 329–330; Yeh and Lawrence, 1995, pp. 657–665). After that, research on the cultural conceptualization of time proceeded in different directions. Hofstede’s student Trompenaars and Hampden-Turner turned away from quantitative tested scales to a methodology of visualization. It has to be acknowledged, that their idea of applying Cottle’s circle test was a solid and original measure, as it relied on imagery instead of scales. Nevertheless, a clear terminology of how to define time in cultures was still missing. (Trompenaars and Hampden-Turner, 2000) Later on, the GLOBE Study put a more persuasive approach forward. They defined time both as cultural practice (“as is”) and as cultural values (“should be”). It therefore comprised a normative element essential for looking at culture. It also related future-orientation to gratification delay, planning activities and investment in the future (House, 2004). However, the GLOBE Study again ignored everyday timing of activities, so to speak. Even though there has been massive scholarly work

on it, new conceptualizations often ignored the outputs of former research. Moreover, research of “time” in cultures did not systematically connect different layers of time which occurred in former research.

Thus, Helfrich-Hölter was the first to suggest a layer- or level-centered approach of how to conceptualize time across cultures (Helfrich, 1996; Helfrich and Quitterer, 1999; Helfrich-Hölter, 2011). She differentiates four levels of time:

- i. Image of time,
- ii. Time horizon or time perspective,
- iii. Dealing with time,
- iv. And time perception.

As she does not provide a definition, we rely on Quitterer who states that, they range from the abstract, mental representations of time up to the tangible, behavior-related aspects, from consciousness to action (she leaves out time perception Quitterer, 2000, p. 158). Furthermore, Helfrich-Hölter divides them into sub-dimensions (Helfrich and Quitterer, 1999, pp. 104–105). However, they are not quite distinct from one another which would be problematic for operationalization. Therefore, they are not considered here. Helfrich-Hölter’s fourfold differentiation seeks to structure and order research so far and thus contributes to the development of my own model of temporal understanding. As the model presented in this article is proposed for quantitative operationalization, these type of measures are particularly considered. In the following, the author lays out the research carried out so far: In terms of image of time, there is a considerable lack of quantitative research because of its challenging measurement. Yet, on a theoretical level, a differentiation between cyclical and linear, concrete and abstract can be found across various sources (Hägerstrand, 1988, p. 36; Bodde, 1991; Jones, 1988; Quitterer, 2000, p. 158). Distinguishing these different images is often related to the process of modernity. Regarding temporal horizon, or temporal perspective as the way people relate to the notions of past, present and future, much progress has been made (for an overview and different conceptualizations see Klapproth, 2011). Unfortunately, research has not always put its focus on cultural differences (e.g. (Zimbardo and Boyd, 1999; Strathman *et al.*, 1994). Nevertheless, Usunier and Valette-Florence provide a comprehensive framework including internal and external aspects of the notion of time (Usunier and Valette-Florence, 2007, p. 338). Their work includes the distinction between general past and general future, with present falling into different sub categories. Finally, there have been a variety of efforts to capture polychronicity as one way of dealing with time in the present (Goonetilleke and Luximon, 2010; Lindquist and Kaufman-Scarborough, 2007; Bluedorn *et al.*, 1999; Palmer and Schoorman, 1999; Lee, 1999). Last but not least, time perception is probably the most comprehensively researched topic due to its roots in psychology. It remains open if there are cross-cultural differences on this level – Helfrich-Hölter proposed that such occur only, when language comes into play. (Helfrich-Hölter, 2011) It can be hypothesized that perception of time is a universally valid cognition process which needs further empirical investigation.

So far, the notion of time as a dimension of culture has been discussed thoroughly. However, what do we refer to when looking at “culture”? There has been a huge tradition in defining the term in the realm of social sciences and humanities. Reckwitz provided a historical and systematic overview. (Reckwitz, 2000, pp. 64–90) More recently Schmidt-Lux *et al.* distinguish the following notions: first, culture as nature of mankind; second, culture as sense of social phenomena; third, culture as closed social field and fourth, culture as specific experience community. (Schmidt-Lux *et al.*, 2016, p. 25) However, beyond systematic

research it is important to draw upon a clear and sharp definition for culture. In the context of this paper, we suggest definition developed by the culture psychologist Thomas. He states:

“Culture is a universally spread, for a nation, society, organisation, group, thus for every *social formation* that humans feel a sense of belonging towards, very specific, typical and identity giving orientation system. This orientation system is manifested in *specific symbols* (e.g. *language, norms, behavioral rules, behavioral scripts*) and is traditionalised in every social formation through the process of socialisation and enculturation. The culture specific orientation system *influences cognition, thinking, evaluating, judging, emotional and motivational processes* and action of all members of any social formation. It thus defines the belonging of the members (function of constituting identity). According to the culture definition of Boesch (see (1980, p. 17), culture structures a specific field of action for the individuals feeling the sense of belonging towards a social group. This field spans out from created and used objects to institutions, ideas and values. It thus lays the foundation for developing individual forms of *dealing with the environment*.” (Thomas, 2011, 100, italics added, translated by Faust)

But why is this definition superior to others? First, it may incorporate the notion of time as will be shown. Second, it is based on the psychological need for orientation. Third, it contains both individual and collective processes as does the model elaborated later on in the paper. Individually, it is perception processes which occur, and collectively, it refers to values, norms and rules and regulations (Thomas, 2005, p. 41). Fourth, this definition incorporates both material and non-material aspects and sets them in relation with one another. Fifth, it provides a comprehensive framework to understand culture beyond the mere reduction of this concept on values only. Sixth, it therefore includes the notion of Yin Yang (Fang, 2012) which comprises dynamics, paradox and holism. However, Hepp points out that culture is not a single entity in the empirical world (Hepp, 2013). This pluralism of “cultures” falls in line with most research carried out these days. Therefore, in this article the term cultural context is introduced. Früh developed the idea of the social context in the realm of his theory on entertainment, referring to the external circumstances surrounding media use. Those which go beyond situative circumstances, where classed as social context. (Früh *et al.*, 2002) On base of this assumption, cultural context seems a viable construct.

4. TIME IN GERMAN AND CHINESE CULTURAL CONTEXTS AND MODEL OF TEMPORAL UNDERSTANDING

So far, discussion has focused on China and Germany, but at the same time highlighted that there are different cultural contexts. In this sense, one has to bear in mind that cultural contextualization can take place on a national level, yet at the same time acknowledge that there are other cultural contexts within this framework as well. However, why does it make sense to contextualize on a national level after all? One can distinguish three reasons:

- i. There has been a huge research desiderate on cultures on a national level (Leung *et al.*, 2005).
- ii. Regardless of the criticism Hofstede received for his research, his results showed that German and cultural context could be placed on different ends e.g. in terms of individualism and collectivism and therefore recognized national culture as such (Hofstede, 2001, p. 10). The same goes for the work of Triandis (Triandis, 1995).

- iii. Internet-mediated communication, as a primarily text-based form, is to a great extent language based communication and furthermore can be narrowed down to political legitimacy (Chevrier, 2009).

In order to understand the notion of time in German and Chinese cultural context, it will be discussed thoroughly in the next section. Some linguistic terminology was already introduced; however, it does not suffice yet. It is rather problematic, though, that former theoretical and empirical research on time in Chinese and German cultural context *does not* paint a *clear and straightforward* picture of how it is conceptualized. The research field is rather diverse and offer different approaches to analyze it. As already drawn upon, some scholars are mainly concentrating on linguistic structures (e.g. Mittag, 1997, p. 256), others with individual action in everyday life (e.g. Plocher *et al.*, 2013), and finally there are analyses of management efforts on a meso level (e.g. Faure and Fang, 2008; Chen, 2002), etc. However, in order to structure this research field, Helfrich-Hölter's already introduced model will serve as framework for explication (Helfrich-Hölter, 2011).

As was already touched up, the Chinese image of time still heavily relies on a creation myth perspective (Mittag, 1997, p. 261) and is viewed as cyclical (Bodde, 1991, p. 133; Chen, 2002, p. 186). On the contrary we have the Western image of time, including German image of time, which is mainly seen as a linear, one-directional process leading towards the future (Hägerstrand, 1988, p. 36; Helfrich-Hölter, 2011, p. 126). As pinpointed earlier, this is strongly related to the notion of modernity in Western cultural contexts. However, Quitterer and Helfrich-Hölter oppose this view and argue that Confucian image of time, central to Chinese notions of time, is linear yet two-directional thus pointing towards past and future. (Quitterer, 2000, p. 158; Helfrich-Hölter, 2011) It could be hypothesized that we do not have clear state of the art here due to the variety of religious beliefs in Chinese cultural context. Buddhism, Confucianism and Daoism exist side by side and have shaped Chinese thinking and living thoroughly. However, this assumption would need further theoretical and empirical investigation.

According to the fourfold-model, the second level is referred to as time horizon. Sometimes it is also known as time perspective, even though there are distinctions here. Some scholars treat it as only relating to the future whereas others use it synonymously with time horizon. Therefore, here it is only referred to as time horizon. Time horizon is defined as the cultural process of dividing time into sub-categories, mostly split up into past, present and future (Zimbardo and Boyd, 2008; Kluckhohn and Strodtbeck, 1961, p. 12). Some indigenous cultures follow different distinctions. Yet, for both Chinese and German cultural context, this three-fold division holds true. As far as empirical research is concerned, Hofstede suggested the concept of long- and short-term orientation (LTO). He defines LTO as "fostering of virtues oriented toward future rewards, in particular, perseverance and thrift. Its opposite pole, Short Term Orientation, stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations" (Hofstede, 2001, p. 359). He finds that China is long-term oriented. It scores 118 on the scale, with 100 usually being the highest achievable score (Hofstede, 2001, p. 356). As already pointed out earlier, Hofstede received much critique for his work. Faure and Fang for example highlight, that long- and short-term orientation coexist in Chinese cultural context (Faure and Fang, 2008, p. 204). They introduce the notion of Yin Yang and argue that management is a matter of *wei-ji*: "acting when the time is right – responding quickly but with a holistic, long-term view" (Chen, 2002, p. 186). Following Hofstede, Germany is found to be a medium

long-term oriented country, where people and organization invest less in future goals and plan less ahead (Hofstede, 2001, p. 356).

Time horizon and the next layer, dealing with time, are closely related to one another as action is undertaken and always relates to the future in one way or the other. On the level of dealing with time, it is usually distinguished between polychronicity and monochronicity. Originally derived from Hall (Hall, 1984), they were later classed as two distinct ways to organize activities. Bluedorn defines polychronicity as “the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously and believe their preference is the best way to do things” (Bluedorn *et al.*, 1999, 205; italics added). Bluedorn’s definition overlooks the complexity of the construct, though. Earlier literature already distinguished human-orientation and interruption for communication for polychronicity vs. task-orientation, straightforward, punctual work for monochronicity (compare e.g. Quitterer, 2000, p. 159; Hall and Hall, 1990, pp. 14–15 for more detailed explanations). It is important not to confuse it with multitasking, which refers to the process of doing several things at a time (compare Helfrich-Hölter, 2011, p. 130). Mistakenly, management literature located Chinese cultural context on the polychronic side. However, Hall’s original work only comprised Japan as an example (Hall, 1984). And even Japanese cultural context was not solely polychronic – in working environments there was still a dominance of monochronicity. For German cultural context Hall found them to be monochronic (Hall and Hall, 1990). Later research already painted a different picture with an increase in polychronicity in German cultural context as well. A second sub-dimension relevant for dealing with time is pace of life meaning the speed of day-to-day activities (Levine, 1998b). Levine hypothesized, that “[i]ndividualistic cultures are faster than those emphasizing collectivism” implying that pace of life would be faster in German than in Chinese cultural context (Levine and Norenzayan, 1999, p. 182). In his results, one can see that Germany scores third in the country pace rank. China only takes place 23 out of 31 countries, so the pace of life is much slower there (Levine and Norenzayan, 1999, pp. 182–183).

Regarding time perception, Helfrich-Hölter used an experimental set-up to look at the differences between German and Japanese students when discriminating minutes, seconds and millisecond intervals. Differences only occurred, when language came into play. Even though this research is only partially applicable to this article, as she focused on Germany and China, she found evidence that time perception is widely invariant across cultures (Helfrich-Hölter, 2011, pp. 133–134).

After laying out the research, the next logical step is setting up an own model of Chinese and German time. This model should suffice empirical investigation. Hence, image of time – the first layer – will not be considered as it is hard to verbalize and thus complex to investigate. (Möhring and Schlütz, 2010) Visual measures would be more appropriate, yet they would require a complex method of data interpretation. Moreover, if image of time is going to be changed through internet-mediated communication, it would certainly be a long-term process of several decades and therefore cannot be considered here either. Similarly, time perception is left out due to its highly cross-cultural invariance. In addition, measurement would require an experimental set-up which is not feasible here.

Rather than terming the notion of time “social time”, in the following we will refer to “temporal understanding”. Social time has been used in a variety of contexts and therefore lacks a clear terminological understanding. The same goes for “time”, as it has multidisciplinary connotations. Temporal understanding therefore focuses on both individual and social sense making processes relating to time. It should thus be defined as

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“a human category of time which is individually undertaken but socially constituted. It encompasses the act of standardising two or more events of which at least one must be progressing and is used as reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time“ (my own definition, based on Elias and Schröter, 2005; Helfrich-Hölter, 2011).

Based on the definition of culture, the model (see Figure 1) incorporates preferences as in the sense of normative prescriptions which are closely linked to habits. This will be discussed thoroughly later on in the paper.

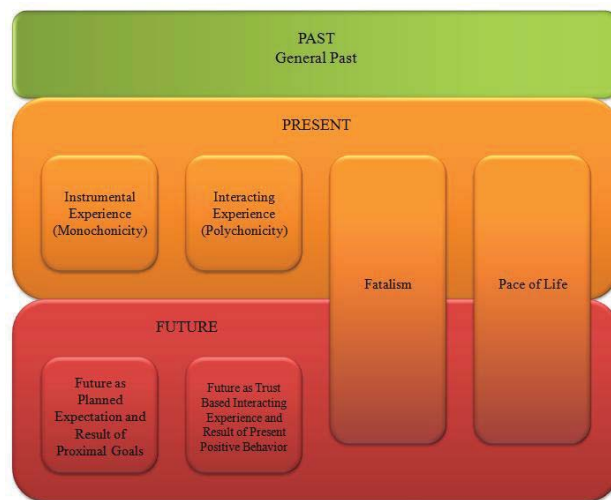


Figure 1. Model of Temporal Understanding

The model generally distinguishes between the notions of past, present and future, which hold true for both German and Chinese cultural context. Both present and future are divided into sub-dimensions, which include emic and etic aspects of either cultural context. For the sub-dimensions fatalism and pace of life, we find an interconnection between present and future. The sub-dimensions instrumental experience (monochronicity), interacting experience (polychronicity), future as planned expectation and result of proximal goals as well as future as trust based experience and result of present behavior relate either to the present or to the future as seen in the model above. The dimensions and sub-dimensions can be defined as following:

- i. *Past* defines as classifying personal and social events as former and relation towards these events.
- ii. *Present* defines as classifying personal and social events as ongoing and dealing with these ongoing experiences to help to give order, coherence and meaning to those events.
- iii. *Future* defines as classifying personal and social events as prospective and relating these to the current situation through different means to help to give order, coherence and meaning to these events.
- iv. *Instrumental Experience (Monochronicity)* is based on classification acts and implies the extent to which people in a culture prefer to do one task at time and believe their preference is the best way to do things
- v. *Interacting Experience (Polychronicity)* is based on classification acts and implies the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously; and believe their preference is the best way to do things

- vi. *Fatalism* is based on the classification act but lacks active engagement in tasks or events as future is predestined and not influenced by individual action and has thus be accepted
- vii. *Pace of Life* is based on classification acts and implies the extent to which people prefer tasks or events to be close together i.e. immediate follow-up events
- viii. *Future as Planned Expectation and Result of Proximal Goals* is based on classification acts and implies an either transactional relationship between present ideas and envisioned long-term tasks and events or a focus on proximal goals in the believe they add up to long-term goals
- ix. *Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior* is based on classification acts and implies positive outcomes of tasks and events due to balanced interaction in the present

After defining the dimensions and sub-dimensions, we will clarify, what transactional means in the context of the sub-dimension viii. A transaction can best be explained as interconnection as defined by Früh and Schönbach. (Früh and Schönbach, 1982) As Früh and Schönbach originally refer in their theory to communication processes only, we just adopt the general idea of the transaction without media specifics. Früh elaborates this later on as

„[...] simultaneous interplay between A and B, during which both the transitive effect aspects $A \rightarrow B$ and $B \rightarrow A$ are only defined through their complementary effect aspect: As $A \rightarrow B$ evolves, $B \rightarrow A$ is already considered within, i.e. each of the two analytically isolable partial relationships does not exist without ‘self-reflexive co-orientation’.” (Früh, 1991, 123, translated by Faust)

Furthermore, dimension ix. is derived from the Chinese Culture Connection. (Chinese Culture Connection, 1987) However, other than Hofstede, we provided a theoretical framework first and then looked at various values which serve as a framework to underlie this idea. Dimension xi. is therefore based on values 3 容忍 (tolerance of others), 4 随和 (Harmony with others), 8 礼尚往来 (Reciprocation of greetings, favours, and gifts), 26 报恩与报仇 (Repayment of both the good or evil that another person has caused to you), 30 信用 (Trustworthiness), 33 安分守己 (Contentedness with one’s position in life) and 35 要面子 (Protecting your “face”).

5. THE INFLUENCE OF INTERNET-MEDIATED COMMUNICATION ON TEMPORAL UNDERSTANDING

There is a broad range of literature on (social) time and information technology (e.g. Bukow *et al.*, 2012; Wurm, 2012; Nowzad, 2011; Westerbarkey, 2010; Neuberger, 2010; Neverla, 2010a, 2010b; Hauser, 2008; Felsmann, 2008; Rantanen, 2005; Funken and Löw, 2003; Ellrich, 2003; Faulstich and Steininger, 2002; Eriksen, 2001; Geißler and Schneider, 1999). Most of the time the theoretical conceptions do not clarify the nature of change of time though. Quite often arguments are made on a rather abstract theoretical level, and they are often related to macro level change (e.g. Castells notion of ‘timeless time’ Castells, 2010). Medium-range theories with specified time-space-applicability are the exception. Furthermore, meso and micro level change processes are rarely discussed. Few authors dedicate their works to such investigation, e.g. Lee and Sawyer (Lee and Sawyer, 2010, p. 296). Empirical perspectives are even rarer (e.g. Dimmick *et al.*, 2011; Faust, 2010; Flaherty, 2005; Lee and Liebenau, 2000). So if these abstract theoretical models focus on a macro level (Lee and Sawyer, 2010, p. 294), how do they explain cultural change in temporal understanding? We are clearly missing a micro-meso-macro link (Averbeck-Lietz, 2010) here which is rather

important to understand the full nature of change. A rather descriptive approach using metaphors to capture time and internet technology (e.g. Leong *et al.*, 2010) does not solve the missing explanations. A comprehensive, causal attributions seeking model overcomes such issues, though. It has to be conceptualized in such a manner, that empirical investigation may follow. Thus, a twofold strategy is followed here. In a first step, individual reception processes are investigated, which are grounded in micro level change. Second, collective reception processes are clarified to link meso and macro level and eventually explain cultural change.

6. A MODEL OF CHANGE OF TEMPORAL UNDERSTANDING THROUGH INTERNET-MEDIATED COMMUNICATION

Earlier on it was shown, that temporal understanding is a cultural construct. Thus, processes of change have to be both of individual and collective nature, implying changing processes overcome one person and spread among society. Yet, at the same time another problem occurs: If such processes are treated as an Eastern and Western phenomenon, taking place in German and Chinese cultural context, how can these processes be compared? We have to propose some form of similarity and functional equivalence. And this is argued to take place, even though the Chinese internet is drastically censored and Western web sites are a rare exception (for further discussion see Becker, 2011; Dong, 2012).

What does *similarity* and *functional equivalence* mean?

- i. *Similarity* means that internet-mediated communication situations occur on a regular basis and under the same circumstances and generally take place in one cultural context, yet occurs in both German and Chinese cultural context.
- ii. *Functional equivalence* means that situations and internet use, i.e. selection and reception processes, are comparable in both German and Chinese cultural context.

Similarity means that a certain process occurs frequently. It does have a *vertical dimension* in terms of cultural change in *one* culture and implies that habits are developed, which will be explained later on. As far as internet-mediated communication goes, certain routines are undertaken again and again, for example, every morning the online newspaper is read. It implies that internet-mediated communication is part of everyday life. However, even though called vertical, such processes take place on a global level and therefore appear in both German and Chinese cultural context.

Functional equivalence means that selection and reception processes of the communicates are increasingly similar in several cultural contexts. It thus has a *horizontal* – or cross-cultural dimension – and would usually be empirically investigated using online content analysis and survey designs in experimental set-ups. In order to look at reception processes more thoroughly, physical measures could also be used. However, the main idea behind functional equivalence is though that Chinese and German web sites and applications are alike – e.g. WhatsApp is comparable to WeChat/微信, Twitter to Sina Weibo/新浪微博 or Google to Baidu/百度. Of course, certain technical features are less developed in the Western world, especially with WeChat overtaking its Western competitor by lengths these days in 2016.

However, main characteristics are similar and so is the actual use – such as sending texts or creating groups and interacting with several friends at the same time.

So what role does the *Golden Shield* (jindung gongcheng, 金盾工程) play? Of course, internet-mediated communication processes are not exactly the same in German and Chinese cultural context. However, there is evidence that people prefer culturally proximate content on the internet (Harsh and Xiao Wu, 2013). Language is key to what is chosen – of course, netizens go for their native language first. This decreases the actual impact of the Chinese firewall. One could say that there are a multitude of internets – clustered on language areas in the world. Since the Chinese diaspora is huge and largely based in the US, a greater community from abroad accesses the Chinese internet through Google USA for example, thus German sites are more isolated from the English web sites (German-speaking internet users access German sites through Google Germany, and so forth, ...) (Harsh and Xiao Wu, 2013). Due to their relative isolation – we deal with a Chinese net and a German one alongside several others – the impact of the firewall is less huge than considered. Nevertheless, its influence cannot be eradicated – thus, the issue of *internet separation* has been thoroughly debated throughout research on Chinese internet. Usually it is discussed in terms of the differences of both “Internets” (Herold, 2013, p. 2). Some scholars made an effort to investigate such distinctions more thoroughly (Bolsover, 2013; Yang, 2012; Tang, 2011; Lan, 2004). There are different layers of investigation, ranging from a mere technological perspective, to language based variety, to imagery. For example, Yang pointed out in terms of technological features, that image and video sharing as well as more complex retweeting functions are typical for Sina Weibo (Yang, 2012, p. 50). Verbal communication is more complex on the Chinese net, as users discuss political issues and entertainment more thoroughly when compared to US users. Bolsover came to this conclusion after investigating dissemination spread on Sina Weibo (Bolsover, 2013, p. 16). Imagery on the internet also differs in China when compared to North America. By means of content analysis, Tang found that whereas “Chinese universities focused on featuring a university’s buildings and landscapes in their institutional promotions, (...) US universities portrayed their institution as a place where students and faculty were learning and enjoying the environment” (Tang, 2011, p. 426). Even though the aforementioned scholars made an increasing effort to apply content analysis to Chinese and foreign internet sites in order to look at differences, a key issue is that *similarities* are left out and so is *functional equivalence*. However, especially the latter is crucial to comparative investigation both conceptually and methodologically (Rippl and Seipel, 2008; Harkness *et al.*, 2003). Similarities were essential for projects like the World Internet Project (USC Annenberg School Center for the Digital Future, 2016), where both China and Germany were investigated in terms of internet use in the early 2000s. Nowadays, ARD/ZDF Online-Survey and China Internet Network Information Center’s report on internet use of course feature similar categories (e.g. the sub division into certain internet categories – communication vs. instant messaging, online-news, etc.). (Projektgruppe ARD/ZDF-Multimedia, 2016; China Internet Network Information Center, 2016).

Furthermore, there is a need to integrate emic perspectives into data interpretation. So far, culture dimensions, often derived from quantitative empirical cross-cultural research, have been used for data interpretation with collectivism for Asian countries being the most relevant (Tang, 2011; Bolsover, 2013, p. 5). Yet, Thomas’ culture standard model may provide a more intriguing explanation. For German cultural context, he suggests the following standards: object/task orientation, regulation orientation, interpersonal distance differentiation, internalized control and differentiation of personality and life areas. (Thomas, 1999) As far as

Chinese cultural context is concerned, Thomas stresses the following culture standards: tricks/tactics, social harmony, face (面子), social ties (关系), etiquette, work unit (单位), hierarchy and bureaucracy. (Thomas, 1999) Culture standards do not seek to oversimplify cultural differences by placing culture dimensions along bipolar axes, but pay attention to cultural distinctions and relate to specific features in one cultural context. They therefore contribute to the De-Westernization discourse (for an overview of the discourse see Glück, 2015) remarkably.

Internet-mediated communication, as every type of communication, is based on individual reception of communicates, which may be of interpersonal or mass mediated nature. If communication now takes place in increasingly similar situations, it allows for the development of *habits*. How could we picture the development of habits then?

Habits are defined as knowledge structures, which are learned through regular repetition and trigger a certain automated behavior (and the mental processes connected to it) when indicative cues appear (Koch, 2010, p. 44). For the internet, it means that the user has the drive to go online regularly, so for example multiple times a day, when he intuitively checks his messages on WhatsApp or just glances at his smart phone because of maybe having missed something. Following Koch, the user does it automatically, and does not think about it beforehand thoroughly. Koch explicates the four aspects of the definition as follows (Koch, 2010, pp. 33–41): First, habits are learned through regular repetition. They are more likely to be developed if the action undertaken has a positive outcome and if situations, under which these actions occur, are similar to one another. In our example, the user develops habits if the message received provides positive feedback to his message earlier on, or if he enjoys reading online news every morning with his cup of coffee. Second, habits are knowledge structures and do not refer to the actual behavior. According to Koch, knowledge structures can be conceptualized differently – either as neuronal associated response patterns, decision heuristics or behavioral scripts. Again, in our example the habit is not the actual process of checking the smart phone, but the underlying mental processes that make it happen. Third, habits trigger behavior automatically. It remains debatable whether habitualized behavior is automated or just the triggering process is. However, since automation is relevant regardless of its degree, Koch follows the Weberian differentiation and subsumes habits under behavior rather than social action. In this sense, when checking the smart phone becomes more frequent, it happens subconsciously, thus, non-intentional. Finally, triggering is caused by certain indicative cues such as external circumstances, times, mood, or prior respectively ongoing behavior (Koch, 2010, pp. 53–55). Koch specifies it for TV use, however, here it is tried to apply it to internet-mediated communication. Again, in our example, it could be external circumstances such as seeing the smart phone on the table or the computer in the room to go online. Furthermore, it could be every morning or evening, maybe even during lunch break when reading online newspapers for example. In terms of mood management, it is likely that a single person would turn towards interpersonal communication at night via WhatsApp or Skype in order to overcome his or her loneliness. As far as prior or ongoing behavior is concerned, Koch provides an example that certain fulfilled tasks may lead to habitualized media use. Such fulfilled tasks could be household chores, homework, or just coming back from work. An example for ongoing behavior might be internet use whilst driving or even more so during public transportation. Checking social media accounts such as Instagram, Snapchat, or WeChat during bus rides is common amongst youngsters and older generations alike.

However, this still remains on base of the individual. But concluding from this, how would we generally be able to explain cultural change? Collective reception should not be misunderstood as reception of mass communication. It actually relies on Berger/Luckmann's theory of the social construction of reality. The three core notions are institutionalization, objectification and legitimating (Berger and Luckmann, 2010). It is particularly useful in overcoming the perspective of the individual and clarifying cultural change.

Institutionalization is the first step and refers to the process of developing habits and alongside types of behavior (Knorr-Cetina, 1989, p. 87). We have already seen earlier on, how Koch described the process. Berger/Luckmann go beyond it and describe it as an interaction situation, with face-to-face interpersonal communication. Both individuals pay attention to the behavior of the partner and relate to it. They are eventually able to foresee the behavior of one another (Berger and Luckmann, 2010, 60ff.). Now, since we look at internet-mediated communication here, it is not only face-to-face communication, we apply their notion to. We argue here, that such presumption of behavior also takes place in mediated interpersonal communication, even mass communication. Früh and Schönbach, whom we already introduced with their notion of transaction, would put it as inter-transaction, a non-causal relation between two communicators who rely on each other and presume what the other one intends before communicating (Früh, 1991). To give an example: If temporal understanding is going to change, it is likely that individuals change their expectations when it comes to responding to E-Mails, WhatsApp Messages and the like. Hurrying up, apologizing for not getting back in time and anxiously waiting for the other to respond are some examples of this phenomenon. We foresee a similar process when it comes to mass mediated communication: journalists face increasing pressure to deliver news. The constant availability of online mass media accelerates this process (Neuberger, 2010). Eventually, this reciprocal process of habitual behavior on base of stable societal situations is reflected in social roles. Institutionalization becomes complete, when social roles are passed on to future generations that reach beyond the individual behavior of two actors. (Berger and Luckmann, 2010, p. 63) For internet-mediated communication, this process is underway. It will be a matter of decades only, until the children of the digital natives will learn new habits and their behavior reflects a different temporal understanding than before. According to Berger/Luckmann roles deploy threefold knowledge: cognitive, affective, as well as norms and values (Berger and Luckmann, 2010, p. 83). In terms of the earlier elaborated understanding this implies, that this construct must also have cognitive, affective and normative components. It is a matter of solid operationalization to highlight this. Finally, objectification and externalization cross the level to the institutional world. (Berger and Luckmann, 2010, pp. 65–66) Objectification means reification. In our example, it implies that objectified knowledge has been passed on – children and teenagers past the millennial generation (12 to 19 years old) already spend hours in front of their smart phone, communicating with their peers with more than 40% internet-mediated communication reserved interpersonal communication. (Medienpädagogischer Forschungsverbund Südwest, 2015, pp. 29–30) To them it is natural; they have grown up in a mediatized world. It can be assumed, that they have increased communication response latency. It would be worthwhile to analyze their temporal understanding as well. So when generations change, legitimating as 'secondary' objectification comes into play (Berger and Luckmann, 2010, p. 98). For those who have not been participating in the production process, this explanation and justification of such institutionalization processes is important (Knorr-Cetina, 1989, p. 87). Both explanation and justification allow for allow for sense-

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making: actors make sense of their different roles, but also throughout their lifetime (Berger and Luckmann, 2010, p. 99). Four types of legitimizing can be differentiated:

- i. Pre theoretical knowledge (something is the way it is; it happens to be done this way) e.g. it is impolite to respond to WhatsApp messages a few days after.
- ii. Rudimentary theoretical postulates such as folk wisdom, legends, fairy tales e.g. the older generation tells about the days when they sent out letters and went to other people's houses to phone some with a lower expectancy to keep in touch with each other via mediated communication.
- iii. Explicit legitimating theories as system of reference for institutionalized action e.g. you may or may not use your smart phone in school as formulated in school regulations.
- iv. Symbolic sense worlds which reach beyond traditions and institutionalization. (Berger and Luckmann, 2010, p. 99) e.g. a prospective media system which is mainly based on internet-mediated communication and leads, among other factors, to an increase in temporal understanding.

Concluding from the explicated processes, both individual and collective reception lead to a *qualitative* and *quantitative* change of temporal understanding if situative situations and the use, selection and reception of internet-mediated communicates are similar and functionally equivalent (see figure two).

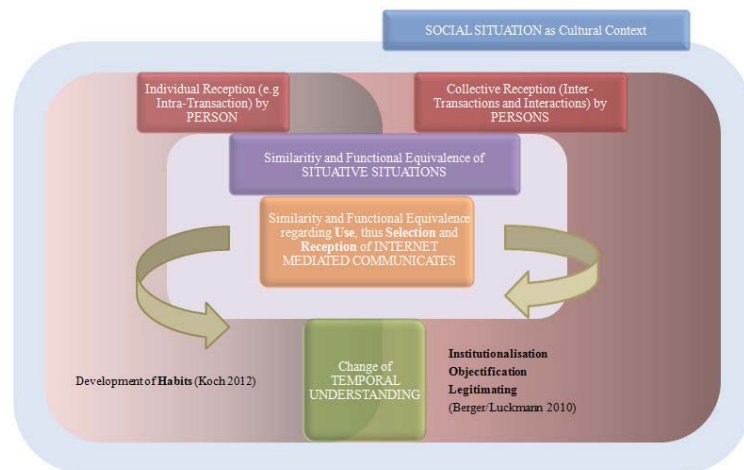


Figure 2. General model of change of temporal understanding

7. CONCLUSION

This paper looked at the construct temporal understanding and a general model of change of temporal understanding due to internet-mediated communication in Chinese and German cultural context. The process was shown to be both individual through the development of habits and collective due to institutionalization, objectification and legitimating. Advantages, possible applications and limitations of the two theoretical developments carried out are as follows:

First, the construct temporal understanding comprehends a Western and an East Asian perspective. It includes notions from both German and Chinese cultural context. It remains open if this construct may be applicable to other Western and East Asian countries, e.g. Scandinavian cultural contexts or the South Korean cultural context. It offers with it a meaningful and applicable definition of both culture and time for social processes. However, there are clear limitations as well. Helfrich-Hölter suggested four levels of time, and only two (temporal horizon and time use) were looked at thoroughly. Its reasoning lies in the fact that it is developed for empirical operationalization. However, especially image of time (e.g. circular vs. linear) may be operationalized by graphic means. Yet, at the same time, change of time horizon is a highly long-term process taking probably several decades rather than years. Therefore, it would not be suitable for an internet-mediated change process in 2016. Moreover, it could be presumed to be a rather overall societal process.

Second, the modeled process of internet-mediated change combines both individual and thus psychological processes with processes of cultural change. By drawing on the concept of habits as knowledge structures, it provides a stronger fundament to eventually refer to meso and macro processes. As Koch originally developed his concept for TV use, and here it was transferred to internet phenomena, it can be assumed that media use can be explained in general. Limitations of the cultural change process are due to its non-internet-specificity. It has to be described more thoroughly, ideally for both interpersonal and mass-mediated communication.

Such clear limitations on both ends bring up the following issues which further research needs to address:

- i. Specify hypotheses modeling a differentiated change of temporal understanding,
- ii. Operationalize the construct temporal understanding,
- iii. And operationalize internet-mediated communication both for interpersonal and mass-mediated communication

In any case, further literature has to be consulted. The hypotheses should be based on a thorough literature review of the authors listed at the beginning of chapter on time and technology. Moreover, a comprehensive measurement research has to be carried out, considering scales with high reliability and validity in both target languages Chinese (Mandarin as it is the major language for mainland China) and German. Finally, it is mandatory to test hypotheses on base of data from German and Chinese internet-mediated communication, and evaluate.

“No book can ever be finished. While working on it we learn just enough to find it immature the moment we turn away from it.”
- Karl R. Popper

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Does the democratic West 'learn' from the authoritarian East? Juxtaposing German and Chinese Internet censorship and filter bubbles

ABSTRACT

This article compares Internet censorship and filter bubbles in Germany and China both theoretically and how to investigate it methodologically. It challenges the dichotomy between the free West and the regulated East. Drawing on definitions, the key actors of both phenomena and specific juristic measures, the author then develops a visual intersecting circle model for comparative purposes. Key findings at this stage suggest the following: both phenomena contain pre-selected Internet content through digital means, algorithms serve as technical infrastructure to shape such pre-selections and finally, users face awareness issues when attempting to grasp the extent of these phenomena. Methodological recommendations follow to research this novel approach of juxtaposition. The findings suggest that German Internet developments are a possible democracy threat and are shifting towards analogue developments known from the authoritarian Chinese state. This implies that German Internet corporations adhere to new state regulations, and yet fulfilling these for the sake of their own monetary benefits. Thus, notions of public opinion formation are diluted to biased, regulated and business-driven information processes in Germany and censored, marginalized community informative actions in China.

KEYWORDS

Internet censorship
filter bubbles
Germany
China
public opinion
formation
authoritarianism

INTRODUCTION

Censorship and its consequences are usually thought of as a phenomenon in non-western, often non-democratic countries; e.g. for an overview see the World Press Freedom Index, the Freedom of the Net Index and other indices at (DW Akademie 2017). Recent incidents suggested that non-western countries lack a free media system comprehending the notion of the freedom of the press. Deniz Yücel's imprisonment in Turkey (SPIEGEL Online 2017) and the arrest of Kaliningrad-based weekly 'Novye Kolyosa's' owner and Editor-in-chief Igor Rudnikov (Committee to Protect Journalists 2017) are two examples. The prohibition of mourning for Nobel Prize laureate Liu Xiaobo's death in mainland China (Lo 2017) is another example. Since there are similar tendencies in terms of a regulated West, the increasing role of the Internet as a political news provider threatens public opinion building and the role of the public sphere as an arena where dialectical reason prevails. Recent examples are Hillary Clinton's involvement in the media during the 2016 election campaign (Fox News 2016), the FBI investigating Sputnik in Russia in the last year (Sputnik International 2017) and the 2017 German 'Draft Law to Improve Law Enforcement in Social Network', i.e. 'Netzwerkdurchsetzungsgesetz' (Bundesministerium der Justiz und für Verbraucherschutz 2017b). This news bias in both East and West is due to the fact that Internet censorship filters the information that people perceive, by which people are influenced or by which people's interpretations are shaped. Moreover, it is not only censorship that has caused a misinformed, respectively, under-informed audience, but also filter bubbles that have become increasingly influential as social media sites have begun to play the role as previously held by conventional political news sources (e.g. Pariser 2012; Bundesministerium für Bildung und Forschung 2017; China Internet Network Information Center 2017). In this article, I seek to investigate Internet censorship and argue that the rise of filter bubbles (Pariser 2012) within western political discourse through gatekeeping by Internet filter algorithms (Bozdag 2013) similarly restricts the range of opinions and viewpoints with the public sphere. Moreover, recent juristic developments undermine the notion of press freedom in the West through practices that appear highly similar to censorship. This alteration process stands in contrast to the former dichotomy of 'free West vs. regulated East', still overwhelmingly supported by research on press freedom, exemplified here by the cases of Germany and China (e.g. Germany ranks 14.97 whereas China ranks 77.66, see [Reporters without Borders 2017]): Germany as liberal media system vs China as idealist system; see [Meyen 2018]). So what used to be a matter of a most-different-systems-design (Anckar 2008; Thomaß 2016) in comparative research regarding press freedom is hypothesized to be undermined. Germany and China are particularly relevant examples and we select them as study subjects for this article. China is one of the most regulated countries besides North Korea in terms of freedom of speech. Moreover, it appears that Germany is shifting from a system where the media are responsible for critique and control of the state and the market regulates media (Beck 2012: 335) to a system where state intervention is applied through a law for social network businesses. Moreover, China represents a fast-growing Internet market (731 million Internet users, penetration rate 53% (China Internet Network Information Center 2017: 39), with Germany on the contrary being a highly saturated Internet market (62 million Internet users, 76% penetration rate (Statistisches Bundesamt 2016: 18), with local newspapers on a decline (for an overview of the relationship between print and online newspapers see [Thomä 2013])).

To investigate the alteration of the public sphere, research questions arise. Here, we seek to apply a twofold approach: a structural-functional one (comparing filter bubbles with Internet censorship) and also a national-comparative one (comparing Germany with China). As the two layers are intertwined, we first focus on two structural-functional questions. On a general comparative level, the following two questions have to be asked for both Germany and China:

1. What similarities and differences can be found between Internet censorship and filter bubbles?
2. Can characteristics of Internet censorship and filter bubbles be compared in terms of effects on public opinion building?

These set the foundations to challenge the dichotomy of 'free West vs regulated East' using the examples of Germany and China. Here, the structural-functional questions and its answers will be used to introduce the national-comparative dimension:

3. Can the new interplay between state intervention through business measures on the Internet and rise of filter bubbles in Germany create an effect so influential that German content regulation is comparable to that on the Chinese Internet?

Much has been said on digital activism in China and the rise of voices and public discourse from the Chinese, Chinese ex-pat or affiliated research community (MacKinnon 2011; Shi-Kupfer et al. 2017; Yang 2012). It even has been stated that the Chinese actually allow more leeway on public opinion formation (Herold 2013) than they are usually assumed to do, with Herold not being misunderstood as proclaiming universal freedom of speech in China. Now the relevance of this piece lies in contributing towards a strain of research whose scholars (e.g. Gunaratne 2010; Ray 2012; Grüne and Ulrich 2012) see de-westernization as an integral part of communication studies in theory and empirical research with the aim of including knowledge production of the Global South (Glück 2015). On a more abstract level, Glück (2015) also states that the choice of research subjects is dominated by the hegemonic West where I would like to contribute to with this article. So far, academia has not investigated satisfactorily whether German filter bubbles and *Netzwerkdurchsetzungsgesetz*, executed through business corporations, are shifting the western democracy away from a leading role model in press freedom and towards a so-called authoritarian state like China. To provide an unbiased, objective perspective, we must acknowledge the complexity of differences and similarities filter bubbles and Internet censorship within both countries to be under study. Germany and China not only need a public sphere (Habermas 2014) where opinion formation allows for free expression but they also require an audience with digital literacy to understand the scope and nature of digital news provision. In answering question three, we must acknowledge at the same time the underlying differences between the two nation states. Not only the amount of Internet control but also the degree of what is allowed online is something that needs to be taken into consideration in both countries.

To answer all research questions, at first local definitions of Internet censorship and filter bubbles within China and Germany are introduced.

Next, principal actors and juristic perspectives are laid out. The author will then develop six different layers to satisfactorily compare Internet censorship and filter bubbles. Finally, a visual model will be developed to highlight the similarities and differences in Internet censorship and filter bubbles. Following this, methodological approaches will be sketched out to investigate this theory-driven approach in future research endeavours empirically. The conclusion will provide first answers to the research question and will end with hands-on advice for digital literacy.

1. DEFINITIONS AND IDENTIFYING KEY ACTORS OF INTERNET CENSORSHIP AND FILTER BUBBLES

To answer the initial research question, a comparison of definitions for Internet censorship and filter bubbles from both countries will be useful as can be seen in Table 1.

As can be seen, the definitions of Internet Censorship in China and the West are different. Whereas the Chinese one puts the state in a paternal position, the western one holds negative implications. Compared to the western definition

	Western	Chinese
Censorship definitions	'Internet censorship is the control or suppression of accessing or publishing certain information on the Internet. Internet censorship aims to block users from accessing information that is typically viewed as harmful or that infringes on a copyright. In addition, Internet censorship is used to outlaw or discourage publishers from producing certain content that can be deemed as hurtful or in violation of copyright laws' (Laws.com 2017).	审查制度 (Shěnrchá zhìdù) is a systematic practice of the government to filter and delete public information and materials considered sensitive or harmful due to political, economic, religious, and ideological reasons (Lǚ 2011: 166)
Filter Bubbles Definition	Filter bubbles are considered the personal ecosystem of information catered by such algorithms (Pariser 2012). Moreover, three characteristics can be made out: you are alone in it, it is invisible and you do not choose to enter the bubble (Pariser 2012).	过滤气泡 (Guòlǜ qìpào) are considered the personal ecosystem of information catered by such algorithms (Pariser 2012; Qiū and Zhào 2017). Moreover, three characteristics can be made out: you are alone in it, it is invisible and you do not choose to enter the bubble (Pariser 2012).

Table 1: Definitions of Internet censorship and filter bubbles.

of censorship, the Chinese term describes more of a 'protect mechanism' for the public and its character of freedom restriction is only implied. The relatively neutral definition of censorship is reflected in Chinese netizens' perception of censorship. In China, even though censorship has been and remains much tighter than in the West, the majority of Chinese people nowadays tend to be satisfied with the existing, although still limited, freedom of expression (Jiang 2013) and have a low demand for uncensored information (Chen and Yang 2018). This is mainly due to China's long tradition dating back to the ninth century that shaped a more liberal mindset (Jiang 2013). Of course, there are counter-tendencies to this support of censorship as Wang and Mark have pointed out in their empirical investigation (2015). So it remains an open question as to how much of an issue censorship is for Chinese netizens. Contrary to the Chinese definition, the western one implies negative notions of censorship. Specifically focusing on Germany, journalists moreover generally distinguish between pre- and post censorship (Bommarius 2016). So when referring to Internet censorship, one would generally speak of pre-censorship, which is not legitimate in Germany, with post-censorship executed through other juristic means such as universal laws. This separation will be discussed in the following parts. However, only a few journalists and activists have ever acknowledged that post-censorship also threatens public opinion building, mainly stemming from right-wing movements spreading their ideological beliefs (Bommarius 2016). It was not until recently that public debate has risen steadily about post-censorship in Germany, and just before the passing of the 2017 law, an initiative was set up to declare freedom of speech, supported by Chaos Computer Club and Reporters without Borders amongst others (Digitale Gesellschaft e.V. 2017). Finally, China may be more rigidly disposed to Internet censorship, these days even more so with the rise of the Social Credit System in 2020, and to a greater extent more aware of it. Yet, at the same time, the severity of Internet censorship in Germany has not yet reached public debate as much as it should have.

As the definition of filter bubbles holds true for both Germany and China, I will seek to compare the same definition to both definitions of internet censorship along Pariser's three criteria (2012: 9–10). First, filter bubbles are an individual experience, where censorship is a nation-regulated system providing a collective experience to all the current residents of a particular state. Second, according to Pariser, invisibility means that people may perceive bubbles as objective and unbiased, even though only specific content is displayed. In this sense, both the western and the Chinese definition per se state the restriction of content. However, this would imply that filter bubbles and Internet censorship do display difference as one is invisible whereas the other one is only known to some extent or unknown. Nonetheless, this only holds true as long as Internet users are not media literate when it comes to filter bubbles. Moreover, it also presupposes that people are fully aware of Internet censorship, which they are not always. Third, Pariser assumes the audience to be passive when entering the bubble – however, this relates strongly to the argument of digital literacy mentioned before: if people are literate, they may be highly aware. Moreover, the same seems to be plausible for censorship: neither foreigners entering China nor the residents living there have actively chosen their Internet content to be censored.

So, who are the principal actors for limited access to Internet content? Table 2 lists them in detail:

	Germany	China
Key actors of pre- and post-censorship	<p>Pre-2017-election government under Christian Democratic Union (Christlich-Demokratische Union) and Social Democratic Party (Sozialdemokratische Partei) as coalition</p> <p><u>Federal Constitutional Court</u> (Bundesverfassungsgericht, BVerfG) as state court and law makers</p> <p>e.g. for Facebook: Arvato as part of Bertelsmann</p>	<p>The Publicity Department of the Communist Party of China</p> <p>Chinese government: The Ministry of Industry and Information Technology, Cyberspace Administration of China (CAC); Ministry of Public Security; The Ministry of Culture; Ministry of Education; The Ministry of Commerce and the State Administration for Industry and Commerce; The Ministry of Health (activities limited to online health-oriented information); Ministry of State Security</p> <p>Other administrations for monitoring and control of the Internet: The State Council Information Office; State Administration of Radio, Film, and Television; General Administration of Press and Publication; The State Food and Drug Administration; The National Administration of Surveying, Mapping and Geo information (content related to mapping information)</p> <p>Xinhua News Agency</p> <p>Chinese and foreign businesses and Internet enterprises, such as Baidu, Tencent and Alibaba, Cisco Systems, Nortel Networks, Sun Microsystems, 3COM, Websense, Google, Microsoft, Yahoo, etc.</p> <p>Self-censorship through users, politicians and celebrities through policy regulation (Becker 2011; Negro 2017)</p>
Selected key actors of filter algorithms	<p>Economic stakeholders of Internet sites and social media, e.g., Facebook Inc. for Facebook, Instagram, WhatsApp algorithms; Google Inc. for Google search algorithm</p>	<p>Economic stakeholders of Internet sites and social media, e.g., Tencent Public for WeChat algorithm; Sina Corp. for Sina Weibo algorithm; Baidu Inc. for Baidu algorithm</p>

Table 2: Key Actors of Internet censorship and filter algorithms.

As one can see, in both Germany and China mainly government bodies are responsible for censorship issues, with corporations being involved as executing organs. As indicated before, they are supposed to suppress harmful content, but also pose a challenge to democratic norms – and this is the case for both Germany and China. This is particularly outstanding as Germany’s media laws usually are legislated at the state, not the national level (e.g. the so-called ‘Landesmediengesetze’). Filter algorithms are put into place and executed through corporations for the most part, and so they are less likely to be regulated by society and are generated for profit-making purposes.

2. REGULATED INTERNET CONTENT

This part lists and briefly sketches selected laws, juristic measures and algorithmic explanations that underlay both Germany and China’s regulated content, as will be shown in Table 3.

As one can see, the sheer amount of censorship laws outweighs the recent German regulations. However, Germany explicitly states in its Basic Law that ‘there shall be no censorship’ and that these ‘rights shall find their limits in the provisions of general laws, in provisions for the protection of young persons, and in the right to personal honour’ (Bundesministerium der Justiz und für Verbraucherschutz 2017a). With the Law to Improve Law Enforcement in Social Networks, the German state explicitly makes use of the second paragraph, where general laws prohibit libel, defamation and fake news. Social networks then have to delete content within seven days or

	Germany	China
Censorship	Basic Law for the Federal Republic of Germany, Article 5: Freedom of expression, arts and sciences (Bundesministerium der Justiz und für Verbraucherschutz 2017a) and Law to Improve Law Enforcement in Social Networks, based on Article 5.2 Basic Law FRG (Bundesministerium der Justiz und für Verbraucherschutz 2017b), enacted 1 October 2017	Numerous laws (for a comprehensive overview see [Creemers 2017]), with the most recent being the <u>Interim Security Review Measures for Network Products and Services</u> (Creemers and Triolo 2017) enacted 1 June 2017 with Enforcement of Real Name Registration Policy starting 1 October 2017 (Nectar 2017)
Algorithms	e.g. for Facebook: Edge rank algorithm (for most recent changes see Park 7 [2017] and an ongoing update at Lua [2017])	Not transparent as to the knowledge of the author in autumn 2018

Table 3: Selected regulations on censored and filtered online content.

even within 24 hours if prosecutable. German efforts to administer Internet censorship are not a recent development: historically, the debate of external organs censoring media started in the 1950s. Henri Nannen, founder of *Stern* magazine in Germany, criticized the German Press Council with the Press Codex as being an executive organ of censorship in the mid-1950s (Deutscher Presserat 2018). Up until now, the standards for different online media of the council are not entirely transparent (e.g. see the case of Bild vs Spiegel (Schreyer 2018). The late 1990s and the 2000s are characterized by a strong debate on indexing so-called 'killer games' due to school shootings that also took place in Germany. Here, the Federal Inspection Body for Youth Endangering Media along with the minister Günther Beckstein tried to index as many online games as possible (Schiffer 2016). In 2009 Minister Ursula von der Leyen attempted to enforce a blockage law i.e. 'Sperrgesetz' enacting the blockage of certain Internet sites containing child pornography. Her efforts failed. The incident was controversial: while child pornography certainly violates German and similarly international laws, the blockage of such sites caused critics to see the blockage itself as an act of arbitrariness. Thus, critics referred to her as 'Zensursula', i.e. censorship Ursula. Now even before the most recent law for social networks was enacted, critics such as the Global Network Initiative openly referred to it as censorship (2017). Moreover, it holds true for post censorship on online social networks. Kipker compares German and EU Law to the Chinese Cybersecurity Law (2017). He highlights that the Chinese Law bridges data security and data safety more thoroughly compared to western regulations. The state plays a huge role in coordination: Kipker argues that real-name registration is also a matter of guaranteeing security to citizens. At the same time, both he and Han emphasize that sanctions for lawbreakers in leading positions and staff responsible for IT Security are quite enormous (Kipker 2017; Han 2017). In terms of filter bubbles, alterations of coding structures are even more frequent – as the example of Facebook convincingly showed (Lua 2017). Up to December 2017, there were seven alterations of the algorithm initiated by Facebook Inc. (Lua 2017). Algorithm-based media serves one core purpose as has been highlighted before: economic interests. Thus, it does not surprise that on the one hand the alterations are less transparent to avoid providing information to competitors, as the lack of literature on China's algorithm-based media convincingly shows. On the other, it also implies that market-oriented strategies require an accelerated change to keep up to date.

3. SIX LAYERS OF INTERNET CENSORSHIP AND FILTER BUBBLES

On a more abstract and therefore theoretical level, the author argues that Internet censorship and filter bubbles are sixfold: these six layers consist of technological possibilities; written communication; visual communication; audio communication; audio-visual communication; and social control. In some instances sources stem from mass media rather than academic publications due to the vast speed of Internet development. Moreover, some technical examples explained here in one of the four latter categories are not yet linked to Internet censorship and filter bubbles but are expected to play an increasing role in the future. In this instance, this is clearly marked due to the novelty of this approach. Consequently, the following dimensions arise:

Technological possibilities

On a technological level, the following two practices are common:

1. Becker points out that censorship in China is executed through several technical means: surveillance of Internet users, control of surfing habits, content control of online news, search engines as crucial tools of censoring content, deleting of entire websites inside of China, selective filtering practices such as TCP/IP keyword filtering, IP and port filter, DNS-manipulation, blockage of computers, control of social media, etc. (Becker 2011). The author's claims do not yet consider the recent developments in line with the uprising Social Credit System. Here, surveillance measures, data triangulation and artificial intelligence profile users beyond their mere online habits (Lee 2018). Control of social media, however, is increasingly becoming executed within Germany as well, even though pre-censorship is not in practice as yet, which will be discussed in more detail under the subsequent points.
2. Again, only information on Facebook's Edge Rank algorithm can be found, considering affinity, weighting and recency (Park 7 2017). The first component is structured through comments, likes and shares. Weighting again highlights the importance of comments, other than simple likes. Recency considers timing issues: the more recent a post, the more likely to appear in the news feed. However, what does this imply for filter bubbles? It means that opinion-leaders that engage in public discourse may receive more attention and voice than others. The relative anonymity of the web then again turns into something questionable – at least in Germany. On the other hand, the real-name registration policy in China and the implantation of the so-called 'Fifty Cent Army' (King et al. 2017), where people are paid for specific political propaganda posts, may drastically influence public opinion building as opinion-leaders post in favour of the political party.

Written communication

For written communication, keyword-based solutions are applicable for both censorship and filter bubbles. These solutions rely heavily on word recognition technology, often in a variety of languages.

- Thus, censorship is mainly a matter of filtering content through keyword-based censorship (for an overview see Becker 2011, most recently Carrico 2017). Crete-Nishihata et al. state that, for example, on WeChat keyword-based censorship applies to users with accounts registered to China mainland phone numbers, which even persists when transferring to a foreign number eventually (Crete-Nishihata et al. 2017). They found out that the receiver does not receive the message without being informed about blockage, with more keywords blocked on group chat than on one to one (Crete-Nishihata et al. 2017). German Facebook on the contrary, even before the new Law, has worked with Arvato to filter content. Based in Berlin, files have been leaked in early 2017, documenting the exact instructions that workers of the Bertelsmann group have to follow to post censor content (Reuter 2017). It remains questionable whether just content that was illegal even before the new law was passed is now censored.

- Personalized and pre-selected content creating filter bubbles stem from similar keyword filtering policies. In Germany, these procedures are again based on the edge rank algorithm (Lua 2017) while for China little is known.

Visual communication

Content analysis of visual communication has quite a tradition. Recently, computer-automation has overtaken manual coding. Concerning imagery positioning, the arrangement of objects and persons, and colouring play a role for filter bubbles and censorship. Emoticons are not included as they are based on Unicode and thus fall under written communication (see previous part). Both in censorship and in the creation of filter bubbles algorithms play an integral role.

- In the realm of censorship in China, a study conducted by Wolchok et al. (2009) highlights that back in 2009 China used the Open Source Computer Vision Library to detect pornographic content through colouring of the images. When nude colours dominate and the comparison to other pornographic reference images holds true, the content is censored. Even though the majority of citizens are probably in favour of censorship of pornographic content, recent technologies paint a different picture of what is possible in the political realm. These days, OpenCV has more complex features based on more than 2,500 algorithms. It is stated that these 'algorithms can be used to detect and recognize faces, identify objects, classify human actions in videos, track camera movements, track moving objects, extract 3D models of objects, produce 3D point clouds from stereo cameras, stitch images together to produce a high resolution image of an entire scene, find similar images from an image database, remove red eyes from images taken using flash, follow eye movements, recognize scenery and establish markers to overlay it with augmented reality, etc.' (OpenCV 2017). As the project is open sourced and available to both academia and business, it is likely to be in use these days in a more comprehensive fashion where pornography may just hold a minority. The image similarity feature may also in use for political censorship. For example, face detection is common these days in China (Wang 2017) both online and in everyday life and will become an integral part of the prospective Social Credit System detecting behaviour in the public environment (Lee 2018).
- According to Blomgren and co-author, Facebook's face detection software is even superior to OpenCV (Blomgren and Hertz 2015). For filter bubbles, this means that people become increasingly engaged with personalized imagery and it is likely to be private content from their peers.

In both cases face recognition raises issues of informed consent (Nurock 2018).

Audio communication

Audio communication is strongly related to voice recognition technologies (stated quite early in Pariser 2012). Little is known about this so far, and it is even in doubt that this takes place. So here I highlight the most significant findings for both filter bubbles and censorship. It has been stated that smartphones with integrated microphones have the capability to track conversations

and background noises (Hill 2017). If this is the case, the tracking would be assumed to rely on keyword filtering as well because opponents claim that the data load for full audio recordings would be too high. At the same time, speech assistants such as Alexa, Siri and the like successfully prove that technology of voice recognition is heading in a well-advanced direction.

Audio-visual communication

For audio-visual communication it is distinguished as the following:

- Censorship for audio-visual communication blends the technological features laid out for visual and audio communication before, with OpenCV being of particular importance (2017). OpenCV is not restricted to static imagery but may overlay videos with augmented reality elements. It would be worthwhile to investigate here whether there are videos that are augmented to censor content. However, it is more likely that OpenCV would be used to block and censor out particular audio-visual content – this could hold true for both Germany and China and should be subject to further research.
- Filter bubble content relies strongly on videos as in one year the number of video posts per person has increased 75 per cent globally on Facebook (Lua 2017). Moreover, Lua states that

besides considering whether someone watched the video and for how long, Facebook is now taking into account of further actions such as choosing to turn on the sound, watching the video in full screen, and enabling high definition. These actions indicate that they enjoyed the video.

(2017)

This alteration of the algorithm took place in 2015. It is likely that this applies to other algorithmic-driven media sites as well, e.g. Sina Weibo, YouTube and the like.

Social control

Social control here refers to pressure and power over subjects in favour of censorship or filter bubbles, carried out by third parties.

- In both Germany and China psychological pressure is common to try to enforce censorship: for China pre- and post censorship (Becker 2011), in Germany, it is less overt. Even before the *Netzwerkdurchsetzungsgesetz*, German interior minister shut down and raided linksunten.indymedia.org, an online news portal involved in organizing left-wing protests against the G20-summit in Hamburg 2017. De Mazière decided to do so due to 'hate against different opinions and representatives of the country' (Knight 2017). Arvato takes care of deleting content online for Facebook, but the people attempting to enforce the censored images work under severe psychological pressure such as looking at trauma-inducing imagery, low wages just above minimum wage and a workload of more than 2000 images per day to check (Süddeutsche Zeitung 2016).
- As filter bubbles are based on self-learning algorithms, only the programmers in charge could be possibly subject to social control. However, working circumstances are substantially different to social oppression in the case of e.g. Arvato members (Süddeutsche Zeitung 2016). Generally, market

rules and regulations, and the questionable work-life-balance and lifestyle of for example digital nomads may shape their working conditions.

4. COMPARISON BETWEEN INTERNET CENSORSHIP AND FILTER BUBBLES

Comparing the two phenomena of Internet censorship and filter bubbles, one has to recognize that they do not fall into equal categories. However, certain tendencies – particularly looked at from an abstract level – are similar from an overarching perspective, as can be seen in Figure 1.

The most relevant overlapping categories are that for both censorship and filter bubbles digital means, i.e., algorithms and other technical means, produce pre-selected Internet content on all of the previously discussed three levels. Pre-selected can be defined as the extent to which Internet content is accessible from all the content that is possibly available on the Internet. Algorithms serve as one underlying mechanism in both instances. Moreover, from a user’s perspective the degree of awareness about the scope of pre-selection varies and is therefore strongly connected to digital literacy and media competence. Both phenomena require high media literacy skills to overcome these measures and increase and tackle both awareness and avoidance.

Differences occur on the side of the gatekeepers: filter bubbles are a result of bottom-up initiatives from the economic sector creating economic value. Internet censorship, on the contrary, relies on political gate-keeping for the sake of either protecting or harmonizing the user in the case of China and goes hand in hand with suppressive actions. Even though these gatekeepers do not intermingle in Figure 1, in reality, they do. Bottom-up initiatives are treated differently: while economically bottom-up initiatives should create economic value in some instances, politically there are reasons to stop and select specific bottom-up initiatives, e.g., China’s reluctance of allowing Facebook to enter the Chinese market. Zuckerberg’s ongoing negotiations with the Chinese market (Parker 2016) and the on-and-off blockage of

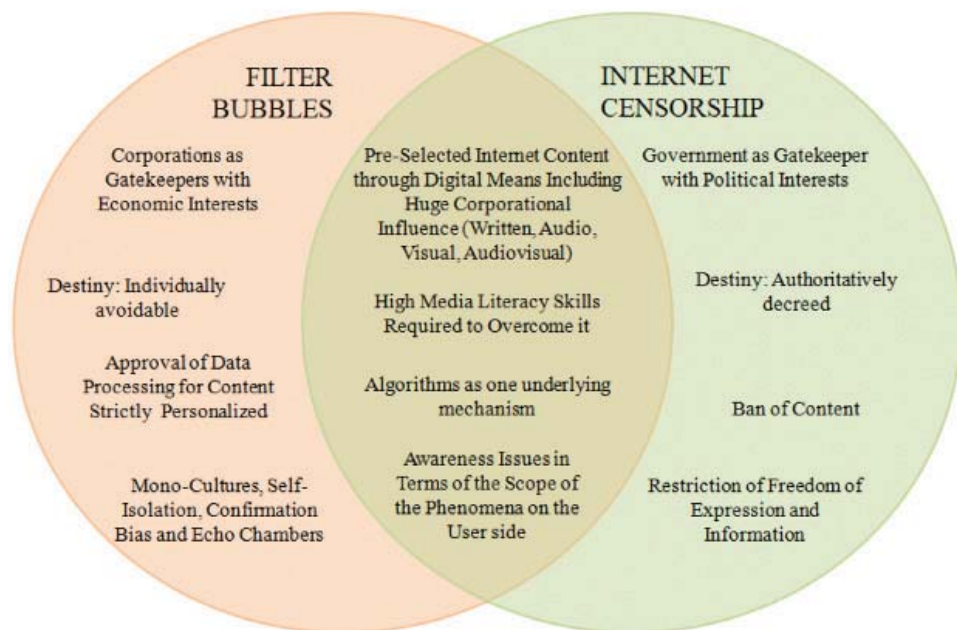


Figure 1: Overlapping ideas and distinctions between censorship and filter bubbles.

WhatsApp in China, which is part of Facebook Inc. (South China Morning Post 2017), is one instance where the interconnections become clear. Similar processes have been happening with Google's Dragonfly project. Moreover, Arvato acts as a privately owned company but enforces German post Internet censorship (Süddeutsche Zeitung 2016). So far, Figure 1 provides a mere start, and in the long term, it would be worthwhile to investigate the institutionalized forms of power for both content regulation systems (also compare Srnicek 2017 and van Dijk 2013 for a start on filter bubbles).

Finally, the social effects of filter bubbles and Internet censorship are distinct: the former create monocultures on a macro-level and self-isolation on a micro level, alongside confirmation bias, which is strongly related to the theory of cognitive dissonance and echo chambers. Internet censorship imposes an even stronger effect of the freedom of expression and information and leads to a lack of available knowledge distributed on the Internet. Both share the overarching notion of mis- resp. under-information; however, while in the case of filter bubbles, this can be overcome easily through a more varied self-exposure, Internet censorship needs other circumvention techniques e.g. through VPN technology. To summarize, whereas in the case of filter bubbles Internet users are alone in their bubble as Pariser (2012) stated, users facing censorship are all subject to the same regulations, creating one coherent large 'bubble' of missing information. So the destinies differ as well: filter bubbles are individually avoidable as one agrees to data processing for strictly personalized content, whereas censorship is authoritatively decreed as it results from a ban of content.

5. METHODOLOGICAL APPROACHES TO FILTER BUBBLES AND INTERNET CENSORSHIP

In this part, I seek to illustrate six methodological approaches to the study of algorithms as they were formulated by Kitchin (2016). These six approaches are by no means exclusive to how the study of algorithms could work. Moreover, Kitchin highlights that 'these methods are best used in combination in order to help overcome epistemological and practical challenges' (2016: 14). As Kitchin's methodological suggestions are based on algorithms, I elaborate on his framework through means to compare filter bubbles and Internet censorship, and, where applicable, add references on previous work or suggestions for its application in at least one target country. The application of his framework is particularly important as research on filter bubbles, particularly their social dimension, in China is scarce.

Examining pseudo-code/source code

Here, Kitchin (2016) suggests three versions of this method: first, tracing out the workings of the algorithm through extensive study of coding and outcomes, second, observe possible changes as the algorithm evolves in terms of coding and the third version is to 'examine how the same task is translated into various software languages and how it runs across different platforms' (Kitchin 2016: 22). The author also highlights the challenges of this method, one of them being the de-contextualization of the algorithm from its greater sociocultural context. To study filter bubbles and overcome this issue, Hagen et al. have developed a tool to track online behaviour in Germany accompanied by other measurements such as survey data (Bundesministerium für Bildung und Forschung 2017). A similar approach could be used for China, of course, in political consent.

Reflexively producing code

Kitchin (2016) suggests having coders carry out auto-ethnographies to understand the nature of coding. He sees the limitations mainly in the fact that consent to this form of investigation would be difficult to obtain. This holds particularly true for Internet censorship and is also not very likely for filter bubble investigation – irrespective of it being Germany or China.

Reverse engineering

The third approach applies when the algorithm is considered to be a black box. Here it is essential to examine the input and the subsequent output that is produced (Kitchin 2016). This allows drawing conclusions on how criteria are weighted and preferred. Kitchin suggests experimental set-ups with dummies feeding the algorithm, or interviewing/surveying algorithm producers and other stakeholders (2016). Recently, *The Guardian* has run such an experiment through the US elections on Facebook's filter bubble (Wong et al. 2016). However, reverse engineering generally does not seem to be one of the preferred options as it only allows rough conclusions. For entire filter bubbles, or even censorship, one option could be to explore the underlying influencing factors of the filter algorithms of, e.g., Facebook or WeChat. One way would be to track which technological features of the devices are accessed when the apps are installed (e.g. access to cameras, microphones, etc.) to better understand the data input structures. One fruitful example for reverse engineering filter bubbles is done by Ezyinsights with an artificial intelligence, and they state that it works well for analysing and modelling publishers, newsrooms and social media audiences (Ezyinsights 2018).

Interviewing designers or conducting an ethnography of a coding team

This approach either requires techniques such as interviews to question algorithm designers on their choices or having an ethnographer investigate an entire coding team (Kitchin 2016). For both filter bubbles and censorship – irrespective of Germany or China – this method is unlikely to work since response rates are usually low on controversial issues with sometimes sensitive topics not allowed to discuss altogether as decided by the company.

Unpacking the full socio-technical assemblage of algorithms

Here, Kitchin highlights that

algorithms are not formulated or do not work in isolation, but form part of a technological stack that includes infrastructure/hardware, code platforms, data, and interfaces, and are framed and conditions by forms of knowledge, legalities, governmentalities, institutions, marketplaces, finance and so on.

(2016: 25)

The author suggests interviews, ethnographies or discourse analysis again. Now, for investigating censorship and filter bubbles in Germany and China, it might be particularly helpful to even look at local approaches of discourse analysis (e.g. Jäger 2011; Xu 2014). Such local approaches do not exclude

more general approaches of course, such as the theory of ideology developed by van Dijk (1998). Based on this, van Dijk came up with a fourfold framework that enables subtle ideological analysis to express various ideological stances, i.e., emphasizing or de-emphasizing ideas, positive or negative things about us or them. Critical discourse analysis plays a vital role in unraveling the hidden ideologies and to scrutinize the presence of power in media discourse studies by examining a variety of texts (Ramanathan and Bee Hoon 2015). Moreover, it is important to investigate institutional factors, e.g., historical development of the apps creating filter bubbles, economic background and the like. Critical text analysis then may not only consider the invisible (Jäger 2011) but also actually censored posts. One example for China is Weiboscope, which makes 'censored Sina Weibo posts of a selected group of Chinese micro-bloggers publicly accessible' since 2011 (The University of Hong Kong 2017).

Examining how algorithms do work in the world

In this case, Kitchin suggests looking at the social notions of algorithms, how the social world is shaped and laid out (2016). Methodologically, he suggests ethnographies and finds them particularly helpful when algorithms are black-boxed. However, I suggest that survey measures – ex-post-facto or even longitudinally – may also shed light on this. Particularly helpful could be for example questions on the use and frequency of the news providers consulted (such as Toutiao and Tencent for China, SPIEGEL Online for Germany, etc.) and information remembered by the recipients.

Final remarks on methodological issues

Finally, I would like to draw attention to the sampling processes for cross-cultural comparison. Not only do researchers face equivalence (Harkness et al. 2003) problems in measurements that are commonly known. However, if one sets out to compare filter bubbles and Internet censorship – within a country or among countries – it is particularly important to select a broad range of age groups, particularly when applying audience-centred methods of the six approaches. Pariser (2012) has long pointed out that filter bubbles are particularly prominent among the younger generation, with middle-aged people or silver surfers less inclined to it due to more digital literacy and/or less access to social media sites. Local statistics, e.g. ARD/ZDF Online Survey for Germany (Projektgruppe ARD/ZDF-Multimedia 2016) or the legal equivalent for China (China Internet Network Information Center 2017) support this. Finally, filter bubbles and Internet censorship may be distinct in theory; in empirical research they are not, however. They occur side by side on social media outlets, even censorship, and at the same time, filter algorithms also shape the search of online newspaper outlets then leading to filter bubbles. One solution to this problem was already pointed out by Kitchin (2016); only mixed-method designs will help to disentangle the two phenomena when integrating the some of the first mentioned methods that shed light on the nature of the underlying algorithms and producers' routines.

6. DISCUSSION, LIMITATIONS AND CONCLUSION

So how can we find answers to the aforementioned first two research questions? The restrictions of this endeavour find its limits in the lack of peer-reviewed literature. From what has been investigated I conclude that filter

bubbles and Internet censorship evince differences in production and executive structures. Moreover, the actual output – and this means that content was pre-selected and is subject to a lack of full user awareness – seems to imply that we are still talking mainly about black boxes. In terms of public opinion building, we deal with two distinct phenomena: filter bubbles may create a variety of monocultures, whereas censorship is a monoculture as such. Either way, both outcomes threaten the plurality of voices that shapes public discourse (Habermas 2014). However, and this is probably the most alarming result: both phenomena require high media literacy skills to overcome the pre-selected content. Therefore, as both censorship and filter bubbles alter public opinion formation, we want to briefly introduce hands-on-skills of digital/media competence and digital/information literacy (for culture specifics for Germany see (Baacke 2007, 1996; Wikimedia Deutschland 2017; Hüther and Schorb 2005) or for Chinese specifics see (Lü 2008). As public discourse increasingly takes place in the online social sphere, it must demand a resource valuable for public opinion formation and informed citizenship. For filter bubbles the development of skills on three levels is essential:

1. becoming an expert in technical aspects e.g., using add-ons against trackings such as ghostery; deleting browser histories and cookies frequently; etc.
2. questioning former Internet habits content-wise e.g., using non-algorithm-based search engines such as Duckduckgo, Cliqz or the meta-search engine Unnbubble as Google depends on algorithms and personalized settings; using meta news portals such as newstral, piqd; inside a social network it may be worthwhile to subscribe to various news channels, foreign media outlets, different political parties opposite of one's actual opinion, former unsubscribed friends or bloggers, clearing up in privacy settings such as deleting interests and activities; and finally using more transparent social media sites, etc.
3. enhancing the acceptance of a plurality of opinions also referred to as ambiguity tolerance.

In terms of Internet censorship, the knowledge of the scope of censored content may be broader whereas the willingness to overcome it may vary as has been discussed before on the example of China. However, the levels are similar:

1. adopting technical circumvention strategies e.g., using Tor, VPN, tunneling, circumventor sites or p2p networks to access censored content (Becker 2011: 172–82).
2. questioning former Internet habits content-wise e.g., learning language or communicative strategies, taking screenshots of text instead of communicating text-based (Becker 2011: 172–82), using foreign media outlets if accessible, finding social networks where censorship is not as strictly enforced as on other sites e.g. blockchain-based ones such as ONO in China (ONO 2018) use of emoticons and irony, etc.
3. gaining information on the type of content blocked on the Internet and thus questioning such sensitive areas where political information is one-sided, i.e., censored; ultimately, it is a matter of finding alternative means to Internet-mediated communication, such as personal networks at home and abroad.

So with respect to research question three, there is no simple yes or no answer about whether Germany is shifting towards a more authoritarian society. Before proceeding, we seek to reflect on the article and discuss the advantages and limitations. First, de-westernization meant not only to investigate the Global South but also to question tendencies in the West from a culturally neutral perspective. De-westernization thus also means that the umbrella of a western democracy should be questioned for the sake of objectivity in research purposes. Moreover even though we already highlighted democracy-threatening tendencies in Germany, the author's argument was on a mere theoretical level, and comparison between filter bubbles and post censorship in Germany to China's authoritarian regime should be a matter of empirical investigation. Schweiger states that network theory with strong ties in the offline and weak ties in the online world limits the actual effects for filter bubbles (2017). However, similar to this article, his argument also finds its limitations in the lack of empirical research for Germany. Turning to research question three, I will discuss some of the central arguments against and for a German authoritarian shift now and how the increase in algorithm-mediated communication and post censorship in Germany could possibly endanger the western democracy.

Arguments against German authoritarian shift

It is too early to say that German regulations and online use are close to China's regime. Moreover, regulation in Germany such as the public-private broadcasting model and the de-centralized press law may actually hinder an authoritarian regime, with similar hindrances installed in the online sector. Moreover, recent empirical evidence from Germany states that filter bubbles may not be as strong in effects as usually thought off (Haim et al. 2018). Whilst the study researched Google News, a study drawing on Facebook as a news source with far more algorithms in power is missing, to the best knowledge of the author. Moreover, political discourse can still take place e.g. state and party criticism without major punishments. This does not hold true for China as was highlighted earlier on. Finally, one still has the option to draw back from social networks or algorithm-based content to burst filter bubbles in Germany or look for more alternative, independent news sites. Last but not the least even if certain content is shut down, there is still political debate as was highlighted earlier on in the case of Indymedia. Such politically controversial events are not discussed at all in China, or they are bearing the risk of high sanctions. Historical discourse in Germany does take place e.g. in the realm of Holocaust, whilst certain events in China are still disclosed e.g. the Tiananmen massacre.

Arguments pro German authoritarian shift

At the same time, the German government increasingly realizes the dangers and risks of an online-mediated society and is likely to put more measures into place. The German Ministry for Education and Research more than ever investigates information technology-related issues to develop policies. Only time will tell whether Germany applies similar measures to China.

Recent trends in Europe e.g. the British surveillance efforts, the European Upload filter discussion and the new European Privacy Law may in the first place enhance democratic societies, and yet have its downsides at second glance. Hintz and Milan 'redefine data-based surveillance as a "Western"

authoritarian and illiberal practice in the digital realm' in their work (2018). Hintz and Milan are among the scholars such as those of Algorithm Watch (2018), World Wide Web Foundation (2018), United Nations Global Pulse (2018) and Bucher (2018) who acknowledge unpacking the assemblage of algorithms in the West these days. Yet, filter bubbles and censorship are structurally diverse phenomena, but have similar functional effects and consequences on public opinion building, which finds its limits in protecting national secrets. More research has to be carried out here, with the work of HIIG in Berlin at the forefront (Gollatz et al. 2018). Finally, research that tackles the so-called free western Internet and the possibilities of censorship is of huge importance (e.g. Mina 2018).

We thus seek to conclude that both the German and Chinese governments, in their very different ways, are attempting to impose their cultural values on the online world, which was developed along libertarian principles to be free from value judgments and political preferences. In the case of Germany, this particularly dangerous due to its propaganda-oriented media World War histories. These days, by using algorithms, filter bubbles and paid trolls, government and corporations are now hijacking and subverting the apparent 'freedom' of the Internet that was long undermined by censorship. While in 2018, this amounts to stating the obvious, the more important question is not how they are doing it, but why. Also this question should form the basis of media literacy training programmes that were prescribed as the only alternative to increasing censorship and filter bubbles.

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Meta Trends of Digitally Induced Temporal Change in Germany and China between Micro-, Meso-, and Macro Levels

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Abstract: This paper explores how the internet changes the way we deal with and plan time in Germany and China. It looks at culture and media theories of temporal change from Germany and China, differentiates these according to micro, meso, and macro levels and integrates them in a micro-meso-macro-model. We consider network, connectivity, acceleration, and mediatization theories, and place particular emphasis on the effects of social media, online journalism, and algorithmic intermediaries. We then inquire in which ways the sub dimensions of the nine-dimensional construct ‘temporal understanding’ change through internet-mediated communication. Findings suggest a temporal homogenization in both countries laid out as Meta trends: The focus on the ‘future’ is reduced, ‘present’ focus increases and the ‘past’ fluctuates paradoxically between decrease and increase. Moreover, ‘fatalism’ and the ‘pace of life’ increase and with it ‘interacting experience (polychronicity)’ and ‘future as trust-based interaction’, with the last sub-dimension only increasing in China. ‘Instrumental experience (monochronicity)’ and the ‘future as planned expectation’ decrease. These Meta trends encompass inconsistencies and paradoxical notion and move past binary classifications.

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Introduction

Approaching the 2020s, digital media have become ubiquitous in everyday life, with numbers as high as 90.2% internet users in Germany in 2018 (Frees & Koch, 2018, p. 399). Whereas the West increasingly shifts towards a full internet saturation, countries of the Global South such as China are steadily catching up with 55.9% online users mainly located in urbanized areas (China Internet Network Information Center, 2018, p. 7). Due to rapid proliferation of digital media use in everyday life, both scholars and ordinary people are increasingly aware of shifting temporalities. Whereas users may only reflexively observe the process, scholars of the social sciences, digital humanities, STS and informatics are urged to conceptualize, investigate, and proof the multitude of sometimes even conflicting temporalities. So far, the field has been dominated by primarily Western approaches grasping the process of temporal change.

De-westernized conceptions and non-simplifying approaches are missing. Moreover, Western theories as apparently universal approaches lack both emic and indigenous knowledge and hardly consider the ubiquity of digital media. Finally, they usually lay out trends on one societal level, e.g., the macro level usually analyzed in sociological temporal studies.

Here we seek to fill this research gap: By blending Western and Eastern concepts, this paper explains how internet-mediated communication changes the way we deal with and plan time, both individually and culturally in Germany and China; two cultures previously considered as to be on opposite empirical ends (Anckar, 2008) of the temporal spectrum. Therefore it blends

Western and Eastern culture and media theories and links between micro, meso, and macro levels in order to stipulate future quantitative research such as cross-cultural survey design. The focus is on cross-cultural survey design, as the field is dominated by either theoretical temporalities studies or by empirical studies applying qualitative methodology (here combined with Experience Sampling Method (Prommer & Hartmann, 2018) or quantitative tracking (Hand & Gorea, 2018)). The paper focuses on two distinct phenomena: temporal change due to connectivity and networks of social media (e.g., WeChat, Weibo, and Douyin in China, and WhatsApp, Instagram etc. in Germany) and online journalism. These are at the core of Internet-mediated communication – for Germany the figures are 87% communication and 82% mass media use (Frees & Koch, 2018), for China 93,3% instant messaging and 83,8% internet news (China Internet Network Information Center, 2018). So far research on time in post-modern societies that focussed on the temporalities of (digital) media has not yet linked the different societal and cultural levels of temporal change. This paper seeks to overcome this shortcoming. With that in mind the following research question arises:

RO: Which communication, media, and cultural theories may help to systematically model digital media induced temporal change on micro, meso, and macro levels in Germany and China?

The relevance of investigating temporal change is multifold: first, temporal change is highly related to stress and individual and societal well-being (Bradley, 2017; Reinecke et al., 2018; Rosen & Perrewé, 2017).

Thus, slow media movements (Rauch, 2018) or research on waiting (Farman, 2018) are not a coincidence.

The former refers to an active choice of media time-outs, and the latter investigates waiting as a form of delayed (media) response. Moreover, time politics, i.e., politics to create sustainable time cultures, needs more systematized works on temporal change. Finally, the conditions of late or post-modernity need more systematizing theories and approaches including empirical perspectives on temporal change. This applies even more so for theories on countries of the Global South with their rapid changes in social and economic contexts. The structure of the paper is as follows: first, the construct 'temporal understanding', which is a specific form of cultural temporality, is briefly explained in German and Chinese cultural contexts. Then, a brief overview of the state of the art in temporal change theories is given, explicating relevant theories and justifying why some are left out. Further, sorted by levels of theoretical abstraction (micro, meso, and macro), we briefly introduce temporal change theories and link their core arguments per level of abstraction. Such theories will be introduced both from a Western, i.e., German, perspective in particular and Chinese, supporting both de-westernization and indigenous theory building. From a micro perspective, network theories, media synchronicity, and the idea of permanent connectivity are explained. On a meso level, particularly institutional change in online journalism with a focus on acceleration is modeled. On a macro level, mediatization theory and recent acceleration theories are laid out and summarized. Finally, the levels are systematically linked, suggesting a micro-meso-macro-link to then ask if – and how many of the dimensions of – the construct 'temporal understanding' can be changed through internet-mediated communication. The conclusion summarizes the findings and critically examines how this paper will contribute to quantitative cross-cultural research.

A Model of Temporal Understanding

Much has been said about social time respectively temporalities, with a multitude of studies conducted on cross-cultural dimensions of social time (Chinese Culture

Connection, 1987; Hofstede, 2001; Hofstede & Bond, 1988). The most distinguished cross-cultural temporal notion was developed by Helfrich-Hölter (2011), differentiating between four temporal layers: the image of time, time horizon, dealing with time, and time perception. In this article we focus on parts of her model, namely the 'temporal horizon' and 'dealing with time'. From this perspective, shifts are measurable empirically within shorter time frames. They do not refer to perceptual issues of seconds-intervals. Faust (2016) drew on the works of Helfrich-Hölter (2011) and developed a model of temporal understanding, explicitly relating to the Chinese and German cultural contexts. Faust thus defines temporal understanding based on Elias (2005) and Helfrich-Hölter (2011) as

a human category of time which is individually undertaken but socially constituted. It encompasses the act of standardizing two or more events of which at least one must be progressing and is used as [a] reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time. (Faust, 2016, p. 9)

Moreover, she explains that both Germans and Chinese differentiate between past, present, and future (Faust, 2016). The latter two fall into six sub-dimensions incorporating emic and etic approaches. Temporal understanding consists of eight dimensions: general 'past', general 'future', 'instrumental experience (monochronicity)', 'fatalism', 'interacting experience (polychronicity)', 'the pace of life', 'future as planned expectation and result of proximal goals', as well as 'future as trust-based interacting experience and result of present positive behaviour'. Temporal understanding integrates the anthropological construct of polychronicity (Bluedorn, Kalliath, Strube, & Martin, 1999; Hall, 1984; Lindquist & Kaufman-Scarborough, 2007), pace of life (Levine, 1998), and temporal horizon (Klapproth, 2011) into a broader framework, which goes beyond Western-biased constructs through the theory driven incorporation of Chinese notions (Chinese Culture Connection, 1987). The whole model is visualized in Figure 1.



Figure 1. Model of Temporal Understanding (Faust, 2016, p. 9)

The dimensions and sub-dimensions were defined as follows:

1. *Past* defines as classifying personal and social events as former and relation towards these events.
2. *Present* defines as classifying personal and social events as ongoing and dealing with these ongoing experiences to help give order, coherence, and meaning to those events.
3. *Future* defines as classifying personal and social events as prospective and relating these to the current situation through different means to help give order, coherence, and meaning to these events.
4. *Instrumental Experience (Monochronicity)* is based on classification acts and implies the extent to which people in a culture prefer to do one task at a time and believe their preference is the best way to do things.
5. *Interacting Experience (Polychronicity)* is based on classification acts and implies the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously, and believe their preference is the best way to do things.
6. *Fatalism* is based on the classification act but lacks active engagement in tasks or events as future is predestined and not influenced by individual action and has thus be accepted.
7. *Pace of Life* is based on classification acts and implies the extent to which people prefer tasks or events to be close together, i.e., immediate follow-up events.
8. *Future as Planned Expectation and Result of Proximal Goals* is based on classification acts and implies either transactional relationship between present ideas and envisioned long-term tasks and events or focus on proximal goals in the belief they add up to long-term goals.
9. *Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior* is based on classification acts and implies positive outcomes of tasks and events due to balanced interaction in the present. (Faust, 2016, p. 9)."

The model presented in Figure 1 will eventually lay the foundation to elaborate upon later, based on which dimensions or sub-dimensions of temporal changes occur. The novelty in this approach lies in the fact to specify which sub dimensions of time are altered.

State of the Art: Social Theories of Temporal Change

Social theories of time have a long historical tradition and are manifold. It would be an unfruitful endeavor to list and explain the entire general ones (e.g., political and critical time studies, feminist approaches, or

time in the anthropocene) in detail here as it would exceed the scope of this paper. We thus focus on theories dealing with social time and media in general. Finally, per research question, we do explicitly exclude those theories not focussing on temporal change, Germany, and China, and those that have been elaborated before digital media have penetrated the society and where digital media are not incorporated as a core driver of temporal change.

Therefore, theories tracing the historical evolution of media and communication history perspectives or generational studies (Balbi & Magaouda, 2018; Bolin, 2016; Mizukoshi, 1998; Rantanen, 2005; Ytreberg, 2017) are not considered and neither are media philosophical debates (Hartmann, 2017).

The field of social time studies is globally diverse, however the majority of theories stem from a Western perspective. Following the Anglo-Saxon tradition it remains debatable if they produce a hegemonic mindset through Western theory building. For this paper we thus focus on theories either German or Chinese in origin and therefore emic. We consider theories from the Anglo-Saxon world only if they speak of global processes, giving preferences to indigenous theory building. Thus, research that explicitly draws on case studies in other cultures (Fernandes & Jorge, 2017; Kaun, Fornäs, & Ericson, 2016; Société Française des Sciences de l'information et de la communication, 2016; Vihalemm, Lauristin, & Kalmus, 2017) will be excluded.

Notably, industrialization and 19th- and 20th-century media have inspired scholars to discuss the temporal change in society (Adam, 1994; Beck, 1994; Flusser & Bollmann, 1997; Innis, 2004; Nowotny, 1989; Virilio, 1992; Winterhoff-Spurk, 1989). However, we must critically examine the emergence of digital media and the internet. As suggested in the introduction, we should do this both quantitatively and qualitatively to answer the issue of digitally induced temporal change. Therefore we acknowledge, yet only partially include, earlier works to the extent that we pinpoint their discursive mechanisms and dimensions when they are needed.

Finally, as outlined in the introduction, we will explicitly focus on theories that help to link to a micro-meso-macro-model systematically, regardless of whether they incorporate one, two, or even three of the micro, meso, and macro levels.

Micro Level

Generally, the analysis on a micro level refers to one-to-one interactions between individuals and encompasses their actions and behavioral processes inclusive of negotiations, confrontations, and everyday communicative acts. Therefore, the selected theories here focus on individuals' everyday communicative practices with their communicative counterparts.

The empirical investigation of networks in the social sciences started with the works of Granovetter in the 1970s (1973). Later, Castells' works on the network society (2005, 2010) were the first to contextualize temporal change against the backdrop of networks during the emergence of the internet and digital media. While Castells remains highly unspecific and does not introduce ego-centered networks with strong and weak ties as Granovetter (1973) did, his argument stems from the network structure of the internet and the relationships that unfold with it. Castells argues:

...the definition, if you wish, in concrete terms of a network society is a society where the key social structures and activities are organized around electronically processed information networks. So it's not just about networks or social networks, because social networks have been very old forms of social organization. It's about social networks which process and manage information and are using micro-electronic based technologies. (University of California, 2001)

In this setting Castells elaborates that in modernity time was context-specific, local and linear, irreversible, measurable and calculable (2010, pp. 460–463). These notions have now disappeared according to Castells. According to our model from Figure 1 it is plausible to assume that 'instrumental experience (monochronicity)' vanishes, which refers to such linearity. This new "timeless time" however is induced as a dominant form of social time and triggered by communication technologies (Castells, 2010: 460, 465). Castells' main argument refers to "timeless time,"¹ – i.e., compressing, that falls in line with 'interacting experience (polychronicity)', and blurring, which constitutes a mix of past, present, and future (2010). He argues that the time horizon in communism is a long-term one through idolization and in capitalism short-term through monetary time, i.e., the speed of transactions of financial markets transferring to other life domains (Castells, 2010). Thus, it remains uncertain if we can apply the notion of blurring tenses and temporal horizon changes to our model elaborated in Figure 1.

Granovetter's (1973) approach of ego-centered networks applied to the internet may be more plausible as it may prove fruitful for investigating the temporal change in the sense of compressing, i.e., 'interacting experience'. Similar efforts were made by Dennis et al. (2008) when they looked at team synchronicity, as teams also constitute network.

Finally, Hassan, who explicitly devoted his works to temporality in the network society, makes the general claim of acceleration in the network society against the backdrop of neoliberal capitalist market forces – clock time is smashed, whereas network time is connected and seen as asynchronicity (Hassan 2003, p. 51). Not real-time responses dominate the information and network society, and networked time undermines and displaces the time of the clock. He also speaks of 'potentiality' (Hassan 2003, p. 15), implying that such digitally compressed network time oriented towards pure speed colonizes all other realms of life.

Up until now the idea of the network society remained dominant and appeared to be new wine in old bottles as the discourse around connectivity emerged. With that in mind, van Dijck's (2013) work was groundbreaking, and she stated that connectivity became a dominant ideology with severe consequences. While her works are not directly related to temporal change, they are however necessary to understand the pressure and internal logic of the network through which temporal change is fostered. Moreover, they are essential for understanding the capitalist logic. Her argument not only covers the "techno-cultural and socio-economic levels of separate micro-systems, but also (...) the level of the ecosystem and the culture that sustains it" (van Dijck, 2013, p. 155). Overall, she identifies three mechanisms. First, 'locking in' as the algorithmic basis of sociality implies that users of apps and platforms face features and services which are incompatible with their competitors, i.e., enforcing users to stick with certain platforms. 'Fencing off' as the second strategy is defined as vertical integration and interoperability (van Dijck, 2013, p. 163). The first means that businesses are branching out and trying to integrate smaller businesses for the purpose of profit, with the latter meaning that systems and platforms work together with each other without restriction (van Dijck, 2013, pp. 163–171). Finally, 'opting out' brings us back to temporal change: "opting out is hampered not only by built-in technical or commercial hurdles, but particularly by social impediments", i.e., the "pressure of peers, friends, and colleagues to stay in the realm of online connectivity" (van Dijck, 2013, p. 172). Thus, while van Dijck does not relate to temporal change, she argues that connectivity is a must, i.e., a "normative value", and explains the algorithmic and social reasoning to it (van Dijck, 2013, p. 173). Later empirical research in Germany by Vorderer et al. (2016) then revealed that being 'permanently online' and 'permanently connected' are intertwined concepts.

¹ This should not be confused with the concept of 'flow', which is an absorption and concentration process within a specific activity (Csikszentmihalyi, 1985).

Unexpectedly, the arguments on the Chinese side are reasonably similar: Chinese scholars also explicitly adopt Castells' approach of the network society and introduce them to Chinese social sciences with little to no differentiating between China and the West. Mostly, the scholars frame the argument within Western discourses and even draw on the Western literature or Chinese research echoing Western scholarly discourse. This argument is particularly interesting as Qiu's joint work with Castells (Castells, Fernandez-Ardevol, Qiu, & Sey, 2006) on mobile communication introduced this notion in the Chinese context.

Two years later, Jin (2008) argued in a similar direction. First, he identified reasons for the emergence of new social time patterns due to electronic, i.e., digital media, namely a diversification of timing tools and with it the influence of electronic media on people's perception of time. He noted the characteristics of this new social time as follows: a time conscious disorder, fragmentation of time utilization, immediacy of time conduction, and personalization tendency of time concept. He also sees risks such as communication barriers and alienation of time (2008). This implies an increase in the 'pace of life' and short-term thinking, i.e., decrease in 'future as planned expectation and result of proximal goals'.

Another two years later, Lei and He (2010) characterized temporal change initiated by mobile media with increasing flexibility, instantaneity, and synchronicity, i.e., similar to 'interacting experience (polychronicity)'. They add the compression and superposition of time, the latter implying a similar

more multitasking oriented behavior. They eventually analyze three levels of society: individual, group, and societal. Here we will look at the micro level. Personal time is dependent on mobile media and characterized by instantaneity and flexibility with unpredictable time, whereby "anything goes" (Lei & He, 2010). We see four kinds of temporal change: the reuse of time that has been realized in the past, compression of time, superposition, and extension of time (Lei & He, 2010). Here we can conclude that the 'pace of life' accelerates in particular and that there is an increase in 'polychronicity'. The later works of He (2014) support this argument.

The Meso Level: Temporal Change Induced by Journalism and News Platforms

The analysis of the meso level refers to the examination of a specific group, community, or organization. Usually meso level analysis is referred to as network analysis, studying the social ties among people within a group. Thus we would like to focus on acceleration phenomena as a relatively recent discussion topic for the meso level, as they are exclusively community behavior as most apparent in journalism and news platforms.

In 2010 Neuberger stated that the internet enables both acceleration and deceleration (2010, p. 204) in journalism just from a technical level. While his further argument is based on Rosa's threefold acceleration argument (2013), he eventually concludes with a framework including both tendencies (see Figure 2 below, translated to English):

Phase	Acceleration	Deceleration
<i>Transfer to newsroom</i>	Local production, faster transfer from each space	-
<i>Production/Offer</i>	Permanent actualization	Archiving, additivity
<i>Transfer to Audience</i>	Faster online-transmission	-
<i>Reception</i>	Permanent access to up-to-date information	On demand
<i>Further communication of audience</i>	Synchronous communication (Chat)	Asynchronous communication over more extended periods (Forum, Blog, etc.)

Figure 2. Acceleration and Deceleration in Journalism ((Neuberger, 2010, p. 220), translated by Faust)

Neuberger eventually concludes that acceleration in journalism prevails over deceleration. His arguments therefore bring mainly an increase in two dimensions to the fore: increase in 'interacting experience (polychronicity)' and in 'pace of life'. What is significant in his argument, though, is that archiving and additivity

may lead to a deceleration which should enhance the past, and this falls in line with memory, nostalgia, and archiving studies in both the Western and in the East Asian contexts (Keightley & Schlesinger, 2014; Mizukoshi, 1998, 2018; Niemeyer, 2014; Sommer, 2018). However, with omnipresence of smartphones such

archiving processes may lead to ubiquitous computing, i.e., such information can be accessed anywhere and any-time. This ubiquitous computing was shown earlier through the statistics for mobile news consumption, through Dimmick et al.'s concept of news in the interstices (2011) as well through Görland's idea of media-in-situ use (2018) for interpersonal communication. All three authors' arguments certainly undermine the concept of acceleration, and therefore and we argue that there is a decrease in the 'past' sub-dimension.

Krüger based his arguments on Rosa (2013) with the threefold mechanism of acceleration (Krüger, 2009, 2014). First, Krüger argued that there is technical acceleration defined as an increase in actuality. Second, this implies social rates of change as rotation in journalism staff, and third, he notes the shortening, i.e., increasing of social action episodes as the compression of working days and products and shortened issue cycles (Krüger, 2009, pp. 4–5). He performed qualitative, exploratory interviews with 17 journalists. He sees the underlying factors clearly in the internet but also through the concept of competition (Krüger, 2009, p. 17). Similar to Neuberger (2010), Krüger (2009) suggests that there is an increase in 'interacting experience (polychronicity)' and the 'pace of life'. This argument was later on undermined by a thesis Krüger supervised, which found that the profession of journalism is accelerating with "an increase of multitasking, time pressure and distractions at work" and "a slightly lowered level of job satisfaction to an increased level of psychological stress" (Gröbel, 2016).

The notion of critical time studies has also entered journalism research. Annany (2016) proposes the concept of temporal assemblage in order to critically investigate slow journalism. He sees the temporal change in journalism rooted in labor routines, platform rhythms, computational algorithms, and legal regulations. The third one is of particular interest as the first two causes have been extensively discussed before and the last one is only discussed in the context of the USA. The author states: "No single algorithm governs news time. Algorithms both inside and outside of newsrooms are sustained by a largely invisible set of real-time computational relationships: code talking to code nearly instantaneously and often without close human oversight (Annany, 2016, p. 10)." This process is driven by both journalism and "entails negotiating with non-journalists and their code (Annany, 2016, p. 10)." Thus, while Annany does not conclude on temporal change more specifically, recent research shows an association between media exposure and 'fatalism' with no direct explanation for the direction of causality. Some authors assume, though, that social media use including news reading on social media may cultivate 'fatalism' (Ramondt & Ramírez, 2017). It remains speculative if the

growing debate around fake news may further this process. Finally, research in the field of temporal change in journalism is on the rise in the Western world as shown in the special issue of Bodker et al. (2018) on speed, acceleration, immediacy, contradictory temporalities, and intermediates.

It can only be speculated whether this issue of journalistic acceleration will also be worthwhile to be discussed in China in the future. So far, only Lei and He (2010) looked at the meso level after all. According to them, family and working time are embedded in each other. The emergence of wireless and mobile media, with people using their digital media to work, implies that the synchronization of personal and professional hours is significantly reduced (Lei & He, 2010). However, journalistic acceleration remains not looked at presently.

The Macro Level: Between Tyranny of the Moment, Mediatization, and Acceleration

The analysis of the macro level looks at the society as a whole, i.e., systems, institutions, hierarchies, and patterns that shape a society. It considers the social, political, economic, cultural, and other forces that impact societies and individuals. Therefore, in this part we focus on temporal societal and cultural change (Couldry & Hepp, 2017; Eriksen, 2001; Krotz, 2001; Rosa, 2005). Even though all three research strains, namely the tyranny of the moment, mediatization, and acceleration, encompass elements of micro and meso level temporal change, they exceed this notion through thoughtful incorporation of macro level temporal change. Therefore, we explicitly focus on macro level tendencies in their works.

Eriksen argued in the rise of the 21st century that society faces a "tyranny of the moment" (2001). From an anthropological perspective, the author's arguments are particularly relevant for cultural change, focusing on a new Western, post-cold-war logic. This logic encompasses all life areas such as youth culture, flexible working hours, correspondence, i.e., interpersonal communication, advertisement, etc. based on new information technology (Eriksen, 2001, pp. 15–16) following the agrarian and industrial eras. Information is seen as the scarcest resource in the society, flowing in "slow, continuous time" (Eriksen, 2001, p. 3). While his argument applies to both interpersonal mediated communication and online news consumption (Eriksen, 2001, 59, 66), he specifically identifies three macro level trends: exponential growth, stacking, and the tyranny of the moment triggered by information technology. The first trend is referred to as tasking multiple things at the same time with an ultimate threshold value. The author illustrates:

One may do three things at the same time and do three things well. One may do six things at the same time and do six things well. Some may even do

twelve things at the same time and do twelve things well. Then they get a thirteenth task, and suddenly they perform thirteen tasks badly. This is the essence of the transformation of quantity into quality. Even growth takes place for a long while without dramatic consequences, but suddenly a threshold value is reached, and as a result the entire system flips into something different, changing character completely. (Eriksen, 2001, p. 86)

His argument underlies the shift towards ‘interacting experience, i.e., polychronicity’ where the density of time increases and temporal gaps are being filled (Eriksen, 2001, p. 21). We also look at the phenomenon of vertical stacking. Eriksen explains that “more of everything is stacked on top of each other rather than being placed in linear sequences” (2001, p. 6). Rather than tidy rows, he speaks of de-contextualized signs which are randomly connected (Eriksen, 2001, p. 109). Here we can identify a loss of the ‘present’ as categorized in Figure 1 as he also speaks of a lack of internal integration (Eriksen, 2001, p. 111). Finally, the tyranny of the moment comes into play:

Indeed, even the ‘here and now’ is threatened since the next moment comes so quickly that it becomes difficult to live in the present. We live with our gaze firmly fixed on a point two seconds into the future. The consequences of this extreme hurriedness are overwhelming; both the past and the future as mental categories are threatened by the tyranny of the moment. (Eriksen, 2001, p. 3)

According to Eriksen, in the information revolution “the fast version wins” with a loss of “context, understanding and credibility” (2001, p. 70) and “acceleration in the media (and) news coverage”, leading towards a dominance of media initiatives and a lack of “long-term thinking” (2001, p. 65). He concludes that there “are limits as to how many pieces one can partition time into before it ceases to exist as duration, and the only time in existence is a single, manic, hysterical moment which is continuously changed, but which does not point any further into the future than the next moment (Eriksen, 2001, p. 47).” Thus, according to Eriksen and as shown in Figure 1, we see an acceleration in the “pace of life” due to a new “restlessness” (2001, p. 66) and a lack in ‘future as planned expectation and result of proximal goals’.

The discourse of mediatization is quite broad (e.g., for an overview see Lundby, 2014). Here we focus on the works of Krotz: In his early works, Krotz (2012a, p. 26) defines mediatization as a current, long-term (meta) change process of culture and society on all three analytical levels that has roots in the changing media landscape. In this argument people and their everyday life media communication (micro level), organizations and institutions (meso level), and culture and society as a

whole (macro level) are included (Krotz, 2012b, p. 37). He explains:

Mediatization thus should be defined as a historical, ongoing, long-term process in which more and more media emerge and are institutionalized. Mediatization describes the process whereby communication refers to media and uses media so that media in the long run increasingly become relevant for the social construction of everyday life, society, and culture as a whole. (Krotz, 2009, p. 24)

This process brings temporal, spatial and social change with it (Krotz, 2001, p. 22) in the realm of society, culture, and economy on a macro level. Krotz (2001, p. 204) regards media as agents of cultural homogenization, implying that convergence tendencies occur between different cultures and cultural contexts. First, media as used means change time quantitatively and qualitatively. Media offering content are increasingly available at all times and are used more often. Furthermore, each particular medium is available more often for a more extended period. And finally, the internet as an integration medium allows simultaneous communication vertically. Vertical integration means the simultaneous usage of standardized communication (i.e., mass communication), interpersonal communication, and interactive communication (Krotz, 2007, pp. 91–114). During his first publication cultural homogenization was mainly concerned with audiovisual means (2001). Today Hepp and Couldry speak of deep mediatization with the internet at the forefront of attention (2017). Now this may lead to the inquiry if we can find such a temporal homogenization process between Chinese and German cultural contexts. Besides the increase in duration of use, much of his argument falls in line with an increase in ‘interacting experience (polychronicity)’ through an ongoing temporal network of interactive relations and an active, mediated, non-planned get-together (Krotz, 2007, 2012c, p. 33).

Hepp and Couldry (2017) go into more detail: Drawing on structuration theory and figurational sociology, they examine the alteration of time through deep mediatization. While they argue that the time of digital media depends on clock time (Couldry & Hepp, 2017, p. 102), they place more emphasis on the communicative enactment of time and the time pressure that goes along with it (Couldry & Hepp, 2017, p. 103). Thus, despite the fact that they draw on Rosa (2005) and Wajcman (2015) and foster the argument of acceleration, such “intensified flows of communication” also lead to a breakdown of figurations and “new forms of inertia, and/or slowed-down reaction” (Couldry & Hepp, 2017, p. 107). These figurational orders at the Meta level are connected with constraint connectivity and a 24/7 lifestyle. More than mere acceleration they refer to meaningful interdependence through the embedding of

norms from social media platforms (Couldry & Hepp, 2017, pp. 108–109). The authors highlight temporal change as time deficits, i.e., through multi-tasking. They also address an increase in ‘fatalism’ of temporal understanding: When “the volume of ‘signals’ increases, perhaps to an arbitrary high level, social actors may have a problem, and may lose the capacity to react to communications” (Couldry & Hepp, 2017, p. 111). With regards to the past, they refer to digital media archiving. An increase in storage is required but is also a critical reminder that digital media do not ‘forget’. Hepp and Couldry (2017, pp. 112–113) state: “The wider implications are complex: greater *institutional* capacities of memory require improved means for interpreting and sorting the now vast piles of information that accumulate.” The authors refer to it as time-deepening, and it implies to react adequately and on time. Thus, while the ‘past’ as a sub-dimension enhances, time-deepening also includes the future, implying to react on time and to “keep all channels open” (Couldry & Hepp, 2017, p. 113). This in turn affects work, leisure, political activism, news journalism, and even sleep patterns to “respond whenever a message comes in” (Couldry & Hepp, 2017, p. 119). Consequently, it leads to an increase in the ‘pace of life’.

Rosa argues that late modernity is characterized by acceleration. According to Rosa and Trejo-Mathys, acceleration phenomena are threefold and include technical acceleration of processes, increasing rates of social change, and the shortening/increasing of social action episodes (2013). Technical acceleration as the first driver is defined as “intentional, technical, and above all technological (i.e., machine based) acceleration of goal-directed processes” (Rosa & Trejo-Mathys, 2013, pp. 77–78). Transportation, production of goods, and communication are the core drivers here alongside the internet (Rosa & Trejo-Mathys, 2013, p. 72). The logic “time is money” (Rosa & Trejo-Mathys, 2013, p. 161) is inherent to the capitalist economy and originally pointed more towards ‘instrumental experience’ similar to the Fordian assembly line. Yet, simultaneously “time is money” implies progress and ever-more-happening-scenario. Thus, increasing rates of social change can be defined as “increase of the rate of decay of action-oriented experiences and expectations and as a consequence of the time periods that determine the presence of respective functional, value and actions spheres” (Rosa & Trejo-Mathys, 2013, p. 76). They speak of a contingency of practices and inter-generational alterations in contrast to a more stable

lifestyle of former generations. Lastly, the shortening and increasing of social action episodes is explicated as “the increase in episodes of action per unit of time” (Rosa & Trejo-Mathys, 2013, p. 78). This last tendency of an accelerated pace of life is driven by a cultural motor, i.e., an ethos that dictates that wasting time is a sin whereas acceleration is a promise of eternity (Rosa & Trejo-Mathys, 2013, p. 202). So far, Rosa’s arguments refer to a capitalist society, and in his earlier works it remains open if in China as a communist culture with capitalist tendencies the same processes occur. His works have been translated to Chinese and the author expands from his 2018 travels in China: While the cities are characterized by an enormous speed and they are on the verge of modernity and with it acceleration, the rural areas are characterized by an “in-between-time” and waiting for the migrant workers from the cities and the arrival of modernity (Rosa, 2018). The Chinese state and with it the communist regime are a core driver of such critical acceleration processes (Friedrich-Ebert-Stiftung, 2018).

Overall, a Beijing-based scholar sees the advantages of modernity and acceleration for China in growth and development during a discussion with Rosa (2018). Conclusively, Qiu’s (2018) research on Chinese migrant workers’ time falls in line with Rosa’s argument. Even though media activism time is not dominant in Chinese society, Qiu (2018) highlights two crucially different modes here: “‘times of revolution’ which are disruptive, collective, anti-capitalist, forward-looking, heroic and hyper-historical”² whereas ‘times of production’ are “continuous, individualistic, neoliberal, presentist, profane and a-historical” (Qiu, 2018, p. 1). While Chinese time is often seen as Marxist and therefore revolutionary in the literature, everyday life in China has obviously many tendencies of the West and therefore ‘times of consumption’ dominate (Qiu, 2018, p. 2). However, this can be challenged if we take into consideration the experience of non-migrant workers in China which may view production as non-neoliberal and as part of service to their community and thus, communism. The state, altogether, and this falls in line with Rosa’s experience, proclaims a modernist notion of time with linear and forward-looking features which, according to Qiu, is not dominant (Qiu, 2018, p. 2). Other than the aforementioned theorists he does not see temporal change firstly initiated through digital media but rather as a story of continuity of temporal transformation through industrialization (Qiu, 2018,

² Here we find a paradox notion as well when we look at former German history: Such anti-capitalist notions of revolutions are counter-balanced by actual capital-oriented revolutions like in the case of the turnover of the former Eastern communist bloc. Especially East German

people were hugely dissatisfied with the production and consumption policies of the former East German government ever since the 1970s and this can be seen as a major influencing factor in the peaceful revolution in 1989.

p. 3). He concludes that the rise of ‘times of consumption’, i.e., flat time is a global phenomenon enacted not through the state but businesses like the CCTV and Tencent (Qiu, 2018, pp. 5-6). This is undermined by the fact that China can be described by the phrase “socialism with Chinese characteristics” (中国特色社会主义), which refers to the increasing turn towards the market economy under Deng Xiaoping. This may point towards an acceleration of society as a whole in China as long as the ideal state following Deng Xiaoping is not reached yet. Wajzman (2015, p. 17) states: “Such discussions of acceleration typically invoke Karl Marx’s analysis of capitalism and the constant need to speed up the circulation of capital.”

On the Chinese side, Wang’s (2000) arguments are also primarily based on the relation between work and leisure and the hegemonic production mode of the society. He argues that the information society not only has a new social structure but also has new temporal morphological characteristics compared with the industrial society. These features include fuzzification of time boundaries, flexibility of time structure, and instantiation of time systems (Wang, 2000). These time characteristics dramatically change the social behavioral norms and people’s lifestyle. Lei and He (2010) underline this when analyzing the social level: cyclical time becomes irregular through digital media. Mobile media have

not only changed a lot of personal and group time norms and values, but they also affect the periodicity of time at the social level with increasing irregularities in natural work-life-generational cycles (Lei & He, 2010). Wu (2010) also bases the dialectical analysis of time and space on the structure of labor and historic times. Influenced by the writings of Marx and Lefebvre, one particular point stands out: the creation of a time and space for human free development with positive interaction practices with communication as an essential form of this practice. Moreover, the author writes that the value of the relationship of communication contains the factors that determine the present in the future and that the transnational working class must eliminate the opposition of space with positive interactions (ibid.). This shift towards the temporal sub dimension ‘future as trust based interaction’ reminds of Qiu’s (2018) notions, namely ‘spiky’ time – the ultimate annihilation of classes with interactions based on mutual trust and an ideal state.

Micro-Meso-Macro-Link and Meta Trends of Temporal Change

Derived from the model in Figure 1 and from the theoretical discussion, the following Meta trends are laid out for both Germany and China according to Krotz’ idea of homogenization (2001) if not explicitly stated otherwise:

	Alterations of Sub Dimensions	Authors
1	Paradox of ‘Past’ Sub Dimension	Contrary to (Couldry & Hepp, 2017; Hsiao, 2018; Niemeyer, 2014) Underlined by (Dimmick et al., 2011; Görland, 2018; Neuberger, 2010)
2	Increase of ‘Present’ Sub Dimension	Underlined by (Castells, 2010; Couldry & Hepp, 2017)
3	Decrease of ‘Future’ Sub Dimension	Underlined by (Castells, 2010; Jin, 2008; Rosa & Trejo-Mathys, 2013)
4	Decrease of Instrumental Experience (Monochronicity) ‘Sub Dimension’	(Castells, 2010)
5	Increase of ‘Interacting Experience (Polychronicity)’ Sub Dimension	Underlined by (Castells, 2010; Couldry & Hepp, 2017; Dennis et al., 2008; Granovetter, 1973; Krüger, 2009; Lei & He, 2010; Rosa & Trejo-Mathys, 2013)
6	Increase of Fatalism Sub Dimension	Underlined by (Couldry & Hepp, 2017; Ramondt & Ramirez, 2017)
7	Increase of ‘Pace of Life’ Sub Dimension	Underlined by (Annany, 2016; Couldry & Hepp, 2017; Eriksen, 2001; Jin, 2008; Krüger, 2009; Lei & He, 2010; Neuberger, 2010; Rosa & Trejo-Mathys, 2013)
8	Decrease of ‘Future as Planned Expectation and Result of Proximal Goals’ Sub Dimension	Underlined by (Castells, 2010; Jin, 2008; Rosa & Trejo-Mathys, 2013)
9	Increase of ‘Future as Trust-Based Interaction and Result of Present Positive Behavior’ Sub Dimension	Argument only underlined for China (Qiu, 2018; Wu, 2010)

The following model in Figure 3 visualizes these trends. Yellow colour indicates a decrease of this sub dimension, green colour indicates an increase and red a

paradox. This implies that we face both paradox notions of conflicting temporalities partially within and across sub dimensions of temporal understanding.

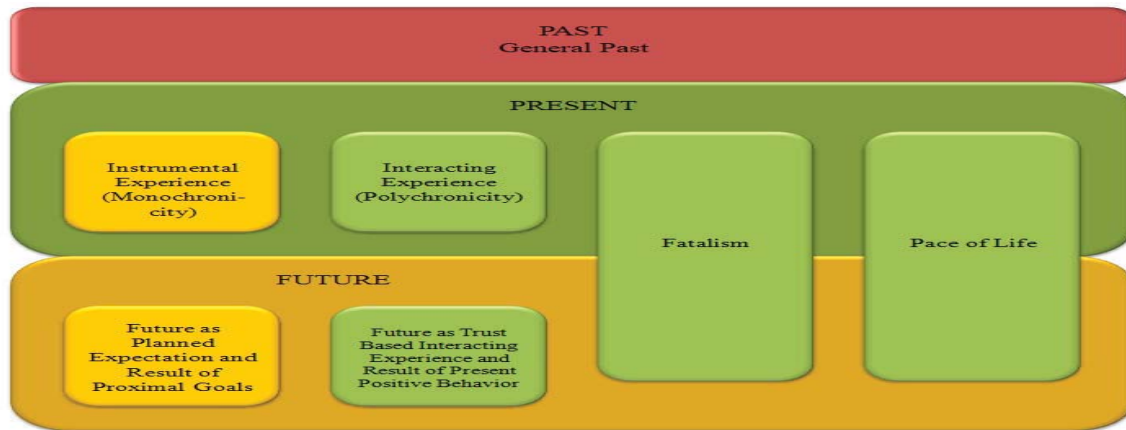


Figure 3. Meta Trends of Temporal Change

The question arises: How can we conceptualize this micro-meso-macro-link based on the temporal change theories we explained earlier on? The following processes are essential: habit formation according to Koch (2010) at a micro level, institutionalization at a meso level (Berger & Luckmann, 2010), and objectification and legitimating at a macro level (Berger & Luckmann, 2010; Faust, 2016). This process of cultural change therefore starts with a communicative encounter, i.e., a communication situation, shifts towards rules and pattern interpretations, and then changes the symbolic order of the society as a whole (Averbeck-Lietz, 2011). A similar argument of micro-meso-macro-link is well situated within a cultural stream of theories (Couldry & Hepp, 2017; Esser, 2011; van Dijck, 2013). Such level-crossing is not always a linear bottom-up and eventually top-down process, but full of inherent fluctuations, change, inconsistencies, and paradoxical notions (Chen, 2002).

Conclusion

First, Eastern-Western theory blending falls in line with an urge for de-Westernization (Ray, 2012). The paper thus integrated culture-specific, i.e., emic Chinese theories in order to overcome a Western hegemonic angle on theory-building. The notion of paradox was touched upon for modelling micro-meso-macro-links of the temporal change of societies and cultures. Future research might want to address paradox notions inside sub dimensions of temporal understanding in more detail to grasp conflicting temporalities.

Second, cultural and media studies have long discussed media induced temporal changes. They are mostly limited to qualitative works (Neverla, 1992; ZeMKI, 2017) or mixed-methods single-country studies (Görländ). We suggest that these previously discussed Meta trends can support empirical research as a hypothesis-driven endeavour, serving as a framework for, e.g., quantitative empirical cross-cultural research on digitally induced temporal change. As to our knowledge, quantitative time use research, e.g., time budget studies³ have begun to incorporate the use of aforementioned temporal change theories; however, communication and media studies are lagging behind. If Krotz' (2001) and Qiu's (2018) assumption of temporal homogenization and globalization is correct, quantitative cross-cultural empirical research could for example verify this. Future research should demonstrate if such trends apply for all regions equally, e.g., rural China in contrast to urban cities. Thus, the identified Meta trends might guide hypotheses-driven research, which should also be open to additional influencing variables. In addition, future empirical studies should not stop at description and explanation. Critical questioning of conflicting temporalities, e.g., inspired by the studies of temporal techno-critic scholar Armen Avanesian (2018), the power-chronographer Sarah Sharma (2014), or Neverla's polychronic future (Neverla, 2010) must follow to move beyond mere explanations.

Third, while temporal algorithm studies are still on the rise (Ash, 2018), we see the potential of artificial intelligence and machine learning on all three societal

³ Of particular interest are the works of Georgios Papastefanou, Jorge Rosales or other scholars affiliated with International Time Use Research Association.

levels fostering temporal change. Social media like Facebook or WeChat drastically rely on such filtering algorithms. Journalism is on the verge of algorithm-driven click-baiting and investigative stories are set to go viral. Generally, the mediated society that engulfed within the industry 4.0 is part of cultural temporal change as “smart objects disclose multiple, localized presents, pasts and futures” and feature the three logics of gradation, dispersion and dilation (Ash, 2018). Human-computer-interaction as is on the rise in Japan and its sense of temporal change (Katsuno, 2018) may eventually spread out to the Western and more rapidly to the Chinese world, highlighting the importance of such research endeavours. With these interwoven algorithms a fabric of temporalities is produced. Future social time research must ask how such intermediaries affect these Meta trends in more detail.

After all, we would like to give some critical remarks on the research here: While the strength of the paper lies in an interdisciplinary and systematic theoretical approach to digital temporal change, it can hardly be said that the theories elaborated on are complete for both German and Chinese cultural context. As of 2019, temporal change through digital media is underway and a research field is in flux with ever more emerging publications, including recent works on audiovisual communication by Barker (2018). Moreover, Schimank’s general societal change theories and, more specifically, the erosion of trust in journalism (Schimank & Volkmann, 2015) and society as a whole could also shed light on the temporal change and a ‘trust-based future perspective’. That said, the temporal change theories presented here for China tend to treat China and communism as one, whilst it remains unclear which specific forms of pre-communist temporalities in China exist (see Faust, 2016) and how these are in flux. Finally, it remains a matter of empirical research to investigate the co-existence of temporalities, i.e., co-existence of temporal Meta trends.

The future will show if more theories of the Global South on the temporal change will emerge, maybe even from Eastern Asian capitalist states. Finally, it remains open what prospects the society faces if such Meta trends prove to be empirically correct.

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Theorizing German and Chinese Culture Standards: An Emic Approach to Explain Cultural Differences from a Yin Yang Perspective

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Abstract: Cross-cultural research has often highlighted the differences of cultures, discussing this in terms of dimensions. Prior research often failed to provide an emic insight into one culture's characteristics. In order to overcome such stereotyping, Thomas offers an approach derived from critical interaction situations where the distinct features of each culture come into play. This paper takes up the idea of his culture standards but enriches them with more theoretical and practical emic knowledge on the standards and discusses them from a Yin Yang perspective. Two cultures are selected. For the sake of De-Westernization China is picked. Contrasting it with Germany is reasoned in distinct features between the two cultures. Culturally sensitive literature for both cultures is considered. In an outlook the application of such culture standards for quantitative data interpretation is discussed. [Maria Faust M.A.. **Theorizing German and Chinese Culture Standards: An Emic Approach to Explain Cultural Differences from a Yin Yang Perspective.** *China Media Research*, 14(4): 24-36] 3

Keywords: Intercultural Communication, Transcultural Communication, Culture Standards, Germany, China, Yin Yang

Introduction

Cross-cultural research has often highlighted the differences of cultures with some research even going as far as to describe cultures based on differences as such (Demorgon, 1991). However, most of the time prior research failed to provide an emic insight into one culture's characteristics. Usually cross-cultural differences were explained in terms of dimensions (Hall, 1984; Hofstede, 2001; House, 2004; Kluckhohn & Strodtbeck, 1961; Triandis, 1995; Trompenaars & Hampden-Turner, 2000), and often placing cultures on one end of the spectrum along bi-polar axes. Critique of such approaches has been manifold (for example see Fang, 2003; Herdin, 2017; McSweeney, 2002; Tung & Verbeke, 2010). In order to overcome the idea of finding universalities of culture, Thomas (Thomas, 2011) offers an approach derived from critical interaction situations where the distinct features of each culture are emphasized. This paper seeks to take up the idea of his culture standards, but enrich it with more theoretical emic knowledge on the standards. The following research question can be formulated:

RQ1. How can Thomas' notion of culture standards be enriched with indigenous insights in order to make it more profound?

However, such an enrichment process may still not overcome one of the main arguments against cultural dimensions or culture standards. Either of these theoretical concepts runs the risk of stereotyping a certain culture, emphasizing certain features of one culture over other features. Thus, in a second step it has to be asked how a more balanced theoretical perspective can overcome such stereotyping. Various efforts have been made to contextualize culture (e.g. Chevrier, 2009;

Newman & Nollen, 1996; Osland & Bird, 2000). In this paper I seek to apply the Yin Yang approach by Fang (Fang, 2012; Fang & Faure, 2011) to the concept of culture standards, as it offers a clear advantage. It provides a dynamic, paradox and holistic understanding of culture, implying that individuals, in this article of a national culture, may act and behave differently. In this way the enriched and balanced culture standards move even further away from the stereotyping processes. Thus, the second research question arises:

RQ2. In which way may the Yin Yang approach contribute towards a balanced enrichment process of Thomas' culture standards?

Finally, the purpose and relevance of this research are clarified. By defining culture standards and enriching them with indigenous insights, these standards can operate as frame of reference for data interpretation. The author argues that such emic perspectives are particularly helpful for cross-cultural quantitative research which lack qualitative elements (for further reading on the purpose of qualitative methods in addition to quantitative methods compare Sedlmeier & Renkewitz, 2008, 766, 779-778 or more thoroughly Schreier & Fielding, 2001).

The paper proceeds as follows: In the second part, Thomas' culture concept and his notion of the culture standards are introduced. In the third part Fang's Yin Yang Approach is briefly described. The remainder of the article then answers both first and second research question at the same time. Providing emic, indigenous insights to culture standards goes hand in hand with viewing the culture standards from a Yin Yang perspective. The two cultures Germany and China are selected for the purpose of examples in this article, even

though the author argues that the suggested procedure in this paper can be applied to any culture, be it on national level or another. China and Germany are picked as they display a variety of apparently opposing cultural standards, in other literature proposed as opposing poles of cultural dimensions (e.g., for most recent research compare Hofstede, 2001; House, 2004). The next part then discusses the inextricable links between the culture standards and an overall learning process. Before proceeding to the conclusion, the idea of using Yin Yang and the application of the more comprehensive culture standards for quantitative data interpretation will be elaborated. The conclusion part provides a summary and discusses prospects for future research.

Theoretical Background and Definition of Culture Standards

Thomas defines culture as follows:

Culture is a universally spread, for a nation, society, organization, group, thus for every social formation that humans feel a sense of belonging towards, very specific, typical and identity giving orientation system. This orientation system is manifested in specific symbols (e.g., language, norms, behavioral rules, behavioral scripts) and is traditionalized in every social formation through the process of socialization and enculturation. The culture specific orientation system influences cognition, thinking, evaluating, judging, emotional and motivational processes, and action of all members of any social formation. It thus defines the belonging of the members (function of constituting identity). According to the culture definition of Boesch (1980, p. 17) culture structures a specific field of action for the individuals feeling the sense of belonging towards a social group. This field spans out from created and used objects to institutions, ideas, and values. It thus lays the foundation for developing individual forms of dealing with the environment. (Thomas, 2011, 100, translated by Faust)

Thomas developed his notion of the culture standards (Thomas, 1999) based on a data-driven model like many other cross-cultural researchers. Critical interaction situations are the ones where cultural differences become the most apparent for him (for a more thorough description see Schroll-Machl, 2013). The points at which the underlying, socialized ideas and notions of the inherited culture conflict are displayed are in critical interaction situations (Averbeck-Lietz, 2010). These critical incidents are reported in interviews and eventually played out again in intercultural trainings. The latter method then allows for a more thorough interpretation by the members of the heritage culture. In this sense, culture standards should not be confused with stereotypes or prejudices which are normally seen as an ascription towards a specific culture by members

of another culture (Schroll-Machl, 2013). In this sense culture standards “represent the summation and abstraction of all of the explanations that have been collected from a large number of critical incidents” (Schroll-Machl, 2013, p. 32). In other words, Thomas defines culture standards as follows:

Culture Standards are the types of perception, thinking, valuing, and acting which are perceived as normal, typical, and binding for the majority of the members of a specific culture. This applies to themselves and to others alike. Behavior of themselves and others is controlled, regulated, and assessed on the basis of these culture standards. Culture standards have a regulating function in a wide range of situation copings and contact with persons. The individual and group specific way of dealing with culture standards for regulation of behavior can vary within a specific frame of tolerance. Behaviors that are out of the situation specific frame are rejected and sanctioned by the environment. (Thomas, 2009b, 25, translated by Faust)

As can be seen, his definition of culture standards falls in line with his culture definition. The standards may be displayed in behavior. However, perception, thoughts, and values are underlying it.

Expanding Culture Standards indigenously and from a Yin Yang Perspective Introduction to Yin Yang Approach

The notion of Yin Yang is an ancient East-Asian symbol, which has been applied to communication and culture theory as well as to business models by a diverse range of scholars (e.g., Chen, 2009; Fang, 2012; Herdin, 2017; Peng, Spencer-Rodgers, & Nian, 2006). Instead of delving deeply into Fang’s Yin Yang approach (see comprehensive explanation in Fang, 2012) I seek to apply his four core propositions to the culture standards. Recent research (Faust, 2017) has shown that they can be applied as an underlying fundament with certain modifications. The first proposition states: “Proposition 1: If there exist {‘+V1’, ‘+V2’, ‘+V3’, ... ‘+Vn’} in a culture, {‘-V1’, ‘-V2’, ‘-V3’, ... ‘-Vn’} can coexist in the same culture depending on the situation, context, and time” (Fang, 2012, p. 36).

It is an overarching principle as it attributes coexistence of values in a given culture. Situation, context, and time eventually decide which values come to the rise. The proposition’s application to Thomas’ culture standards suggests that the three attributing factors (context, situation, and time) need to be discussed when applied to culture standards. Moreover – and this applies to all four propositions – Fang suggests values as guiding causes for cultural action. However, drawing on Thomas’ culture standards definition, “the types of perception, thinking, valuing,

and acting” (Thomas, 2009b, 25, translated by Faust) are to be perceived together and cannot be separated from one another. As the relationship between values and human action has been discussed controversially in cross-cultural research for decades, we do not seek to enter this debate here, but follow Thomas when stating that culture standards include perception, thinking, valuing, and acting regardless of the nature of interconnectedness.

The second proposition then states: “Proposition 2: To guide action in a given context at a given time, human beings choose the most relevant value(s) from the full spectrum of potential value orientations ranging from {‘+V1’, ‘+V2’, ‘+V3’, ... ‘+Vn’} to {‘-V1’, ‘-V2’, ‘-V3’, ... ‘-Vn’}” (Fang, 2012, p. 38).

As said before, perception, thinking, valuing, and acting may be chosen instead of values only. What is more though, Fang does not include passive behavior. He suggests an active perception of men which has dominated scholarly communication and media debate throughout the 1970s and onwards (for an overview see Renckstorf, McQuail, Rosenbaum, & Schaap, 2004). Yet, information processing theories, such as the Dynamic-Transactional Approach, have shown that this does not hold true (Früh, 1991). Communication – as an integral part of culture – is two-sided, i.e., both active and passive, and so is culture as a whole, dependent on situation, context, and time.

Next, proposition three will be discussed: “Proposition 3: In a culture in a particular context at a particular time some values {‘+V1’, ‘+V2’, ‘+V3’, ... ‘+Vn’} can be promoted, while other values {‘-V1’, ‘-V2’, ‘-V3’, ... ‘-Vn’} can be suppressed, thus resulting in a unique value configuration” (Fang, 2012, p. 39).

We follow and enrich Fang in his argument that, depending on situation, context, and time, certain features of culture are suppressed while others are promoted. These features are culture standards, i.e., perception, valuing, thinking, and acting.

Finally, proposition four: “Proposition 4: Each culture is a unique dynamic portfolio of self-selected globally available value orientations ranging from {‘+V1’, ‘+V2’, ‘+V3’, ... ‘+Vi’} to {‘-V1’, ‘-V2’, ‘-V3’, ... ‘-Vi’} as a consequence of the culture’s all-dimensional learning over time” (Fang, 2012, p. 41).

Cultural learning here does not only apply to values, but also to culture standards as a whole. Moreover, self-selection is restricted through the surrounding circumstances, i.e., context, situation, and time. This is implied in both behavioral learning theories and the theory of situative learning.

Thus, the following four key characteristics emerge from the revised Yin Yang perspective:

1. a comprehensive culture standard definition evolves, including perception, thinking,

valuing, and action, rather than focusing on the relation between values and action only

2. situation, context, and time define activity and passivity of humans
3. specific configurations of culture standards emerge
4. such specific configurations of culture standards are dynamic through cultural learning processes.

The following two chapters now look at German and Chinese culture standards. At the beginning descriptive definitions explain the standards in the two cultures. Next, context, situation, and time are discussed – particularly from a Yin Yang perspective. Like the two poles of the East Asian symbol, prominent examples are given under which specific conditions the standards rise and when this is not the case. Finally, the configurations are touched upon in an outlook.

Elaboration on German Culture Standards from a Yin Yang Perspective

For German culture, Thomas distinguished seven culture standards (Thomas, 2003, 2009a). As Thomas’ work is rarely very explicit in terms of German culture standards, the following subparagraphs are mainly based on the work of Schroll-Machl (2013), who closely researched and collaborated with Thomas and eventually published a monograph on German culture. Even though her research can only offer a first impression of German national culture and may well be seen as sophisticated stereotyping (Averbeck-Lietz, 2010), we would like to base the following argument on her work as her research is closest to Thomas notions of culture standards. Contextualizing thus remains essential, and has a longer tradition in intercultural communication in recent years (Osland & Bird, 2000).

Task/Object Orientation. According to Schroll-Machl Germans give the highest priority to the respective matter, i.e., task or object, and not to personal relationships (Schroll-Machl, 2013). Indigenously, Kühnel (2014) finds this phenomenon to be reasoned in two different historical streams: first, Jewish-Christian monotheism and then secondly and most, particularly Protestantism led to an intellectualization in religion, which eventually spread to other life areas. His first argument is deeply rooted in the work of Max Weber (2006) and he speaks of an overall rationalization process that – based on Kant’s categorical imperative – crossed the field of a mere religious sphere to other spheres in life. Second, Prussian bureaucratic values and German sectionalism similarly shaped this culture standard. Germans in this sense perceive, think, value, and also act in this sense.

But under which conditions is task and object orientation actively favored, or maybe even learned and inherited? We seek to elaborate this for a business context here: Germans negotiate based on the perceived merits of a deal with no need for establishing close personal relationship before doing business when the deal is already orally fixed. Rapport-building with colleagues only eventually occurs whilst discussing the deal but not beforehand. There is little room for general conversation in advance when partners already know each other. At the same time, certain situations, context, and time frames give rise to the opposite: For example, Germans do indeed have measures through which social relations are fostered and where trust-building takes place. On the formal side, a growing number of team-building events such as outdoor tours, off-road events or team trainings as well as an increasing number of seminars and courses on soft skills have become best practice even in smaller companies. Moreover, informal gatherings along the golf course or ‘Stammtisch’ (cracker barrel) demonstrate a long-standing socializing tradition in German business culture. Particularly at trade fairs or conferences, networking is a matter of the evening hours and therefore the first step for building partnerships. New communication technologies, e.g., the social web with unique German platforms such as XING.com, e-fellows.net for young professionals and Lalasio.com for academia, speed up this process drastically and allow initially informal established partnerships to evolve.

Regulation Orientation. Schroll-Machl defines regulation orientation as the process where structures and rules are valued (Schroll-Machl, 2013). She adds that all such structures – meaning the different life areas – are regulated by rules. According to the author they serve as institutions to help to organize and arrange everyday life. She claims that German quality and progress all rely on these institutionalized rules. The underlying fundamentals are similar to the next culture standard – rule orientation and internalized control – and are deeply rooted in Napoleon’s reforms, Prussian virtues (Schroll-Machl, 2013), as well as a nation state philosophy (Kühnel, 2014). As the two standards are strongly related, they will be elaborated more thoroughly in the next section. We now turn towards contextualization of this culture standard: Certainly, in the field of business work a lot of Germans may not be entirely flexible. Working on assembly lines or within environments where there is less leeway on deviating from a standardly ordered and manufactured product (Schroll-Machl, 2013) may hold true and indicate a strong regulation orientation. On the contrary, it is likely that during international conferences and fairs people are addressed and refer to themselves by their names only. Business practices are as diverse as the German

language: one distinguishes between ‘Du’, you, informal, ‘Sie’ and first name, moderately formal you, and ‘Sie’ and last name, highly formal you. All forms can and do occur. ‘Sie’ used to be a sign of high respect. These days it is on the decline. Some locally oriented companies usually use ‘Du’ as it is specific for a region. But even multinational corporations in Germany lack ‘Sie’ and last name due to high international influence. So depending on region, surrounding environment, age, and other factors these regulations may not occur.

Rule-oriented/Internalized control. This culture standard refers to rule-orientation and is motivated through internalized control (Schroll-Machl, 2013). According to the author, these clear, universal guidelines without consideration of class or relationship are particularly important in the workspace. Rules are considered binding and have a moral value, which is counted as reliability. Schroll-Machl states that the underlying idea is responsibility and a clear identification with the task. Moreover, she adds that it is seen as “personal autonomy and self-determination” (Schroll-Machl, 2013, p. 96). Let us turn to the indigenous insights: originally, archaic tribes allowed for small-scale approaches and created a sense of community, where everyone held a responsibility for something. Moreover, the reforms by Napoleon and so-called Prussian virtues (Schroll-Machl, 2013) complemented by nation state philosophy (Kühnel, 2014) indicated that task orientation is more important and individuals are not so relevant. Rooted in Protestantism this conscience became more important than the church and written regulations. In this sense, the focus is on the individual’s own reliability towards oneself as well as towards the daily life and job, as they are bound to God through the state. Kühnel adds that this culture standard strongly relates to Kant’s categorical imperative: internalized rules secure the functioning of society and substitute affective impulses (Kühnel, 2014). Which circumstances now give rise to rule-orientation and internalized control? As mentioned earlier, certain business contexts let this culture standard prevail. Individuals working in teams and also with other stakeholders often display that everyone holds their own responsibility towards carrying out a specific task. This does not only apply to academia, where work is independent, but also to huge companies such as market research agencies like Taylor Nelson Sofres. Finishing projects is expected to be self-indicated, and working overdue hours is standard in high professional settings. Younger people simultaneously seek for a better work-life-balance (Shell Germany). At the same time, class and relationship do play a role even in academia: a lot of positions at universities may be publicly announced, but professors hire on the basis of personal contacts or take along former employees when moving places. Were they rule-oriented, a fair chance

for each applicant would be given. Moreover, even though women as well as disabled people are usually supposed to be given an equal chance by law and equal opportunities regulations, professional practice paints a different picture.

Individualism. According to Schroll-Machl this standard refers to “the relative emotional distance or independence a person has from a group and organizational identity” (Schroll-Machl, 2013, p. 198). The focus is on the person, his or her independence, and self-sufficiency. She states that the “primary identity is the personal identity of the individual” (Schroll-Machl, 2013, p. 198). Furthermore, one has the right or obligation for his or her own private life and a certain degree of autonomy from the group. This goes along with the freedom to hold on to personal interests. Again, this standard is rooted in the Judeo-Christian tradition. Protestantism required a rational mindset and prudence, which underlies the notion of autonomy (Kühnel, 2014; Schroll-Machl, 2013). Both the aforementioned authors see individualism in almost every situation, context, and time, such as when children learn to become independent and to express their opinion in school and eventually in further education. Even the work environment in teams gives the worker a degree of autonomy. Now it would be more interesting to ask which conditions lead to a more collectivist behavior in Germany. The sense of community can be found in German societies such as “Vereine”, where people share common interests (e.g., gardening, health organizations, etc.). Rural areas in general still hold a strong sense of community, with the anonymity of large cities described by authors such as Simmel in the early 20th century (Simmel, 2002) stating the contrary. Villagers in Germany gather in local clubs, pubs, and meeting points. They bond on the base of local rumors, births and deaths in town, and recent news in the community. Even business people network in Germany – be it in academia or private business. Team work, apart from not self-selected teams in companies, often evolves from personal sympathy and ties with one another. These may not be as strong as the ones as for example in East Asia (compare the notion of Guanxi later in this article), yet, it does not hold true to speak solely of individualism in German culture.

Separation of Personality and Living Spheres.

Schroll-Machl defines this culture standard as follows:

Germans make strict divisions between the various parts of their lives. They adjust their behavior according to both the sphere in which they are dealing with another person as well as how close they are to that person. Separation of the following spheres is fundamental:

- professional – private

- rational – emotional
- role – person
- formal – informal” (Schroll-Machl, 2013, p. 140).

The author highlights that it works like an either-or-framework. An example is that, even if a professional colleague comes into play in private life, the mode of communication would be rather formal, rational and role-oriented. However, little indigenous insights can be provided, as Kühnel only states that Judeo-Christian tradition plays a vital role (Kühnel, 2014). Here we follow Yin Yang and elaborate on activity and passivity in this culture standard depending on context, situation, and time. Of importance is, though, that Schroll-Machl states that there is an “oscillating between the two poles” (Schroll-Machl, 2013, p. 158) depending on whether one deals with a friend or acquaintance. However, she does not concede that the matrix-like separation is overcome: When colleagues become friends, they would then move to the private, emotional, person-centered and informal level. According to the author, this would mean that Germans do not have any flexibility depending on context, situation and time. Here we argue that these dimensions can work like a matrix, blending different modes of the culture standard. A professional colleague may well be a friend and can talk quite informally during the break, yet be rational when it comes to team-work. One famous example may be found in history, when former chancellor Konrad Adenauer established professional trust and a friendship-relation to his French counterpart Charles De Gaulle. The Élysée-Treaty has stabilized and institutionalized German-French foreign relation. Recently similar occurrences can be found in the public sphere: German minister of foreign politics Sigmar Gabriel has visited French president Emanuel Macron at the end of August 2017.

Time Management. According to Schroll-Machl time planning is a matter of sticking to schedules and planning in advance (Schroll-Machl, 2013). She sees the fundamental ideas in the task orientation, which do not allow leeway, and that time is valued as an asset. Moreover, consecutive steps are taken in order to achieve tasks. The researcher sees appointments as the regulators of Germans to schedule tasks and people going as far as scheduling private life as well. Disturbances and interruptions are highly sanctioned. Now, Schroll-Machl does not discuss the underlying ideas behind it. Time planning and with it a linear image of time is in fact a product of modernity, whereas agrarian societies have valued more cyclical notions. Core drivers were industrialization and the assembly line, the rise of public and eventually private clocks (Elias, 1982). Research on this matter has been manifold (for an overview see Hall, 1984; Hall & Hall, 1990;

Helfrich-Hölter, 2010; as well as a much more thorough definition and discussion see Faust, 2016) and was thus just touched upon here. So in which contexts and situations is punctuality, even arriving a few minutes early, highly valued in Germany? When is tardiness perceived as unreliability, and when are schedules and meeting agendas rigidly adhered to? Interruption during business meetings by phone calls or unscheduled visitors hardly ever occur. Lectures at universities do not refer to leeway on time but to punctuality. Although the academic quarter, *cum temporae*, implies 15 minutes leeway, lectures start quarter past the hour and no later. The next part focuses on the different circumstances which have been created by mobile media. Mobile and smart phones changed the attitude towards the idea of delay globally (Dimmick, Feaster, & Hoplamazian, 2011). The opportunity to announce tardiness allows for greater flexibility and creates postponed or rescheduled daily agendas. Interruptions occur when it comes to situations in internal meetings of political parties, executive meetings, or official visits that require immediate response. In 2010, for example, a meeting of the legislative assembly of Lower Saxony was postponed for 45 minutes to solve a conflict between two parties as harsh criticism was twittered from one side. Also, the increasing flexibility of working hours has not stopped at German borders (Gutmann, 1999). Flexi-time, job-sharing, rolling shifts, and telecommuting are only some of the recent working models. Finally, at private parties or business get-togethers before conferences, Germans can be more relaxed when it comes to temporal issues.

Direct Communication with Low Context. Direct communication with low context is the last culture standard of Germans and relates to the importance of content, not the way of expression (Schroll-Machl, 2013). Honesty and sincerity characterize it, and personal sensibilities are not taken into consideration. Germans need little supplementary information, yet at the same time have little awareness for hidden clues. Communication is direct and explicit, double meanings are avoided. Moreover, others are openly confronted with conflicts by Germans with some sheer assertiveness. Criticism is frankly expressed (Schroll-Machl, 2013). Both Schroll-Machl and Kühnel argue that philosophy/religion as well as society have shaped this culture standard (Kühnel, 2014; Schroll-Machl, 2013). Both Plato's ideas and Christian-Jewish world views have shaped the notion of truth as objective standard. Reason gains an ontological, objective status and its norms are internalized, creating a context-independent form of communication. So when are Germans reserved, direct, and not very emotionally expressive? Northern Germans are distinguished from Southern Germans with the latter being more

extroverted in this sense. The use of gestures or animated facial expressions is rare, and interruption is uncommon. A firm handshake with one or two vigorous pumps along with very direct eye contact is of importance when meeting and departing. Germans tend to restrain themselves in terms of arm and hand gestures with German chancellor Angela Merkel being the best example. It is also rude and against the law to tap ones forehead while looking at someone else, which translates to 'einen Vogel zeigen' in German. For this culture standard Schroll-Machl acknowledges exceptions (Schroll-Machl, 2013, pp. 184–185). Falling in line with her argument, we now identify conditions and situations when Germans use high context. Employees in Germany behave no differently than other cultures when they try to make a good impression for the sake of an ongoing conversation. Paralanguage as irony and sarcasm are usually transmitted through tone and voice. In political terms "DIE PARTEI" represents political opinions full of irony. Goodwill and favor are also communicated non-verbally. Particularly when someone higher up in the hierarchy is informed about negative outcomes, a German would try to get the information across as smoothly as possible. There are numerous examples in the political arena showing German representatives who have felt emotionally triggered and showed it such as Brandt's knee fall or even Merkel's tears during the commemoration for the victims of the Winnenden shooting rampage. Particularly in academia there are tendencies towards hugging close colleagues – academics international contacts may be one reason why this phenomenon occurs. Finally, interruptions are common among Germans if someone goes off-topic or provides negative information to which another person is opposed. It goes without saying that specific business techniques like brainstorming actually require interruption regardless of national identity. Handshake and eye contact are important when it comes to nonverbal communication in official introduction situations. Yet there are various situations where Germans make excessive use of body language, e.g., fan-cheering at football games, carnivals and Mardi Gras, or dancing in clubs. Even in business contexts gestures gain popularity, be it close colleagues at work signaling agreement or disapproval or teachers using them during their lessons. Politicians have also recognized the importance of gestures, with many workshops, seminars, and professional trainers assisting politicians including Merkel.

Elaboration on Chinese Culture Standards from a Yin Yang Perspective

As far as Chinese culture is concerned, we now focus on six culture standards (Thomas, 1999). In order to overcome a Western perspective, culturally sensitive literature is considered since Thomas (1999) does not go

into detail when stating the standards. Some culture standards are modified and one (etiquette) is left out, as to our knowledge Chinese literature does not consider it. Lu and Chen (2011, p. 58) provide a comprehensive literature overview on Chinese traditional cultural values.

Social harmony (he, 和). Wang et al. state that harmony originates from he (和) and has a “distinctive ideological load seated in over two millennia of Chinese history and Confucian traditions” (Wang, Juffermans, & Du, 2016, p. 301) as well as the pre-Confucian era. Moreover, they expand on Confucianism and state that there is a “differentiation between harmony and sameness, between valid harmony based on the acknowledgement of difference versus sameness, and invalid harmony, based on the diminishing of difference; it also states the moral-ethical categorizations of harmony for which the order of good and bad, appropriate and inappropriate, is negotiated and established” (Wang et al., 2016, p. 302). In contrast to Schroll-Machl (2013), who states that criticism is not valued, Li (2006, p. 592) goes below the superficial concept of dissent and argues that “harmony is not only a state but, more importantly, a process. Disharmony is necessarily present during the process of harmonization.” In this sense, criticism and opposing views may just be expressed more moderately to secure long-term harmony. Thomas (1999) referred to tricks and tactics as the second part of this culture standard; however, this becomes clear in the light of securing long-term harmony, as Westerners may misunderstand the ongoing process of negotiating. So while harmony is prevalent among business negotiations and in the in-group in China, outsider-oriented communication is not in need of harmony. People who are not tied to a close circle – be it family, friends or colleagues – may experience offensive and less respectful behavior, e.g., when entering the subway.

Face (mianzi, 面子). Fang and Faure (2011) have elaborated on the concept of face and discussed it from a Yin Yang perspective (not quoted in full length):

Face (mianzi, 面子) involves the respect of the in-group for the person with good moral reputation as well as his or her prestige (Hu, 1944). Face is thus not only an individual's but also his or her in-group's business, often with moral connotations. Face permeates every aspect of interpersonal relationships in Chinese communication because of the Chinese culture's overarching relational orientation (Gao, Ting-Toomey, & Gudykunst, 1996). Face is at the center of Chinese social psychology (Bond, 1998; Bond & Hwang, 1995). Chinese communication is face-directed

communication (Gao et al., 1996). Social harmony is achieved through controlling feelings, appearing humble, avoiding conflict, and even hiding competition. The expression of emotions is carefully controlled because of the risk of disrupting group harmony, hierarchies, and interpersonal relationships. Those who do not follow this code of behavior would be considered as losing face and bringing shame on them. Therefore, the Chinese rules of the game discourage saying a direct “no” and being negative, which would be perceived as face-losing in communication. Not showing ignorance seems more important than telling the truth in the traditional Chinese culture (Faure & Fang, 2008). Saving face and caring about the face of others is a major Chinese value in Confucian tradition. However, “thick face” or “faceless” attitude (Chu, 1992) is also a Chinese value in Taoism. From the Taoist point of view, having the courage to lose face would make people psychologically stronger and more mature. When facing disgrace, the best strategy, according to the Taoist principle, is not to stand firm but to “run away” in order to, later on, come back (Fang, 1999). Such a strategy has been extensively practiced by Mao Zedong during all the wars prior to seizing power in 1949. Nowadays, in international business negotiations, Chinese executives do not hesitate to say “No” when haggling over price and other commercial issues whenever necessary (Fang, 1999). In a confrontational stance in negotiation, especially when the negotiation atmosphere is not as friendly as the parties have expected to be, saying a straightforward “No” to your counterpart is rather common in Chinese communication processes. It seems that the Chinese dos and don'ts is not an absolute notion but a dynamic phenomenon depending on the degree of trust established between the negotiation parties. Being negative, saying “No” to western powers is still featured as a delicate issue by Chinese diplomacy in international relations but such an attitude has gained some favor in recent years in pace with China's development. Bestseller books such as *China Can Say No* and *China Is Unhappy* published in recent years indicate an increasing nationalistic sentiment among some Chinese intellectuals. The use of “no” and display of emotions in defense of China's national interest are becoming more direct and open than before. For instance, Chinese students at home and abroad took to the streets in the spring of 2008 for demonstrations when they felt China was being unfairly treated in the western media on the Tibetan issue. It had already been so after the bombing of Chinese Embassy in Belgrade

when students broke the glass windows of the US embassy in Beijing. It had also been a fact with the anti-Japanese rampage because of disputed wartime history books published in Japan. Thus, in many cities in China protesters smashed cars, shops, and Japanese restaurants. (Fang & Faure, 2011, p. 330)

Social Ties (Guanxi, 关系). Social Ties resp. Guanxi as a culture standard refers to a horizontal net of relationships based on trust and interest relations (Lu & Chen, 2011; Tsui & Farh, 2016). It is important to take care of the relationships, particularly through favors and gifts. Particularly in establishing relationships these interdependencies are mutual in establishing trust to leave superficial acquaintanceship. Social ties therefore create a sense of reliability but also request both partners to participate. Again, this culture standard sees its roots in Confucianism. Which contexts and situations now display features of guanxi? Particularly in business relations, trust-building is considered mutual. Invitations to after-work dinners are common and are expected to be two-sided from both partners. Bills are not shared but both partners take turns in paying to create a mutually respectful relationship. At the same time, it also occurs in private life and on governmental relations where it, however, may bring the idea of corruption with it. Nevertheless, with international people Chinese are, for example, adjusting to situation and context even in a more private environment. Small greetings may just consist in a simple WhatsApp or WeChat message, whereas traditionally one would have an effort to get the other person a gift for his or her birthday.

Work Unit (Danwei, 单位). The work unit (Li & Kleiner, 2001), Danwei in Pinyin, was the smallest social and political unit right after the family. Anything from a university faculty to a state factory would be equally regarded as one. Key features were the loss of anonymity and securing identity. Work units secured welfare through retirement pensions, medical care, political and social control, as well as education. From a historical point of view they fit in with the close-tied Chinese society. Li speaks of cellular structure in this sense (Li & Kleiner, 2001). As a Mao-ruled, communist ideal, which also strongly supported collectivist ideas, the work unit structured and regulated everyday life. Here we can see the close ties to collectivism, which Thomas (1999) does not discuss, but which can be seen as the underlying fundament which made and makes communism in China still work. So in which contextual circumstances does the work unit still play a key role in China? Of course, Chinese still feel a strong sense of belonging to their companies, and maybe even increasingly to their home universities.

This is displayed in students wearing branded university clothing, the high participation rates in leisure activities on campus which are run by the university, and a strong sense of community when Chinese students study abroad and stick to themselves. Chinese neighborhoods abroad are another example. At the same time, as work units are a relic from the Mao era, individualism becomes more prevalent in advertising for example (Zhang, 2010). The younger generation particularly reacts to commercials where individualistic ideals are portrayed.

Hierarchy (Dengji Zhidu, 等级制度). Hierarchy is a central tenet of Chinese culture and therefore a standard (e.g. Lu & Chen, 2011; Zhang, Lin, Nonaka, & Beom, 2005). It is deeply rooted in Confucian philosophy and consists of an asymmetrical system in ordering relationships, e.g., father/son, husband/wife, master/servant, teacher/student. The last relationship in particular displays characteristics such as polite, obedient, and generally silent behavior in class. At the same time it goes along with learning difficulties, such as in foreign language learning which would need students to speak out. The roles also make life easier: the ordering causes the lower hierarchical person to show obedience, respect, and support, whereas the higher ranked person supports the lower through security and teachings. Thomas furthermore names bureaucracy as part of this culture standard (Thomas, 1999). However, we would like to argue that this is not so much a normative way of thinking but a result of following hierarchical principles. These days hierarchy is still visible in the business field, where different Chinese people are assigned specific seating positions. Gifts passed on display different values. At the same time, during the time of the Cultural Revolution and thereafter, context and situation changed this Chinese culture standard. The Red Guards mark one of the distinct examples of this time when they opposed the traditional teacher/student-relation.

Some Remarks on the Entanglement of Culture Standards

We have mentioned earlier that specific culture standard configurations emerge. These are based on two fundamental principles: first, Kühnel (e.g. 2014, p. 70) as well as Schroll-Machl (2013) have discussed on various occasions that the culture standards are not independent of each other but inextricably linked. Kühnel based it on Luhmann's system theory, whereas Schroll-Machl followed a more historical reasoning. Moreover, according to Yin Yang, these configurations are not static but follow an overall learning process over time. A first step has been made during Fang's international conference 2012 on Yin Yang Paradigm at Stockholm University, where value configurations and

change over time were discussed. Now, further research may consider these two theoretical notions through longitudinal studies as well as seeing, e.g., cross-correlations between the culture dimensions not as an effect to merely erase but to consider them important for further investigation.

Can Enriched Culture Standards be useful for Interpreting Quantitative Data?

Research in social sciences has long known the method of triangulation (for an overview see, e.g., Bortz & Döring, 2010). Denzin distinguished four different forms of it: data triangulation, researcher triangulation, method triangulation, and theory triangulation (Denzin, 2017). All forms ultimately aim at investigating a certain phenomenon from different angles. Method triangulation often makes use of combining quantitative with qualitative research methodology, providing a more profound understanding of the subject. In this case, both methodologies are applied to the same subject – yet, at the same time, data interpretation relies heavily on the researcher, even though qualitative data may secure a more thorough understanding of sense-making processes in social sciences. Let us turn to a different notion, though: say, useful theoretical knowledge has been gained from qualitative research – in our case, both Thomas (2003) and Schroll-Machl (2013) used qualitative methodology to derive the culture standards. Despite him not applying grounded theory (Glaser & Strauss, 2012), his culture standards create an abstract notion, maybe already theoretical knowledge, of cultural characteristics beyond both stereotyping and culture dimensions. Hence, it is reasonable to ask why triangulation stops at systematically applying theories to data interpretation. Recently, Byrne's (2003) and Ragin's (2014) publications promised to shed light on "interpreting quantitative data" and to move "beyond qualitative and quantitative strategies" in comparative research. Byrne elaborates on the reasons for measurement, its nature, etc. However, when it comes to interpreting such measurements, he only turns to exploring, describing and classifying, as well as higher statistical modelling. Ragin, again, is on the qualitative side, introducing case-oriented comparative methods and Boolean methods. So even though both scholars promise to look beyond the quantitative-qualitative dichotomy, they merely surpass it. Neither of them has even considered the use of theories in interpreting quantitative data, which often lacks indigenous insights, and as to our knowledge, this approach, which we now seek to elaborate on, has not been introduced yet.

So how could we conceptualize this procedure? Generally, we suggest the use of culture standards for interpreting quantitative data. In the previous chapter it was shown that culture standards are interrelated. Cross-cultural comparative research often relies on culture

dimensions either a) as to be investigated or b) as influencing variables. In the case of seeking cultural universalities or differences, this interrelatedness has been criticized with the constructs not being distinct (see, e.g., Fang's critique on Hofstede Fang, 2003). Second, if considered as influencing variables, they are likely treated as collective variables coming in the form of Likert-scales measuring constructs such as collectivism (Triandis & Gelfand, 1998), which moderate the dependent variable(s). In either case, this interrelatedness is seen as methodological weakness but not as strength. We describe two ways of targeting this problem:

1. In the first case, culture dimensions or value research would improve if they payed more tribute to standard deviation and variance. Here, the outliers could be interviewed qualitatively with a mixed method approach. Such interviews would provide an understanding to context, situation, and time, as proposed in the Yin Yang approach.
2. In the second case, when only one or a few culture scales are integrated into a cross-cultural comparative research design a priori, culture standards may accompany data interpretation. For example, if the Chinese population in the sample displays a stronger preference for group-activities such as KTV than their European counterparts, it can be attributed to collectivism which has been measured and shown an effect. Other culture standards may now become relevant: Social harmony and social ties could underline the explanation process. In a business context KTV for example strengthens the social ties between business partners. It is a matter of establishing trust and reliability before making a business deal. In a private setting social harmony may be more prevalent. In this sense context, situation, and time are highly relevant, and when measured through, e.g., socio-demographic variables, may guide choosing the relevant culture standards.

Conclusion

We see that culture standards go beyond culture dimensions in the sense that they provide more elaborate culture specifics. Indigenous insights helped to underline this argument. Moreover, the application of the Yin Yang approach showed clearly that the people – of in our case national culture – may act and behave differently according to context, situation, and time. Now, where do we see limitations of this paper and work for future research?

Theoretical Enrichment

1. So far, only Fang's Yin Yang approach has been applied here. It may be worthwhile to investigate more on East Asian Yin Yang notions as there are further theories to be included.
2. The named culture standards are not finite (Kammhuber & Schroll-Machl, 2009). It thus has to be investigated if new culture standards could be added; and/or their interrelation could be elaborated more.
3. Particularly the historical, indigenous insights have remained vague. Similarly, not only cultural heritage but also the change of the standards over time, e.g., in the context of globalization, needs to be researched. This has been done, e.g., in a preliminary stage at the 2012 Inaugural Conference on Yin Yang Paradigm at Stockholm University and needs further elaboration.
4. It remains open if the culture standards equally coexist. We have seen that they are interlinked. However, it might be, for example, essential to point out "task orientation" (based on Prussian bureaucratic values and German sectionalism) as the foremost important feature of German culture as one key feature. In this sense, historical research needs to underline the individual importance of one or several standards. Moreover, if this German spirit of task orientation is treated as yang (or yin, resp.), then the hidden forces of Kantian categorical imperative (based on Judeo-Christian cultural heritage) must be yin (or yang, resp.). It implies that this tao-chi framework as deeper version of Yin Yang framework does not only suggest context, situation, and time, but could also be applied to historical background as intangible vs. culture standards as tangible. In this case the human task-orientation would be the tangible manifestation of the intangible forces of Judeo-Christian cultural heritage.
5. Moreover, for comparative research Yin Yang theory could be applied to the comparative study of two cultures. E.g. in this case, German culture may be treated as the representative Yin (i.e., the Yin side) and the Chinese culture as representative Yang (i.e., the Yang side) of the "comprehensive cultural space" of the East-West world. This may well affect the underlying philosophical resp. religious notions. To underline this, in a Chinese version of The Bible (Hong Kong Bible Society, 1987) there is this statement: "太初有道...道就是上帝." The English version (Biblica, 2011) on the contrary starts as following: "In the beginning was the Word, ... and the Word was God." The aforementioned Chinese wording may be translated as follows: "In the beginning, there is Tao; ... Tao is God." Thus, by this interpretation,

God is Tao (or Dao), and consequently the task orientation is *chi* (or *qi*) as the manifestation of God (or God's teaching) in the world of *tao* and *chi*. Logically, this Yin Yang framework would be enriched by the *tao-chi* framework; and therefore, God is Yin (i.e., the ultimate Yin, or Yang, resp.) while task orientation is a Yang (or Yin, resp.). In the above, this following of God's teaching is conceived as an act of Kantian imperative, with this imperative or ultimate command stemming from Kantian category of practical reason, rather than his category of pure reason. Related to this judgment, in the Western tradition, Kantian philosophy may not be perceived as one of dualism (with internal contradiction). And yet, by the reasoning of (philosophical) Taoism, there is a steep cliff separating Kantian practical reason and his pure reason. Then, by immersing into the yin yang framework, the remodeled Kantian philosophical system (in the world of yin yang conformity/harmony) will remove its contradictory logic of dualism, and achieves its internal consistency. To summarize this suggestion: it will be worthwhile to consider both religious and historical underlying phenomena in the respective cultures to be compared in order to grasp the complexity and the ever changing nature of culture standards (i.e., *pantha rei*). Finally, comparisons may benefit from a commensurability perspective, where Wang speaks of a "meeting point" in order to delineate differences and similarities (Wang & Huang, 2017, p. 106).

Data Interpretation Process

1. The two suggestions outlined above have to be further specified. Both comparative and culture dimension research are important to be improved.

Gain of Practical Expertise

2. A lot has been said about hands-on advice for intercultural communication and business interaction in terms of culture standards. However, it has been fairly biased, as context, situation, and time were not considered. Further research has to close this research gap.

Last but not least, De-Westernization in academia has to become one of the top priorities in an increasingly globalized world, as: "Education is the key to unlock the golden door of freedom" (George Washington Carver).

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Does the Internet Change Past,
Present and Future? –
Empirical Survey Measures
for Germany and China

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Abstract. Digital media have shown to alter how people deal with and plan time in everyday life. Quantitative research on the subject is scarce. In this paper, I address this by providing a survey design to measure temporal change in two cultural contexts, namely the German and Chinese one as they were previously two different temporal cultures which are now assumed to homogenize. Drawing upon a theory of habitualization, the theory of the social construction of reality and triadic causes I sketch how digital temporal change can be tackled through a bilingual questionnaire, i.e., German, and Simplified Mandarin, presented here in English. Internet-mediated communication is measured alongside personal factors, social and situative influences as independent variables. Temporal understanding as the dependent variable is a nine-dimensional construct, consisting of emic German and Chinese time notions.

Keywords: social time, cultural change, digital media, cross-cultural research, Germany, China

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Меняет ли Интернет прошлое,
настоящее и будущее?
Эмпирические опросные измерения
для Германии и Китая

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Аннотация. Цифровые медиа не впервые меняют то, как люди обращаются со временем и планируют его в повседневной жизни. Однако количественных исследований на эту тему крайне немного. В настоящей статье представлен дизайн опроса, позволяющего замерить темпоральные изменения в двух культурных контекстах: немецком и китайском; поскольку ранее они представляли собой две разные темпоральные культуры, которые в настоящее время, как принято считать, гомогенизировались. Опираясь на теорию габитуализации, теорию социального конструирования реальности и триадную взаимную причинность, автор обрисовывает, как к цифровым темпоральным изменениям можно подойти посредством двуязычного опроса, к примеру, на немецком и на упрощенном мандарине, который в настоящей статье приведен по-английски. Опосредованная Интернетом коммуникация замеряется наряду с личными факторами, социальными и ситуативными влияниями как независимыми переменными. Темпоральное понимание как зависимая величина – девятимерный конструкт, состоящий из эмных немецких и китайских понятий времени.

Ключевые слова: социальное время, культурные изменения, цифровые медиа, кросскультурные исследования, Германия, Китай

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Introduction

Research on social time and temporal change in society across all social sciences and humanities very often faced peaks when new technologies have entered the realm of society. Initially, framed within an industrialization discourse, another peak occurred in the fifth decade of the 20st century [e.g., Innis 2004], and eventually in the late 1990s/early 2000s [e.g., Beck 1994; Castells 2010; Rosa 2005] and finally a more recent surge ever since the ubiquitous rise of digital

media [e.g., Sharma 2014; Wacjman and Dodd 2016; Lei and He 2010]. With the smartphone as the most used internet device in economically strong, as well as growing and developing countries, e.g., Germany and China [China Internet Network Information Center 2020; Projektgruppe ARD/ZDF-Multimedia 2020], people are constantly connected, always-on, increasingly digitally available and producing digitally influenced ‘temporal patterns’ where previously culturally different patterns used to be the norm. At the same time, quantitative empirical research on digitally mediated temporal change is scarce [e.g., Hand and Gorea 2018; Görland 2020] or limited to time budget studies. Therefore, I aim to operationalize digital temporal change through a survey design, enabling future researchers to carry out more differentiated quantitative studies addressing this research desiderate. Thus, the following research question arises:

How can the influence of internet-mediated communication on temporal understanding be modeled through a survey design when comparing German and Chinese cultural context?

Temporal understanding will be understood as a concept that focuses on both individual and social sense and meaning making processes relating to time. Because ‘social time’ and ‘time’ lack a clear terminology, I introduce the concept of ‘temporal understanding’ which will be defined as

a human category of time which is individually undertaken but socially constituted. It encompasses the act of standardizing two or more events of which at least one must be progressing and is used as reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time [Faust 2016, p. 9, based on Elias and Schröter 2005; Helfrich-Hölter 2011].

Internet-mediated communication, in contrast to the broader terms ‘digital’ or ‘online communication’, refers to all forms of human-to-human or human-to-machine communication that encompass sense and meaning making process with understanding on the internet. Finally, the two cultural contexts, defined as the contextualization of culture, i.e., the cultural level of investigation, are picked because Germany and China are two deeply different examples when it comes to the way they deal with and plan time. Earlier studies have shown that they can be placed at each end of the temporal spectrum, with Germany being usually considered low-context, monochronic and future-oriented [Hall 1984; Hofstede 2012]. With regards to time, China on the contrary is high in polychronicity, trust serves as underlying value to establish future relationships [Helfrich-Hölter 2011] and is moreover high in pace these days predominantly due to its growing urban areas [Levine

and Norenzayan 1999]. Even though, the works of earlier scholars have not remained un-criticized (e.g., the works Fang, 2003 on future and past orientation), a most-different-system can be applied [Anckar 2008] here. Moreover, China is on the forefront of the digital world – and thus, serves an ideal example for a hyper-mobile digital internet context. Finally, while qualitative research can investigate in-depth structures of individuals, quantitative research is capable of explaining and showing patterns of temporal change. Time policy [Reisch 2015] has become a central issue in global politics. Yet, at the same time, if there is no empirical proof for an accelerated, fast-paced society with short-term temporal horizons, such policy measures can neither be evidence-based nor be enforced. Therefore, we seek to present a valid and reliable cross-cultural survey instrument for Chinese and German cultural context to investigate the homogenization of temporal change [Krotz 2001, p. 204] due to an increasingly connected world and digital media as agents of these processes.

At first, the theoretical model of temporal change will be introduced [Faust 2016]. Based on the model and a triadic theory for empirical operationalization [Früh, Schulze, and Wunsch 2002], I then move to the central constructs of the survey. From both frameworks, the bilingual survey questionnaire with scales in German and Simplified Mandarin can be derived. The questionnaire will be provided in English with references to both target languages, and then an outlook is given.

1. Model of Change of Temporal Understanding

The model has four integral components to explain individual and cultural change. The components are as follows: similarity, functional equivalence, the development of habits, and in the subsequent step, cultural change through institutionalization, objectification, and legitimating. The theories that underlie this model are first, theories of habit formation [Koch 2010, p. 44] and the theory of the social construction of reality [Berger and Luckmann 2010]. Two pre-conditions – similarity and functional equivalence – are the base for these processes and are defined as follows:

Similarity means that internet-mediated communication situations occur on a regular basis and under the same circumstances and generally take place in one cultural context yet occur in both German and Chinese cultural context.

Functional equivalence means that situations and internet use, i.e., selection and reception processes, are comparable in both German and Chinese cultural context [Faust, 2016, p. 11].

Selection and reception processes can be one- or two-sided. In the latter case, internet users are acting as prosumers. Regardless of their dual role as prosumers, the reception still takes place, in the case of interpersonal communication on both ends. Under these two pre-conditions, habits develop. They are then defined as “knowledge structures, which are learned through regular repetition and trigger a certain automated behavior (and the mental processes connected to it) when ‘indicative cues’ appear” [Koch 2010, p. 44]. Such indicative cues, i.e. triggers, are the reason for habit development: certain sites, apps or functionalities on the internet appear to nudge the online user to go online more frequently, or are selected by rational behavior or certain use motives. According to Koch, habits are learned through repetition [Koch 2010, pp. 31–41]. The individual, i.e., micro level is then crossed to cultural change [Berger and Luckmann 2010]. Institutionalization in the first step refers to establishing such habitualized behavior. Foreseeing the action of others, interpersonal or mass mediated, is crucial to this process [Berger and Luckmann 2010, 60ff.; Früh, 1991]. Finally, institutionalization is completed when social roles are passed on to future generations that reach beyond the individual behavior of two actors [Berger and Luckmann 2010, p. 63]. The final step then consists of objectification and externalization, implying that knowledge has been passed on to the younger generation. The whole process is visualized in Figure 1.

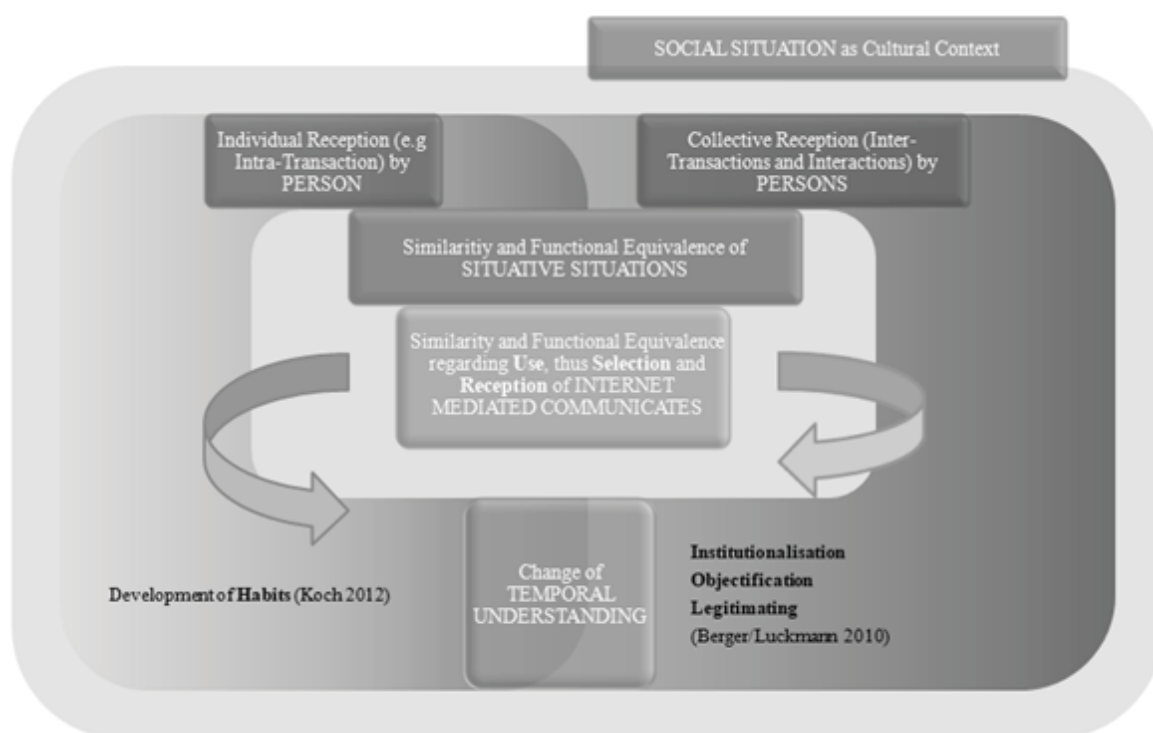


Fig. 1. General Model of Change of Temporal Understanding [Faust 2016, p. 15]

2. Triadic Causes: Derivation of Key Constructs

Following, we seek to elaborate on one part of the theory of TV entertainment [Früh et al. 2002], namely the triadic fitting, which will be referred to here as triadic causes as the interaction between the triadic variable groupings originally elaborated in the theory is not relevant here. Triadic causes consist of three core constructs: *media offer*, *person* and *situation* [Früh 2003a, p. 17]. *Media offer* here transcends the original meaning in the theory of TV entertainment, and refers to all communication means a person makes use of. Thus, we would like to refer to it as medium in the following. *Person* as a cause refers to all relevant factors that deal with the characteristics of an individual. *Situation* comprises both *situative* and *social* factors surrounding the individual in its context which influence digital media use or non use.

While the model of the triadic causes was developed within the context of the theory of TV entertainment [Früh et al. 2002], it still holds an advantage for internet use phenomena with some alterations. The theory is explicitly suitable for the description of a diversity of reception phenomena [Früh et al., 2002 p. 143; Gehrau 2003, p. 69]. Even in times of digital media, the triadic causes still hold valid: media

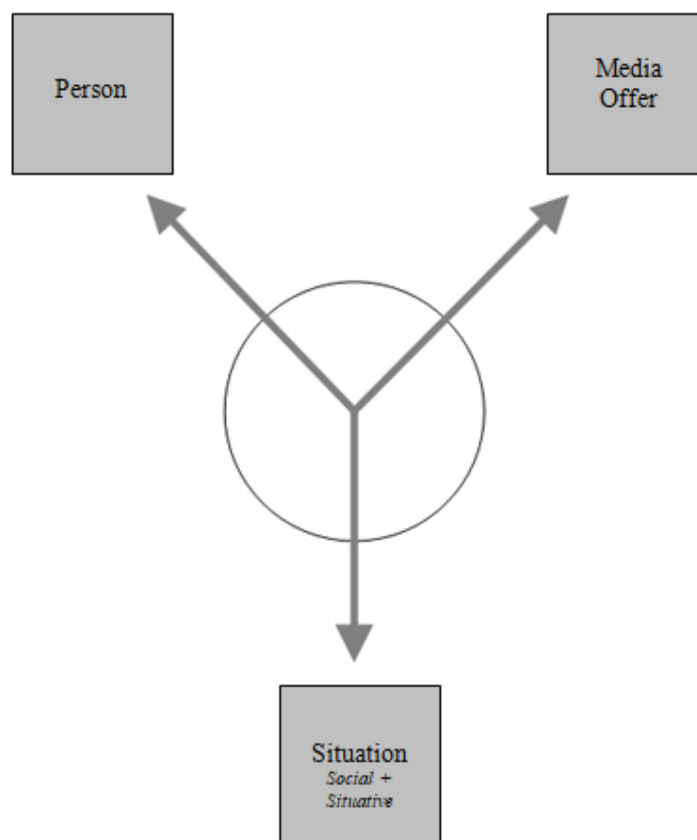


Fig. 2. Altered and Simplified Model of Triadic Causes [Früh 2003b, p. 40]

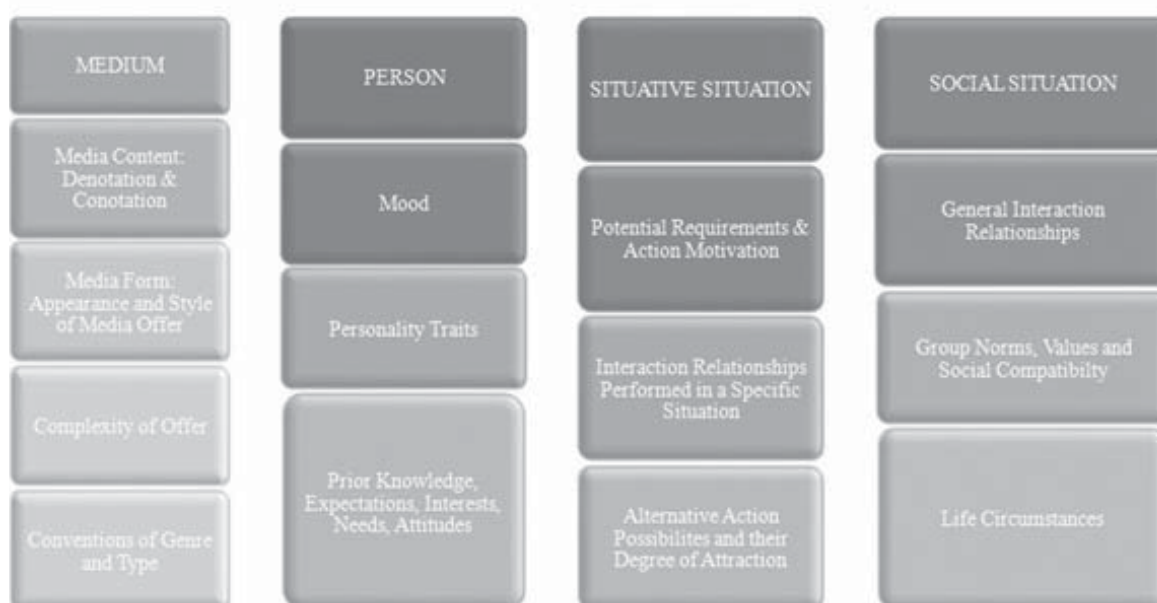


Fig. 3. Suggested Key Constructs of Triadic Causes [Früh 2003b]

effects and individual and cultural change can only be explained through a multi-causal setting. Thus, I re-conceptualized the triadic causes in such a way as medium as to include traditional (mass) media besides online offers that may be either produced by journalists, or, by prosumers, and moreover in this paper even the internet as a network infrastructure.

As Früh suggests, the three core causes, i.e., constructs, can be treated as modules and thus need individual specification, i.e. should be considered on the side but not entirely left out [Früh et al. 2002,



Fig. 4. For Research Purposes Selected Key Constructs of Triadic Causes

p. 143]. As can be seen in Figure 2 before, there are four key causes: medium, person, and situation, which split into situative and social situation [Früh et al. 2002], which are listed in more detail in Figure 3.

The following Figure 4 explicates the relevant core independent constructs, i.e., variable groupings for the paper and with it the operationalization model, with reasons for the related selections to be found in the remainder of the paper. The independent variable temporal understanding is explained in the last part.

3. Empirical Operationalization

Here, the triadic causes and temporal understanding with resp. measurements are presented. Since both German and Chinese survey items had to be considered, this sometimes meant to accept “weaker” scales regarding reliability and validity in favor of more accurate multilingual translated scales [Harzing, Reiche, and Pudelko 2013]. However, for some scales, back-translation was applied to develop new scales where no construct-matching instruments were found [Rippl and Seipel 2008].

3.1. Medium

Früh suggests the denotative and connotative media offer as well as appearance and style of media offer as first two sub causes of the medium (see Fig. 3). Both sub-causes are left out because they are based on the individual reception processes only, not cultural change. The complexity of offer was operationalized as general media use and internet use. Genre and type conventions were first operationalized as media credibility, but left out during pretesting, as it is more likely to be subordinated to a specific communicate. Thus, the cause medium eventually consists of media use, internet experience, duration of internet use, internet concerning mass-mediated, interpersonal and service communication, and the construct relating to habits [Koch 2010]: internet use styles. These sub-causes of the construct cover the complexity of the offer, which Früh suggested [Früh et al. 2002]. Internet-mediated communication as internet use features interpersonal and mass-mediated communication as well as service features, which do have human or bot communicators.

3.1.1. General Media Use

The sub-cause general media use consists of 20 items which were developed in a group discussion considering cultural differences in both cultural contexts. They were cognitively pretested and eventually translated into simplified Chinese.

3.1.2. *Internet Use*

Items were developed to measure internet use, internet experience, and duration of internet use in German and they were eventually translated into Simplified Chinese. Internet use consists of ten items each for measuring interpersonal communication, measuring mass-mediated communication and service-oriented communication. These internet activities questions were developed within a group discussion and cognitively pretested in both target languages. To comprehend the activities carried out online such as using instant messaging and the like, country-specific examples of websites and apps were provided for both Germany and China in the final questionnaire. As group discussants were of German descent and young adult internet users, participants based the examples on their own user experiences. For the Chinese questions, a Chinese native was consulted, and additionally, website and app examples from Kantar Media CIC study were taken into consideration [Kantar Media CIC 2018].

3.1.3. *Internet Use Styles*

Key to the understanding of individual change in temporal understanding are habits [Koch 2010], where Schweiger's work on use styles seems an appropriate measure for this. Schweiger states that the idea of use styles "allows it to include publicly discussed media use phenomena such as increasing selection frequency or lack of reception thoroughness in larger societal relations, such as the sociological or cultural acceleration debate (see also [Borscheid 2004; Geißler 2000; Henckel, Bender, Haeffner, and Geißler 2000])" [Schweiger, 2006, p. 310, translated by Faust). Schweiger defines individual use styles as "general, across situations functioning *modi operandi*, ...which a person *preferably* utilizes regarding a medium genre" [Schweiger 2005, p. 175, translated by Faust]. These use styles are habits of users. Such habits are cemented routines which are essential for cultural change [Faust 2016; Koch 2010] and were initiated by indicative cues at the beginning. According to Schweiger, use episodes and use styles have a close relation to each other, but not a causal relationship. Use styles develop as a substrate or first order abstraction due to media use episodes. They are closely related to media genres [Schweiger 2006, p. 292]. Schweiger adds that use episodes follow certain use patterns, habits, styles, or schemata. Therefore, it can be linked to Koch who defines habits as schemata [Schweiger 2006, p. 291]. Now, these use styles may be applied across a variety of media genres. In this case, I apply it to internet use due to the formulated research question. In Table 1, his temporally relevant items are discussed and, if altered or developed, it is indicated.

Table 1

Overview of Selected Internet Use Style

Nb.		Item	Dimensional Base
1	Copied	While I am online, I carry out other activities (e.g., eating, calling, watching TV) [Schweiger 2005, p. 184]	The qualitative degree of reception, i.e., attention and intensity of reception [Schweiger 2005, p. 180]
2	Modified	Most of the time I leave several browser windows/apps open. [Schweiger 2005, p. 185]	Parallel use of offers (intra-medial) [Schweiger 2005, pp. 181–182]
3	Modified	I save interesting articles, e.g., as book marks or I print them or take screenshots. [Schweiger 2005, p. 185]	Collecting information [Schweiger 2005, p. 181]
4	Modified	Weekdays I am always online during the same time of the day. [Schweiger 2005, p. 185]	Temporal habits, i.e., media structuring time [Schweiger 2005, p. 181]
5	Developed	I tend to answer messages immediately.	The quantitative use of offers as „measurable temporal duration of reception phases and potential short breaks” [Schweiger 2005, p. 180, translated by Faust]
6	Developed	I often go to certain apps/websites in short intervals to check if there is anything new.	Quantitative use of offers as “measurable temporal duration of reception phases and potential short breaks” [Schweiger 2005, p. 180, translated by Faust]
7	Developed	I often switch between different browser apps/windows/tabs.	Parallel use of offers (intra-medial) [Schweiger 2005, pp. 181–182]
8	Developed	After I am done with my plans and duties on the internet, I continue looking for other appealing information/things.	Follow-up reception – new style
9	Developed	When I am online, I tend to look for information systematically and do not click randomly.	Decision quality, i.e., the decision of reception after checking for alternatives [Schweiger 2005, p. 178]
10	Developed	When I visit familiar websites, I always follow the same order to check the content, e.g., reading sports news first on online news sites.	Order of evaluation, i.e., the user decides the order of information during the communicative phase himself [Schweiger 2005, pp. 178–179]

As seen in Table 1, such internet use styles were picked that seemed especially crucial to the change of temporal understanding.

3.1.4. Media Access

For media access, respondents were asked which kind of internet access they use, i.e., DSL, cable, mobile access or other.

3.2. Person

Person key constructs are mood, personality traits, and knowledge (see Fig. 3). Although it is suggested that mood is imperative for the development of habits [Koch 2010], it precedes the actual cumulative reception processes and was left out. Thus, only the Big Five personality traits, media competence and socio-demographic characteristics were selected.

3.2.1. Big Five Personality Traits

The personality traits were operationalized as Big Five. Studies have shown that social time relates to personality traits with the Big Five at the forefront. To maintain validity, reliability and at the same time, a reduced demand in answering the questions the Ten-Item Personality Inventory (TIPI) was chosen ([Gosling, Rentfrow, and Swann, 2003], Huang [Huang 2014] for Chinese translation, Muck, Hell and Gosling [Muck, Hell, Gosling 2007] for German translation).

3.2.2. Media Competence

For media competence, I follow Baacke who defined it as one's application of media, which is dependent on age as well as the social environment [Baacke 1996]. Baacke developed four sub-causes of media competence:

- first, media use as an adequate action with media of all kind, both technical and pro-active, individual use;
- second, media design as innovative and creative potential to develop media;
- third, media knowledge as a certain kind of knowledge about media, their development and functional logics;
- fourth, he subsumes analytical and reflective skills to engage critically with media under media critique [Baacke 1996].

The first sub-cause media use was omitted from the study as it appears more differentiated in the other parts of the questionnaire. For each of the three remaining sub dimensions, two items were selected from Lü's quantitative study on media competence of Chinese students

at Chinese universities [Lü 2008, p. 5] as they were available in both German and Chinese [Lü 2006] and used Baacke's model, which was developed in Germany but simultaneously applied to Chinese context. During group discussions I updated all items from the survey of the late 2000s. Eventually, cultural adjustment, reconstruction, and rephrasing were used to finalize the items, with the revised version presented in Table 2.

Table 2

Overview of Media Competence

Nb.	Item	Dimensional Base
1	I can send extravagant data (e.g., pictures, Word Documents, PDF-Files, videos), to make others happy.	media design
2	I participate in online journalism.	media design
3	I am aware that everything I publish on the internet will be stored.	media knowl- edge
4	I am able to use a newly bought device (e.g, smart-phone, and tablet) independently after a while.	media knowl- edge
5	I question what I find on the internet and consider the consequences.	media critique
6	I support younger generations in critically using the internet.	media critique

3.2.3. Socio-Demography I

The socio-demographic variables were individually developed and translated into German and simplified Chinese: sex/gender, age, amount and type of languages, ethnicity, kind and number of languages spoken, nationality to cross-check for target population, ethnicity, place of origin and years inside the target country as well as the Hukou (户口制度) for the Chinese respondents only.

3.3. Situative Situation

The situative situation is particularly relevant for individual reception phases. However, here both reception motivation, i.e., reasons for a specific reception, and alternative actions, i.e., other choices of what to do, had to be *abstracted* and related to an *average* reception situation to specify individual and cultural change.

As interaction relationships are indicated in the triadic causes in both situative and social situation according to Früh [Früh 2003b], they were subsumed to social situation to pay tribute to the non-immediate social character. Thus, the key construct situative situation refers to functional alternative options internet respondents may consider in their leisure time, i.e., what else people do apart and/or instead of being online. Moreover, motives for non-internet use suggest the reasons for not being online (anymore) were considered. It is long known that motive questions in the tradition of the Uses-and-Gratifications Approach serve as long-term indicators due to measurement problems in the actual reception situation [Schenk 2002]. However, while not being able to investigate the actual functional alternatives during a specific reception situation, I suggest such general motives and general leisure activities to be bridging the micro to the macro level to cultural change.

3.3.1. Spare Time Activities and Its Restrictions

Here, commercial studies proved helpful, one for teenagers and young adults by Shell [Albert, Hurrelmann, Quenzel, and TNS Infratest 2015] and one by the Foundation for Questions of the Future [Reinhard 2016]. This sub-cause was complemented by a study by Zhou, Fong, and Tan [Zhou, Fong, Tan 2014] to cover the Chinese context. Second, all three studies were compared and categories were deductively formed, with the following categories deducted: social activities, physical activities, cultural activities, calming/relaxing activities, travelling, and others. Third, double items and items that were specific for one culture were omitted. The final merged list consists of 23 items in total. Restrictions were measured as follows: health restrictions, network of contacts lives far away, caretaking of another person, demanding job, financial reasons, and lack of skills.

3.3.2. Motives of Internet Non-Use

To survey internet non-users on their non-use as the experimental control group, the focus was literature research on studies targeting the general population not a specific target population, e.g., elderly people. Items from four studies (namely [Blank 2013; Papsdorf et al. 2018; Perlot 2012; Zickuhr 2013]) were considered robust and complemented by qualitative interviews with non-users. Generally, non-users can be distinguished between former internet users and never-before internet users. After such an initial filtering question, four reasons of non-use can be differentiated: 1) lack of technical and financial means, 2) health-related reasons including cognitive overload, stress and lack

of media competence, 3) lack of relevance and suitability to life, 4) and moral reasons including fear of addiction. Translations with a back-translation process and pre-testing followed.

3.4. Social Situation

The social situation is the greater environment people live in with the resp. German and Chinese cultural context being part of it. This dimension splits into communication network and related to it the used media in the network. Moreover, the culture dimension individualism/collectivism is measured, as Chinese and German on-liners stem from two ends of this dimensional spectrum [Triandis 1995]) and is theoretically linked to the cultural context. Finally, social desirability as sub-cause is mandatory for Asian contexts as Chinese respondents have different response patterns [Harzing et al. 2013, p. 129]. Socio-demographics on a meso level complete the social situation.

3.4.1. Communicative Network

Originally based on Granovetter [Granovetter 1973], more recently Fuhse and Stegbauer [Fuhse, Stegbauer 2011], and Hepp, Krotz, Moores and Winter [Hepp et al. 2006] highlighted the interrelation between communication networks, media and culture for the realm of network theory. For the questionnaire, the communicative network is conceptualized as an ego-centered network with six alters (see Table 3 below). Both structural and relational perspectives are merged – first, people are asked to list the people they stay in touch with and second, they are supposed to class them as strong or weak ties. The derived matrix was therefore developed in group discussions and took cultural differences in Germany and China into account, i.e., the grouping of the network members into the three categories family, friends and others. Pretesting followed [Prüfer and Rexroth 2008].

Table 3

Matrix of Communication Network

- 1) Please fill in the first names or nicknames of the persons in the table below which you entered in the question before.
 - 2) Please differentiate between family members, friends, and others. Your four to six persons may also belong to only one group of persons.
 - 3) Please also decide whether these persons live inland or abroad.
 - 4) Finally, please rate these people according to what they mean to you in your life. You may rate from very important to less important.
- Note: You can put more than one person in one box!

		Very important	Important	Less important
Inland	Family (Family members, Relatives, Partners)			
	Friends (Close Friends, Acquaintances)			
	Others (Colleagues and Co-workers, Neighbors)			
Abroad	Family (Family members, Relatives, Partners)			
	Friends (Close Friends, Acquaintances)			
	Others (Colleagues and Co-workers, Neighbors)			

3.4.2. Media for Communication Network

The sub-cause media for communication network consists of 11 pre-set items and an additional free one which was developed in a group discussion with five people considering cultural differences in both German and Chinese cultural context. They were cognitively pretested [Prüfer and Rexroth 2005] and eventually translated into simplified Chinese. It is assumed that the more internet-mediated media are being used for each network member, the more likely a shift in temporal understanding occurs [Vorderer, Krömer and Schneider 2016].

3.4.3. Culture Dimensions: Individualism/Collectivism

The construct collectivism consists of four sub-causes according to Triandis and Gelfland [Triandis and Gelfland 1998, p. 118]: “1) definition of the self, which can emphasize personal or collective aspects, 2) personal goals that can have priority over in-group goals or vice versa, 3) emphasis on exchange rather than communal relationship, or emphasis on rationality rather than relatedness, and 4) importance of attitudes and norms as determinants of social behavior”. In total, the scale consists of sixteen items, eight for each culture dimension. Moreover, they differentiate between vertical and horizontal individualism and collectivism. They define it as following “horizontal patterns assume that one self is more or less like every other self. By contrast, vertical patterns consist of hierarchies, and one self

is different from other selves” [Triandis and Gelfand 1998, p. 119]. Studies have shown that the scale holds true for Asian contexts as well [Lalwani, Shavitt, and Johnson 2006]. As the scale by Triandis and Gelfand [Triandis and Gelfand 1998, p. 120] was only published in English, translation processes were mandatory. For German, two native speakers translated individually and blended the results in a group discussion process. For Chinese, a native speaker translated the scale and two native speakers back-translated it.

3.4.4. Social Desirability

For social desirability, Palhus [Palhus 1984] distinguished between self-deception enhancement and impression management. The former is based on egoistic tendencies and refers to the underlying idea that the respondent has a better perception of him- or herself, whereas impression management is the intentional will to modify answers in an interview to impress with the answers given [Palhus 1984]. Here we suggest the short scale of the Balanced Inventory of Desirable Responding (BIDR) by Paulhus, which Steenkamp, Jong and Baumgartner [Steenkamp, Jong and Baumgartner 2010] translated into Chinese and German.

3.4.5. Socio-Demography II

The questions, translated in both target languages, consist of the following underlying variables: the degree of urbanization, household size, and household income. The degree of urbanization has also been shown to have a significant influence on pace of life [Levine and Norenzayan 1999, p. 194].

3.5. Temporal Understanding: the way we deal with time and plan in Germany and China

The construct temporal understanding, the nine-dimensional independent variable, is the most complex construct in the questionnaire. When trying to operationalize it, there is a core validity problem: it is both an individual and a cultural construct and therefore comprises micro, i.e., individual, meso, i.e., organizational, and macro, i.e. societal, level phenomena. Former cross-cultural comparative research on time has shown that meso and macro levels were rarely considered. One exception is the GLOBE-Study carried out by House et al., who define as is-states as values and should be-states as norms [House 2004]. They use this approach to do so for all the culture dimensions

they consider, including the time dimension. However, the construct temporal understanding suggested here is more comprehensive, as it is both individual and cultural. One of the reasons why House et al.'s approach is not suitable is that both values and norms do not consider the micro level as they do not refer to the individual. In the previous part I suggested that habits are essential to cultural change – without the formation of new habits through internet-mediated communication neither roles change nor institutionalization takes place. Based on previous work [Faust 2016] I suggest temporal understanding as sketched in Fig. 5:

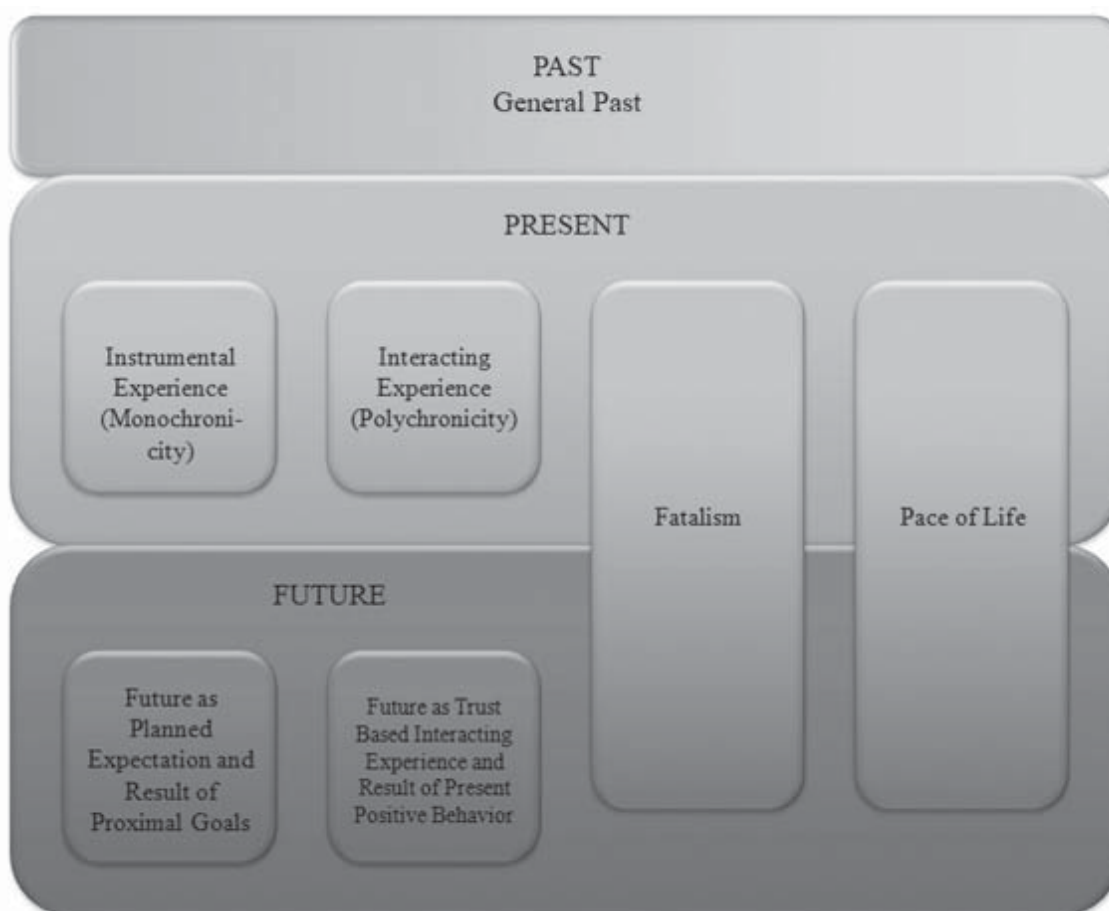


Fig. 5. Model of Temporal Understanding [Faust 2016, p. 9]

The nine above mentioned sub-causes are defined as follows:

- i. *Past* defines as classifying personal and social events as former and relation towards these events.
- ii. *Present* defines as classifying personal and social events as ongoing and dealing with these ongoing experiences to help to give order, coherence, and meaning to those events.
- iii. *Future* defines as classifying personal and social events as prospective and relating these to the current situation through different means to help to give order, coherence, and meaning to these events.

iv. *Instrumental Experience (Monochronicity)* is based on classification acts and implies the extent to which people in a culture prefer to do one task at a time and believe their preference is the best way to do things.

v. *Interacting Experience (Polychronicity)* is based on classification acts and implies the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously and believe their preference is the best way to do things.

vi. *Fatalism* is based on the classification act but lacks active engagement in tasks or events as the future is predestined and not influenced by individual action and has thus to be accepted.

vii. *Pace of Life* is based on classification acts and implies the extent to which people prefer tasks or events to be close together, i.e., immediate follow-up events.

viii. *Future as Planned Expectation and Result of Proximal Goals* is based on classification acts and implies an either transactional relationship between present ideas and envisioned long-term tasks and events or a focus on proximal goals in the belief they add up to long-term goals.

ix. *Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior* is based on classification acts and implies positive outcomes of tasks and events due to balanced interaction in the present” [Faust 2016, pp. 9–10].

For operationalization Usunier’s and Valette Florences’ Times Styles Scales proved particularly helpful [Usunier und Valette-Florence 2007]. Second, the Inventory of Polychronic Values by Bluedorn et al. [Bluedorn et al. 1999] and Zimbardo’s Time Perspective Inventory (2012/2013) was used [Zimbardo 2013]. Third, the Philadelphia Mindfulness Scale was researched and is suggested for use here [Cardaciotto et al. 2008]. Finally, Strathman’s Consideration of Future Consequences Scale [Strathman 2010b, Strathman 2010a] completed operationalization (see final application of the scales to temporal understanding in Figure 5). For the sub-cause ‘future as trust-based expectation and result of present positive behavior’ new items were conceptualized. All authors – except for Cardaciotto et al. and Strathman et al. – argue on a theoretical level and partially on an operational level that time is a social construct. This argument does not solve the previously discussed validity question entirely; however, it reduces the risk of arguing on a micro level only. Usunier und Valette-Florence, for example, state that “the concept of time is a social construction that is subjective both collectively and individually” [Usunier und Valette-Florence 2007, p. 336]. They emphasize that both anthropology and experimental psychology have their share that time

is considered “partly internal and partly external to the individual” [Usunier and Valette-Florence 2007, p. 338]. Therefore, their time concept is “multidimensional, negotiated between the individual and the environment, and framed by the dominant time patterns in a given society” [Usunier and Valette-Florence 2007, p. 338]. Zimbardo and Boyd argue similarly when they write that time perspective is a “foundational process in both individual and societal functioning” [Zimbardo and Boyd 1999, p. 1271]. They define time perspective as “often non-conscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence and meaning to those events” [Zimbardo and Boyd 1999, p. 1271]. Bluedorn et al. [Bluedorn et al. 1999] define polychronicity. Here, as a part of the temporal understanding, it was defined as ‘interacting experience’ as a cultural construct. In this sense, they emphasize the macro level and operationalize accordingly. They state: „As a cultural variable then, I define polychronicity as the extent to which people in a culture: 1) prefer to be engaged in two or more tasks or events simultaneously; and 2) believe their preference is the best way to do things” [Bluedorn et al. 1999, p. 207]. Their definition includes preferences and beliefs and targets both values and norms. It, therefore, relates strongly to a great extent of culture definitions [e.g., Kroeber and Kluckhohn 1963]. Finally, I introduce the definition of time by Strathman et al. They see it as a micro level phenomenon when they write:

...CFC refers to the extent to which individuals consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes. It involves the intrapersonal struggle between present behavior with one set of immediate outcomes and one set of future outcomes. Whether particular individuals resolve this dilemma between present and future in favor of one or the other is hypothesized to be a relatively stable characteristic [Strathman, Gleicher, Boninger, and Edwards 1994, p. 743].

The next sub-cause is ‘future as trust-based interacting expectation and result of present positive behavior’. Regardless of intensive research, no tested scales could be found. Due to a lack of scales, items were developed on the basis of the Chinese Value Survey [Chinese Culture Connection 1987]. Other than the rest of the items used from tested scales, the items do not directly relate to time. Yet, in its complexity, they represent a lifestyle that secures harmonic interaction. Future then turns out to be the result of present positive behavior. In this sense, they represent a phenomenon particularly prominent in Chinese culture. Unlike previous scholars such as Hofstede [Hofstede 2001], I provided a theoretical framework first and then looked at various

values which serve as a framework to underlie this idea. Dimension ix. is therefore based on values 3 容忍 (tolerance of others), 4 随和 (harmony with others), 8 礼尚往来 (reciprocation of greetings, favours, and gifts), 26 报恩与报仇 (repayment of both the good or evil that another person has caused to you), 30 信用 (trustworthiness), 33 安分守己 (contentedness with one's position in life) and 35 要面子 (protecting your "face"). The operationalized items for this sub-cause can be found in Table 4 below. Various pre-testing techniques [Prüfer and Rexroth 1996; Prüfer and Rexroth 2008], e.g., cognitive interviews [Prüfer and Rexroth 2005], were used as well as back-translation processes [Harzing et al. 2013; Rippl and Seipel 2008].

Table 4

Overview of Operationalized Sub-cause 'Future as Trust-based Interacting Expectation and Result of Present Positive Behavior'

Item Nb.	Item	Value Base
Item 1	I am satisfied with my current life situation within my network of friends and family.	33安分守己 Contentedness with one's position in life [Chinese Culture Connection 1987, p. 148]
Item 2	When a friend or family member does me a favor, it is imperative for me to return it on the next occasion.	8礼尚往 Reciprocation of greetings, favors, and gifts [Chinese Culture Connection 1987, p. 147] 26 报恩与报 Repayment of both good and the evil that another person has caused you [Chinese Culture Connection 1987, p. 147]
Item 3	I try carefully not to expose my friends and family.	35要面子 Protecting your "face" [Chinese Culture Connection 1987, p. 148]
Item 4	It is important to me to not have conflicts with my family and circle of friends.	4 随和 Harmony with others [Chinese Culture Connection 1987, p. 147]
Item 5	It is important to me to live in harmony with friends and family.	4 随和 Harmony with others [Chinese Culture Connection 1987, p. 147]
Item 6	It is important to me to be tolerant towards friends and family.	3 容忍 Tolerance of others [Chinese Culture Connection 1987, p. 147]
Item 7	I would describe myself as a trustworthy person among friends and family.	30信用 Trustworthiness [Chinese Culture Connection 1987, p. 147]

Table 5 presents all sub-causes of the construct temporal understanding and their operationalization. The Time Style Scales [Usunier and Valette-Florence 2007] was the core basis, with the Chinese translation from a previous study¹ and a German back-translation process [Harzing et al. 2013; Rippl and Seipel 2008]. Moreover, Zimbardo's Time Perspective Inventory [Zimbardo and Boyd 1999] (see also [Mifont and Bieniok 2008; Wang et al. 2015]), the psychometric scale Consideration of Future's Consequences [Strathman 2005; Strathman 2010b, Strathman 2010a], the Inventory of Polychronic Values [Bluedorn et al. 1999] (both German and Chinese back-translated [Harzing et al. 2013; Rippl and Seipel 2008]), the Philadelphia Mindfulness Scale [Cardaciotto et al. 2008] with back-translations to both German and Chinese [Harzing et al. 2013; Rippl and Seipel 2008] and an individually developed scale with the same translation procedure are used.

Table 5

Overview
of Operationalized Construct Temporal Understanding

Sub-cause	Theoretical Base	Number of Items
Past	Time Styles Scale (TSS): General Past [Usunier and Valette-Florence 2007]	4
Present	Philadelphia Mindfulness Scale (PHLMS): Awareness [Cardaciotto et al. 2008]	10
Instrumental Experience (Monochronicity)	TSS: Tenacity: 3 Items [Usunier and Valette-Florence 2007] TSS: Economic Time: 4 Items [Usunier and Valette-Florence 2007] TSS: Submissiveness: 4 Items [Usunier and Valette-Florence 2007] Inventory of Polychronic Values (IPV): 5 Items [Bluedorn et al. 1999]	16
Interacting Experience (Polychronicity)	TSS: Non Organized Time: 3 Items [Usunier and Valette-Florence 2007] Inventory of Polychronic Values: 5 Items [Bluedorn et al. 1999]	8

¹ Prof. J.-C. Usunier, personal communication, November 25, 2013.

Fatalism	TSS: Time anxiety (perceived usefulness of time): 4 Items [Usunier and Valette-Florence 2007] Zimbardo Time Perspective Inventory (ZTPI): Present-Fatalistic: 9 Items [Zimbardo and Boyd 1999]	13
Pace of Life	TSS: Preference for Quick Return [Usunier and Valette-Florence 2007]	3
Future	TSS: General Future [Usunier and Valette-Florence 2007]	4
Future as Planned Expectation and Result of Proximal Goals	Consideration of Future Consequences (Strathman 2005)	12
Future as Trust-based Interacting Expectation and Result of Present Positive Behavior	Developed Scale (see Table 4)	7

Last but not least, because the Inventory of Polychronic Values is combined with the Time Styles Scale, the sub-causes ‘instrumental experience’ and ‘interacting experience’ are validly and completely operationalized (see validity discussion above). Thus, it can be concluded, that ‘past’, ‘present’, ‘future’, ‘future as planned expectation’ as well ‘fatalism’ and the ‘pace of life’ are just operationalized on the micro level. Only ‘interacting experience’ and ‘instrumental experience’ as well as ‘trust-based interacting expectation’ are completely and validly operationalized. At least on a theoretical level referring to the definitions, the situation looks slightly different: only ‘future as planned expectation’ and ‘present’ is not theoretically defined with time as a social phenomenon, whereas the other dimensions are defined socially. Thus, it can be concluded that the term temporal understanding is, with some limitations, operationalized as a social one.

4. Critique and conclusion

Finally, structuring the questionnaire should consider the general survey rules for the running order of questions [Möhring and Schlütz 2010] and the logic of cross-cultural survey design [Rippl and Seipel 2008] with its challenges [Harzing et al. 2013], e.g., construct equivalence following a de-centralized approach [Harkness et al. 2003].

The outlined operationalization afore brings certain limitations with it. Tested psychometric measures and scales hold high reliability but may see its limitations in internal and external validity, e.g., the question raised if the psychological time scale ‘consideration of future consequences’ and the ‘Philadelphia mindfulness scale’ can be attributed to a social phenomenon. Finally, pre-testing of scales could only be briefly discussed here with more information finding its limitations in the scope of the paper. Moreover, it has long been addressed if and how cultural context can be measured. Our approach could only be a starting point. Similarly, the other measures (e.g, internet use, use styles, etc.) are a selection based on careful review of psychometric scales and measures in general, but do not provide *the* but *one* solution to cover the theoretical constructs.

The outlined questionnaire finds its full representation in multivariate data analysis methods. Beyond descriptive statistics, inference statistics may focus both on regression and co-variance based structural equation modeling (SEM) [Reinecke 2005]. Such SEM will be theory testing; however, depending on the theoretical foundation beyond the one outlined here, it may be strictly confirmatory SEM, alternative modeling or model generating SEM [MacCallum 1986]. In order to do so, cleaning the data with further alterations (i.e., filtering for target culture, weighting according to social desirability, confirmatory factor analysis of temporal understanding, etc.) will be mandatory and it might prove helpful to structure data of each target culture around milieus.

To sum it up, the suggested survey questionnaire may overcome empirical over-simplification of the notion of social time in Germany and China [e.g., Hofstede 2001], which has been so far only criticized theoretically [Fang 2003], and finally provide quantitative empirical answers to so-called digital acceleration, i.e. temporal change through digital media [e.g., Barker 2018; Rosa 2005; Wajcman and Dodd 2016].

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An empirical verification of social time theories: investigating digitally induced temporal change in Germany and China

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ABSTRACT

Current research on social time and temporal change theories have not yet investigated the nature of this change in depth through hypothesis testing endeavours. In this paper we respond to this research desiderate through creating quantitative empirical proof for Germany and China. Our findings are based on theories of temporal digital change and the third level of digital divide, i.e. online use vs. non-use concerning time, the rural-urban divide, and the gender divide. We show that digital media enhance the focus on social time, namely 8 out of 9 dimensions of temporal understanding as a specific form of how people deal with and plan time in Germany and China. Moreover, there are significant differences between online users and off-liners both within and across the countries. The degree of urbanization proves to have an influence on temporal digital change, while gender differences were not found to be significant in our study.

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Introduction

In the rise of a new decade, digital media has proliferated in the West, with the Global South steadily catching up (Arora 2019). The use of digital media, interwoven with everyday life, is comprehensively subject to both academic research and governmental policies. Yet, recent research on social time, temporal change, and temporalities related to digital media are so far dominated by either theoretical approaches (Kaun et al. 2016) or by empirical studies either applying qualitative methodologies (Prommer and Hartmann 2018) or quantitative tracking (Hand and Gorea 2018). As of today, cross-cultural investigations are missing, and de-Westernized approaches (Hsiao 2018; Qiu 2018) and quantitative studies are scarce (Görländ 2020; Papastefanou and Gruhler 2015). Thus, this article will focus on both a quantitative exploratory empirical investigation of the model of digital temporal change (Faust 2020b) and the third level of the digital divide (Lei et al. 2008; Ragnedda 2018) in Germany and China. In the context of the third digital divide in China and Germany, the authors will be looking at temporal inequalities bringing social consequences of temporal change through digital media to the fore, both within and across countries. As of

2019, Germany has reached around 90% internet users (ARD ZDF Forschungskommission 2019), whereas China has reached 61.2% user penetration the same year (China Internet Network Information Center 2019). In this context, China as a country of the Global South is contrasted to the West with Germany as the counterpart in a most-different-systems design (Anckar 2008). This MDS-design relates to their culture-specific temporalities induced through different internet use and access, enhancing the argument of digital and therefore social inequalities in its embedded cultural context. Or, as Shi-xu puts it, this article aims at a research practice that is 'locally grounded and globally-minded, in order to highlight the existing cultural-political inequality, undermine the global universalization of Western ideas and ideologies, and reclaim cultural identity and diversity of the underdeveloped and developing cultures (2009: 32)'.

Consequently, the following research questions arise:

RQ 1: How does temporal change through digital media foster marginalized communities in Germany and China?

RQ 2: Along which lines can temporal social inclusion be achieved to reduce digital inequalities within and among the cultural contexts Germany and China?

To answer RQ 1, we focus on three significant formations of axes of power (Foucault and Faubion 2000) and privilege: online-offline i.e. digital divide, rural – urban divide, and gender divide. We thus seek to 'identify, characterize, explain, interpret and appraise culturally divergent, productive or competing discourses – not only of familiar, privileged and dominant societies but especially of less known, marginalized or otherwise disadvantaged communities (Shi-xu 2016: 3)'. Generally, a marginalized community is defined as '[a group which is] confined to the lower or peripheral edge of society. Such a group is denied involvement in mainstream economic, political, cultural and social activities due to their living conditions, lifestyles or exclusion (IGI Global 2020)'. Along the three power axes, off-liners, the rural population and females are defined as the marginalized groups in our article.

RQ2 will then eventually look at the findings in relation to the Sustainable Development Goals formulated in the UN 2030 agenda (United Nations 2018) and time policy that secures sustainability societies, i.e. temporal inclusion (Reisch 2015). The United Nations secure peace, as an institutionalized endeavor to encounter hegemonic interests, and finally ensure equality and cultural diversity, which practically generates a societal discourse that is disperse per se.

The relevance of this article is multifold: first, so far temporal change through digital media has not been researched from a quantitative perspective. Moreover, de-Westernization studies, comprising emic theories of countries of the Global South, are still scarce in communication and media studies (Shi-xu 2014; Wang 2010).

The article proceeds as follows: we will first theorize temporal understanding, digital temporal change, and the third digital divide. Simultaneously, the hypotheses are deducted. Next, we will lay out our cross-cultural survey design for Germany and China and give details about the measures of the study. In the remainder of the article, we will critically discuss the findings, give insights into the limitations of the study, and conclude with answers to the aforementioned research questions.

Theories of temporal understanding, digital temporal change, and the third digital divide

Temporal understanding and digital temporal change

Faust developed a model of temporal understanding, which laid the foundations on how social time can be generally theoretically conceptualized for both Germany's and China's population (2016), including marginalized groups as one fraction of the overall population. The author defined temporal understanding as

a human category of time which is individually undertaken but socially constituted. It encompasses the act of standardizing two or more events of which at least one must be progressing and is used as [a] reference system in order to relate the other event(s) to it. This relation constitutes the interdependent levels of time horizon and dealing with time (Faust 2016: 9).

Thus, Germans and Chinese generally distinguish between past, present, and future, with the latter two sub-dimensions comprehending another six sub-dimensions including emic and etic approaches of both cultures. Conclusively, temporal understanding consists of nine sub-dimensions: 'past', 'present', 'future', 'instrumental experience (monochronicity)', 'fatalism', 'interacting experience (polychronicity)', 'pace of life', 'future as planned expectation and result of proximal goals', and finally 'future as trust-based interacting experience and result of present positive behaviour'. This model, therefore, exceeds other cross-cultural studies like the life's works of Geert Hofstede and Edward T. Hall by unifying and integrating manifold cross-cultural concepts on time into one model. The whole model is visualized in [Figure 1](#).

The nine sub-dimensions of temporal understanding were defined as follows:

- (1) 'Past is defined as classifying personal and social events as former and relation towards these events.
- (2) Present is defined as classifying personal and social events as ongoing and dealing with these ongoing experiences to help give order, coherence, and meaning to those events.
- (3) Future is defined as classifying personal and social events as prospective and relating these to the current situation through different means to help give order, coherence, and meaning to these events.
- (4) Instrumental Experience (Monochronicity) is based on classification acts and implies the extent to which people in a culture prefer to do one task at a time and believe their preference is the best way to do things.
- (5) Interacting Experience (Polychronicity) is based on classification acts and implies the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously and believe their preference is the best way to do things.
- (6) Fatalism is based on the classification act but lacks active engagement in tasks or events as future is predestined and not influenced by individual action and thus has to be accepted.
- (7) Pace of Life is based on classification acts and implies the extent to which people prefer tasks or events to be close together, i.e. immediate follow-up events.

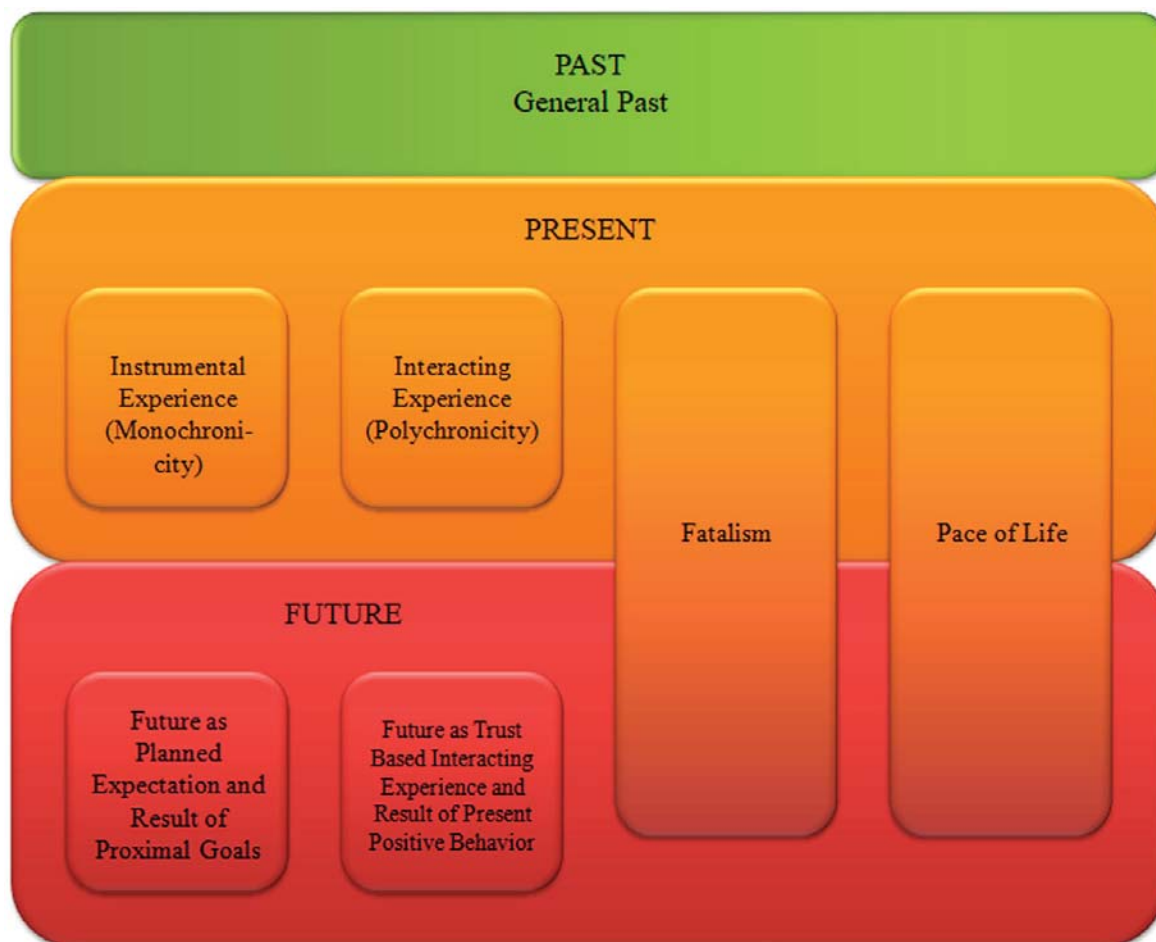


Figure 1. Model of Temporal Understanding (Faust 2016: 9)

- (8) Future as Planned Expectation and Result of Proximal Goals is based on classification acts and implies either transactional relationship between present ideas and envisioned long-term tasks and events or focus on proximal goals in the belief they add up to long-term goals.
- (9) Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior is based on classification acts and implies positive outcomes of tasks and events due to balanced interaction in the present (Faust 2016: 9–10).

Based on the model of temporal understanding temporal digital change was then conceptualized through a micro-meso-macro-link (Faust 2020b). This link not only specified the temporal digital change process but also indicated in which way the nine sub-dimensions were altered. The process is threefold: habit formation on micro level (Koch 2010), institutionalization on meso level (Berger and Luckmann 2010), and objectification and legitimating on macro level (Berger and Luckmann 2010; Faust 2016). A communicative encounter, i.e. in this case a generalized digitally mediated communication situation, takes place, which then leads towards a shift of rules and pattern interpretation and then changes the symbolic order of the society as a whole (Averbeck-Lietz 2011; Couldry and Hepp 2016). Reversely, such societal change reflects back onto the meso and micro level in a transactional manner (Früh and Schönbach 1982). Now, according to Krotz' idea of

homogenization (2001), we derive the following hypotheses for digitally induced temporal change in Germany and China from the Meta trends which Faust (2020b) laid out for hypothesis building. These hypotheses are based on previous literature of social temporal change, yet merging the theories for empirical testing, which had not been done before. For hypotheses H1 to H8 we define the following scope (Schick and Vaughn 2002):

- (1) temporal change takes place equally in both Germany and China according to Krotz (2001) idea of homogenization,
- (2) the more people get exposed to digital media, the more the sub-dimensions of temporal understanding are altered.

For H9 we define the scope (Schick and Vaughn 2002) as follows:

- (1) temporal change of this sub-dimension only takes place in China as this trust-based sub-dimension is specific to Chinese culture only (Faust 2016),
- (2) the more people get exposed to digital media, the more the sub-dimensions of temporal understanding are altered.

The hypotheses are:

H1: There is a paradox i.e. ambivalence in the sub-dimension 'past', i.e. it remains open what happens with the past.

H1.1: There is an increase in the past dimension due to digital media as mediators of memory culture and nostalgia (Couldry and Hepp 2016; Hsiao 19.05.2018; Niemeyer 2014).

H1.2: There is a decrease in the past dimension due to digital media as mediators of present-focused online journalism and social media communication (Dimmick, Feaster & Hoplamazian 2011; Görland 2018; Neuberger 2010).

H2: There is an increase in the sub-dimension 'present' (Castells 2010; Couldry and Hepp 2016).

H3: There is a decrease in the sub-dimension 'future' (Castells 2010; Jin 2008; Rosa and Trejo-Mathys 2013).

H4: There is a decrease in the sub-dimension 'instrumental experience (monochronicity)' (Castells 2010).

H5: There is an increase in the sub-dimension 'interacting experience (polychronicity)' (Castells 2010; Couldry and Hepp 2016; Dennis et al. 2008; Granovetter 1973; Krüger 2009; Lei and He 2010; Rosa et al. 2013).

H6: There is an increase in the sub-dimension 'fatalism' (Couldry and Hepp 2016; Ramondt & Ramírez 2017).

H7: There is an increase in the sub-dimension 'pace of life' (Annany 2016; Couldry and Hepp 2016; Eriksen 2001; Jin 2008; Krüger 2009; Lei and He 2010; Neuberger 2010; Rosa et al. 2013).

H8: There is a decrease in the sub-dimension 'future as planned expectation and result of proximal goals' (Castells 2010; Jin 2008; Rosa et al. 2013).

H9: There is an increase in the sub-dimension 'future as trust based interaction and result of present positive behaviour' in China (Qiu 20.05.2018; Wu 2010).

The third digital divide

Theories of digital divides have been extensively discussed (Bonfadelli 2013; Zillien 2009) and fall historically in the realm of the knowledge gap thesis (Tichenor et al. 1970) and more broadly into diffusion theoretical approaches. In the context of this article we will not reiterate this research field but solely focus on the third level of the digital divide as conceptualized by Ragnedda (2018). Whereas the first digital divide focuses on access to the internet through social capital, the second explores how and what for users and citizens use the internet, the third digital divide refers to the returning benefits and opportunities of internet use for users (Ragnedda et al. 2019). According to the authors, all divides including the third digital divide are ‘strongly intertwined with social inequalities’ (Ragnedda et al. 2019: 3).¹ We have seen in the previous theoretical part that digital media foster digitally induced temporal change. Thus we have to ask how temporal inequalities occur and how in return they relate back to the third digital divide, i.e. what temporal benefits and opportunities users gain or, on the contrary, are hindered from. We seek to discuss the reinforcement of privilege through three specific forms of digitally induced temporal inequalities, namely the on-liner/off-liner divide, rural–urban divide, and the gender divide. We then analyze these three specific forms of divides in relation to sub-dimension of temporal understanding. As initially stated marginalization is here not only apparent along the three forms but generally refers to power axes, wherever they may occur. For example, while the rural population in China is disadvantaged economically, digitally, and in other forms, this is not the case in Germany, so the three forms are diversified in itself. With the following three hypotheses we address RQ1, investigating how digital temporal change fosters marginalized communities.

The traditional *digital divide* between non users and internet users is closely related to different forms of inequality, in our case temporal inequality.

H10: There are differences in temporal understanding between German non users, German internet users, Chinese non users and Chinese internet users.

Cities are hubs both within the Global South, inclusive of China, with enclave development in terms of ICTs (Boas et al. 2005: 98) with a similar gentrification and smart city situation in Germany. Urbanization is also fostering a socially accelerated lifestyle (Levine and Norenzayan 1999: 201–2) and one that is therefore characterized by an increase in social action episodes (Rosa et al. 2013: 121). Conclusively, rural-urban inequality leads to temporal inequality through digital media.

H11: The larger the degree of urbanization including more comprehensive internet use, the faster the ‘pace of life’.

H12: The larger the degree of urbanization including more comprehensive internet use, the larger the degree of ‘interacting experience (polychronicity)’.

Gender divisions are both apparent in China and Germany alike. Across the world, family care largely influences female life cycles and biographies (Jurczyk 2013: 56–8) and thus female temporal understanding. Digital inclusion can both be enabled and hindered through means such as home offices, access to and use of internet services for social welfare, education and consumer services (banking, shopping), or social networking

with people further away. Each of these usages triggers a certain temporality as the 'awareness of power relations as they play out in time' (Sharma 2014: 4).

H13: Internet use leads to an increase in the sub-dimension 'interacting experience (polychronicity)' for women more so than for men.

Method

To examine our hypotheses, we conducted an offline survey (PAPI, telephone and face-to-face interviews) for non-internet users and an online survey (CAWI) for internet users in both Germany and China.

For non-users in Germany, the face-to-face interviews were carried out by an instructed interviewer selected by the first author of the paper in the state of Saxony, mainly in the region Leipziger Land. Only a few questionnaires were PAPI and self-administered. In China, non-users were selected through students of the second author of the paper. These students carried out telephone interviews with or passed the PAPI on to their relatives. This was done mainly in Chongqing (重庆市) and Hubei (湖北省) provinces.

For the on-liners in both countries, the snow-balling technique was applied. The online survey was shared across a variety of platforms. In Germany, it was shared on Twitter, LinkedIn, Facebook, Researchgate, Telegram, E-Mail, Jodel and text messages to colleagues at ZEMKI Bremen and Leipzig University, as well as friends and family of the first author. For Chinese participants, it was shared to various institutional contacts such as Chinese Communication University, China Media Observatory, Confucius Institute Leipzig, Goethe Institute Beijing, Beijing Institute of Technology Zhuhai, Beijing Normal University, Hongkong Baptist University, United International College and the OAS-Network mailing list of Free University Berlin. It was also shared on Weibo and WeChat. Moreover, the second author shared it among students of Chongqing University of Posts and Telecommunications. The survey was shared across both countries without regional focuses, but nation-wide.

The respondents have presented the survey questions in German in Germany and Simplified Mandarin in China. They were all aged 18 years and above. Altogether, there were 300 survey participants. In Germany, 45 off-liners and 123 on-liners took part and in China, 41 off-liners and 91 on-liners participated in the survey. The off-liners were compensated with either a small monetary incentive or a small gift. The on-liners received free access to an article on intercultural issues in the two target countries.

Measures

Main variables

For all participants, we measured the nine-dimensional temporal understanding using a 7-point Likert scale, ranging from 1 (do not agree at all) to 7 (completely agree) with sixty items (for the scale development compare (Faust forthcoming)). We then averaged the items in form of an index considering the respective items for each sub-dimension after a confirmatory factor analysis (CFA; see Results section).

For internet users in both target cultures, we considered the following: We measured internet use styles based on the works of Schweiger (2005) with ten items covering nine different domains. The items were altered and/or added in order to relate to temporal

digital change according to Faust (*forthcoming*). Specifically, we asked respondents how they habitually surf online. The underlying dimensions of the items displayed in Table 2 are (1) qualitative degree of reception, (2) parallel use of offers, (3) collecting information, (4) temporal habits, (5) quantitative use of offers, (6) parallel use of offers i.e. in this case the second item for this dimension, (7) follow up reception, (8) decision quality, i.e. how users plan or spontaneously decide which content to use, (9) order of evaluation, i.e. the order in which people used and evaluated online content. Participants could indicate the frequency of each use style on a 7-point Likert scale, ranging from 1 (do not agree at all) to 7 (completely agree) (see Table 2).

Moreover, we assessed the duration of how long participants used the Internet, namely (1) on a working day, and (2) on a leisure day. Participants could answer the question on an average day of each kind in hours (see Table 2).

Other variables

Age was measured in years (see Table 1). Degree of urbanization was measured with an ordinal scale, ranging from 1 (urban), 2 (suburban), to 3 (rural) (see Table 1). Gender was measured dichotomous, 1 (female) and 2 (male) (see Table 1). Type of work was measured in ten categories (see Table 1). Highest education was assessed with 11 categories, relating to the education structure in Germany and China respectively (see Table 1). Marital status was measured in five categories (see Table 1).

Analytical strategy

We first present descriptive statistics, then zero-order correlations between the main variables and where applicable multiple linear regression models. The latter are a dimensionless measure for cross-cultural comparisons in order to investigate the first nine hypothesis. Finally, we conducted ANOVAs and again multiple linear regression models for the remaining hypotheses, followed by a discussion of our findings. Therefore, the results section including tables and figures only provides a first overview, with the discussion section eventually going into more details.

Results

Descriptive statistics and measurement model

Descriptive statistics are displayed in Table 1 and Table 2.

Testing digital temporal change

Before analyzing the data to examine our hypotheses, we submitted the scale of temporal understanding to CFA with robust maximum likelihood estimation. The nine-factor model of temporal understanding showed a reasonable fit. $\chi^2 = 4106.21$, $df = 1675$, $RMSEA = .07$, $CFI = .56$, but we decided for test sufficiency since this study did the primary testing of the scale. Usually, authors (e.g. (Backhaus, Erichson, and Weiber 2011; Heck 1998)) state that the indices should show similarity across methods of estimation, and claim otherwise the overall model fit is poor. Yet, simultaneously, the sample size has an effect, when considering the χ^2 -value in relation to degrees of freedom. In our case, $CMIN/DF$ is 2.45 at a

Table 1. Descriptive Statistics of Study Variables Across all Participants

Variable	% of Sample	M	SD
Age in Years		41.3	21.0
Sex			
Female	55.6		
Male	44.4		
Marital Status			
Single	37.6		
In A Relationship	20.1		
Married / Registered Civil Partnership	34.2		
Widowed / Registered Civil Partner Died	6.7		
Divorced / Registered Civil Partnership Canceled	1.3		
Highest Education			
Elementary School	3.4		
Junior Middle School / 8th Grade	5.1		
Senior Middle School / 9th Grade	4.7		
Technical School / 10th Grade	2.4		
Vocational School / A-Levels	11.8		
Evening School / Training	13.8		
2 / 3 Year College	2.7		
Bachelor Degree	26.6		
Master Degree or Diploma	24.2		
Doctoral Degree	3.7		
School Degree not Obtained / School not Attended	1.3		
Other	0.3		
Profession			
Blue Collar Worker	2.7		
White Collar Worker	26.3		
Public Official	1.4		
Self-Employed	4.1		
Pupil	10.1		
Vocational Training	1.4		
Student	24.0		
Pensioner	25.0		
Housewife / Househusband	2.7		
Unemployed	1.7		
Other	3.4		
Degree of Urbanization			
Urban	67.2		
Suburban	7.8		
Rural	25.0		
Temporal Understanding			
TU1: Past		4.1	1.4
TU2: Present		5.2	1.0
TU3: Future		4.4	1.5
TU4: Instrumental Experience		5.0	0.9
TU5: Interacting Experience		3.7	0.9
TU6: Fatalism		3.8	0.9
TU7: Pace of Life		4.1	1.2
TU8: Future as Planned Expectation		4.6	0.8
TU9: Future as Trust Based		5.9	0.8

sample size of 300, so it is only slightly above the recommended 2.0 for a sample size below 400 (Heck 1998), but still within the limit of 3 for a sample size of ≤ 800 . Due to the fact that psychometric testing varies in strictness (Beauducel 2001), we decided to accept the model of temporal understanding after CFA even though improvements could be made. Besides, 51 factor loadings were significant at the .001 level and ranged from .09 to .67, with 7 of the remaining factor loadings significant at .05 level and only 2 non-significant loadings. Again, we decided in favor of content validity (Schnell, Hill, and Esser 2005) in order to model the construct temporal understanding in a valid

Table 2. Descriptive Statistics of Study Variables of Internet Users Only

Variable	M	SD
Internet Use Work Day (hours)	7.1	7.7
Internet Use Free Day (hours)	6.6	4.0
Internet Use Styles		
IUS1: I tend to answer messages immediately.	4.8	1.5
IUS2: Most of the time I leave several browser windows/apps open.	5.5	1.7
IUS3: While I am online, I carry out other activities (e.g. eating, calling, watching TV).	4.7	1.8
IUS4: I often go to certain apps/websites in short intervals to check if there is anything new.	4.4	1.9
IUS5: I often switch between different browser windows/tabs/apps.	4.9	1.8
IUS6: I save interesting articles, e.g. as book marks or I print them or I take screenshots.	5.0	1.9
IUS7: After I am done with my plans and duties on the internet, I continue looking for other interesting information/things.	5.0	1.7
IUS8: Weekdays I am always online during the same time of the day.	4.5	1.9
IUS9: When I am online, I am looking for information systematical and do not click randomly.	5.1	1.5
IUS10: When I visit familiar websites, I follow a strict order to check the content, e.g. reading sports news at first at news sites.	4.6	1.9

fashion. Finally, we then averaged the items. The results are indicated in Table 1. The indices all showed reliability at $\alpha > .70$ with only three exceptions ('fatalism', 'pace of life' and 'interacting experience (polychronicity')) ranging from $\alpha > .50$ to $\alpha < .60$. Again, we decided to accept weaker reliability in favor of content validity.

After the CFA of temporal understanding we commuted zero-order correlations of all main variables, which can be found in Table 3.

Table 3 displays the correlations, which at first glance would verify most of the nine hypotheses (H1 to H9) assuming a diversified change in temporal understanding. This would imply that temporal digital change holds for the most part true. However, zero-order-correlations run the risk of being spurious correlations, i.e. the causal relationship between the two might be caused by a third confounding factor. In order to avoid a false verification, we tested for age as confounding factor, as both theoretical and empirical studies found age (Fritz and Klingler 2006; Piaget 1974) and/or generational belonging (Bolin 2016) to be one of the most influential factors to be considered in time research. Thus, Table 4 displays partial correlations of the same variables, with age defined as control variable.

As a result, we can see in the forthcoming Table 5 that the nine hypotheses were either verified or falsified. In each instance where partial significant correlations were found that could verify a hypothesis, we conducted multiple linear OLS regressions, with the respective dimension of temporal understanding as the dependent variables. We then entered age (coded as variable X) and the respective duration of internet use (work day or free day) or the specific internet use style (coded as variable Y) as the main explanatory variables. Table 5 gives an explanatory overview of the results of hypothesis testing and the corresponding regression equations. Generally, the degree of correlations found in Table 4 indicates that the relationship was not very strong, i.e. we found weak effects (ranging from a correlation coefficient minimum of .180 to a maximum of .366).

Inequalities of the digital divide

Next, we examined the differentiation between on-liners and off-liners in both countries, thus considering the four groups in a classical experimental setup. Using ANOVAs, we

Table 3. Zero-Order-Correlations Among Main Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
Internet Use Work Day	1	.616**	.134	.095	.187**	.168*	.172*	.124	.182**	.187**	-.034	.148*	.015	-.150*	.296**	-.112	.312**	.151*	-.022	-.005	-.147*
Internet Use Free Day		1	.144*	.067	.299**	.182**	.189*	.057	.266**	.177*	-.188*	.021	.030	-.336**	.404**	-.279**	.322**	.206**	.039	-.142*	-.283**
Use Style 1			1	.088	.256**	.293**	.178**	.216**	.271**	.165*	.073	.140*	.085	-.047	.098	.256**	.057	.114	-.083	-.075	.096
Use Style 2				1	.269**	.256**	.523**	.269**	.330**	.271**	.177*	.242**	-.056	.170*	.090	.042	.090	-.025	-.014	.126	.193**
Use Style 3					1	.430**	.382**	.309**	.360**	.146*	-.117	.119	.146*	-.003	.319**	.129	.273**	.205**	.101	-.028	.034
Use Style 4						1	.496**	.304**	.389**	.291**	-.100	.158*	.188**	-.008	.164*	-.039	.139	.161*	-.021	.028	.130
Use Style 5							1	.372**	.467**	.325**	.061	.234**	.248**	.013	.175*	.047	.229*	.198**	.025	.037	.100
Use Style 6								1	.305**	.251**	.070	.141*	.050	.099	.111	.031	.145	.079	.008	.025	.034
Use Style 7									1	.241**	.055	.183*	.206**	.140	.222**	.104	.315**	.201**	.065	.149*	.115
Use Style 8										1	.093	.433**	.055	.066	.096	.067	.197*	.164*	-.055	-.073	.077
Use Style 9											1	.185**	.006	.321**	-.062	.333*	-.118	-.104	-.022	.145	.228**
Use Style 10												1	.092	.093	.084	.204**	.080	.085	.005	.020	.123
Past													1	.156*	.350**	.185**	.043	.452**	.213**	.062	.123*
Present														1	.068	.318**	.017	-.024	.104	.386**	.445**
Future															1	.019	.235**	.251**	.066	.097	-.170**
Instrumental Experience																1	-.453**	-.022	-.162*	.297**	.409**
Interacting Experience																	1	.334**	.188**	-.185**	-.141*
Fatalism																		1	.139*	-.111	-.080
Pace of Life																			1	-.077	.107
Future as Planned																				1	.184
Future as Trust Based																					1

**p* < .05.
 ***p* < .01.

**Table 4.** Partial Correlations Among main Variables, Age Defined as Control Variable (insert below).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Internet Use Work Day	1	.475	.160	.109	.161	.166	.135	.130	.173	.163	-.006	.157	.116	.102	.193*	.083	.284*	.225*	-.032	.137	.083
Internet Use Free Day		1	.218*	-.032	.226*	.101	.069	-.031	.286*	.132	-.199*	.049	.127	-.075	.119	-.014	.212*	.269*	.056	.007	.071
Use Style 1			1	.122	.237*	.182*	.157	.301**	.237*	.166	.138	.295**	.079	.009	.131	.282*	.054	.180*	-.057	.015	.146
Use Style 2				1	.349**	.344**	.572**	.315**	.400**	.246*	.166	.301**	.023	.119	.135	.076	.032	-.028	.034	.146	.069
Use Style 3					1	.396**	.281*	.313**	.444**	.107	-.078	.156	.113	.051	.224*	.135	.210*	-.011	.144	.056	.131
Use Style 4						1	.483**	.248*	.435**	.273*	-.038	.209	.209*	.012	.134	-.061	.133	.112	.027	.112	.099
Use Style 5							1	.385**	.500**	.302*	.293**	.276*	.250*	.070	.078	.005	.049	.091	.043	.114	.159
Use Style 6								1	.148	.307**	.163	.152	.046	.054	.093	.047	.069	.084	-.055	-.012	.025
Use Style 7									1	.309**	.092	.323**	.209*	.248*	.265*	.142	.294**	.159	.113	.266*	.149
Use Style 8										1	.085	.445**	.189*	.168	.190*	.025	.144	.239*	.047	-.120	.055
Use Style 9											1	.203*	.124	.012	.366**	.251*	-.097	-.039	.016	.132	.143
Use Style 10												1	.207*	.157	.172	.251*	.124	.178	.043	.081	.141
Past													1	.116	.377**	.148	.158	.477**	.275*	.086	.207*
Present														1	.277*	.099	.280*	.055	.065	.287*	.272*
Future															1	.287*	.259*	.220*	.022	.339**	.152
Instrumental Experience																1	-.287*	.050	-.215*	.127	.173
Interacting Experience																	1	.365**	.280*	.128	.132
Fatalism																		1	.050	.022	.069
Pace of Life																			1	-.069	.179
Future as Planned																				1	.184*
Future as Trust Based																					1

Note: Significant correlations marked in bold.

* $p < .05$.** $p < .01$.

Table 5. Findings of Hypothesis Testing

H	Testing	Explanation and Equations for Verified Hypothesis
1.1.	Falsified	We can report an increase in the sub dimension 'past' for the following cases: when users go to check for news in short intervals and when they often switch between different browsers. This is also the case, when they keep on looking around after their online duties and when they are online during the same time on a weekday. Moreover the increase takes place when they follow a strict plan for online content browsing. However, none of these internet use styles necessarily contributes to memory culture or nostalgia as such, e.g. like internet use style 6 would indicate with storing online news or content. Thus, we decided to falsify the hypothesis.
1.2.	Falsified	No decrease in the sub dimension 'past' was found.
2.	Verified	An increase in the sub dimension 'present' was found. Two internet use styles attributed to this: the fact that people stayed online after their internet duties ($Z = 4.089 + 0.14X + 0.87Y$) and that they systematically and not randomly searched for information ($Z = 3.922 + 2.04Y$).
3.	Falsified	Contrary to the hypothesis, we actually found an increase in 'future' orientation; this was this case the longer people spent online on a working day, when they carried out other activities simultaneously, when they stayed online after their duties on the net or when they had regular times on weekdays where they went online.
4.	Falsified	Again, contrary to theoretical assumptions, we report an increase in 'instrumental experience (monochronicity)' for such situations, when onliners tend to answer online messages immediately, when they have a very systematic online search behavior and when they follow a strict order in their online searches.
5.	Verified	The increase in 'interacting experience (polychronicity)' could be verified. The longer a person is online, regardless of work day ($Z = 3.916 - 0.009X + 0.025Y$) or free day ($Z = 3.405 + 0.061Y$), the more this dimension increases. This furthermore holds true that people tend to carry out other activities during their internet presence ($Z = 3.897 - 0.015x + 0.079Y$), or when people start looking for other information after they are done ($Z = 3.653 - 0.020X + 0.149Y$).
6.	Verified	'Fatalism' also increases as stated in H6. Again, it is depending on the online duration of a working day ($Z = 3.710 + 0.018Y$) or free day ($Z = 3.606 + 0.042Y$). Moreover, it also gets increased through the habit of answering messages immediately, though a solid significant regression equation cannot be reported.
7.	Falsified	An increase in the sub dimension 'pace of life' could not be reported.
8.	Falsified	'Future as planned expectation and result of proximal goals' did not decline. Actually, in one instance it increased namely when people continued to be online after their mandatory online tasks.
9.	Verified	As stated, here we tested for Chinese participants only (results reported in Table 5 were for all survey participants). Contrary to the overall trend, Chinese participants' use style highly increased 'future as trust based interaction and result of present positive behavior'. This took place through leaving several browser windows open ($p=.467^{**}$, $Z = 3.357 + 0.037X + 0.228Y$), carrying out multiple activities online and offline ($p=.417^{**}$, $Z = 3,647 + 0.041X + 0.162Y$), frequent checking for news ($p=.272^*$, with no significant regression equation), switching between sites ($p=.342^*$, $Z = 4.015 + 0.038X + 0.110Y$), archiving articles ($p = .236^*$, with no significant regression equation) continuing to look for other information ($p = .333^*$, $Z = 4.107 + 0.029X + 0.131$), and following a strict navigation order ($p = .266^*$, $Z = 4,049 + 0.029X + 0.140Y$).

tested all nine sub-dimensions of temporal understanding, of which eight sub-dimensions showed significant differences at $p = .001$ level except for 'pace of life' $p = .337$ between the four groups: Chinese users, German users, Chinese non-users and German non-users. Thus, H10 could be verified implying all four groups vary amongst each other in the specific sub-dimension of temporal understanding. The results can be found in Table 6 below.

Inequalities of the rural-urban divide

First we tested if it holds that urban areas are the core of internet use, the variable urbanization was coded (1=urban, 2=suburban, 3=rural). For internet use on work days we found a correlation in relation to degree of urbanization with Kendall Tau b correlation coefficient $-.382$, $p = .000$ and Spearman Rho correlation coefficient $-.456$, $p = .000$. For internet use on free days the following results occurred: Kendall Tau b correlation coefficient $-.341$, $p = .000$, Spearman Rho correlation coefficient $-.411$, $p = .000$. For H11 we conducted an

Table 6. Results of the ANOVAs between the 4 Experimental Groups

		Sum of Squares	Df	Mean of Squares	F	Significance
Past	Between Groups	46.974	3	15.658	8.202	.000
	Within Groups	536.467	281	1.909		
	Overall	583.441	284			
Present	Between Groups	49.311	2	24.655	32.392	.000
	Within Groups	160.603	211	.761		
	Overall	209.914	213			
Future	Between Groups	146.197	3	48.732	28.911	.000
	Within Groups	468.590	278	1.686		
	Overall	614.787	281			
Instrumental Experience (Monochronicity)	Between Groups	31.843	3	10.614	17.534	.000
	Within Groups	141.048	233	.605		
	Overall	172.892	236			
Inteacting Experience (Polychronicity)	Between Groups	25.419	3	8.473	13.637	.000
	Within Groups	137.314	221	.621		
	Overall	162.733	224			
Fatalism	Between Groups	28.022	3	9.341	12.865	.000
	Within Groups	168.436	232	.726		
	Overall	196.458	235			
Pace of Life	Between Groups	4.564	3	1.521	1.130	.337
	Within Groups	336.438	250	1.346		
	Overall	341.001	253			
Future as Planned Expectation and Result of Proximal Goals	Between Groups	13.212	3	4.404	6.953	.000
	Within Groups	146.942	232	.633		
	Overall	160.153	235			
Future as Trust-Based Interacting Expectation and Result of Present Positive Behavior	Between Groups	45.847	3	15.282	31.843	.000
	Within Groups	129.579	270	.480		
	Overall	175.426	273			

ANOVA that found no significant results: $p=.132$, i.e. implying that there are no differences between rural, suburban and urban areas in terms of pace of life. H11 had to be rejected. For H12 the ANOVA showed significant results with $p=.021$, indicating that there are differences between rural, suburban, and urban areas in terms of 'interacting experience (polychronicity)'. Thus, H12 was verified.

Inequalities of the gender divide

In order to test H13, we conducted regressions. Regardless of hours of internet use per work day ($p=.855$, $y=3.554-0.020x_1+0.034x_2$), or free day ($p=.956$, $y=3.411-0.006x_1+0.062x_2$), no significant results could be found. Here, x_1 referred to gender (0 = female, 1 = male) and x_2 to the hours of internet use per day. We thus had to reject the hypothesis and conclude that internet use does have a significant effect on 'interacting experience (polychronicity)', but gender does not. In addition, we also tested the correlation between gender and the same sub-dimension and did not find it to be significant ($p=.807$).

Discussion

The first nine hypotheses painted a diversified picture of how the internet changes the way we deal with time in Germany and China. Contrary to the underlying framework, overall we could see that the internet does not lead to a decrease in any one sub-

dimension of temporal understanding. Actually, the internet only leads to a partial increase of temporal understanding in both countries. Moreover, this increase could not be attributed to the quantitative time spent online, but more to specific internet habits, i.e. temporal internet use styles. Here it is particularly important to point out that it still needs further experimental proof to identify clear causal relationships which also address further contextual variables. Causation might also be the other way around: A certain temporal understanding is reflected in internet habits, i.e. people's overall behavior, is also reflected in their internet use styles. Additionally, it might be the case that we face a transactional (Früh et al. 1982) relationship here. This implies that temporal understanding and temporal internet use styles go hand in hand. Thus, cause and effect can neither be clearly identified nor have a strict causes-and-effects relationship. Finally, it needs further investigation if information overload is one contributor to 'fatalism'. We found that internet use during work day was positively correlated, which could imply that people with a higher digital workload are increasingly overwhelmed by this situation. It needs future studies to see if 'fatalism' is a structural, not a functional issue, for example in Germany.

Regarding the differences between the four groups – German online users, German non users, Chinese online users, Chinese non users, we found p -value = .001 significant results that groups vary in their temporal understanding. We have to acknowledge that this must be further investigated in future works because of limitations in the scope of this article. Only 'pace of life' was not different across the four groups, but we saw earlier in the paper that Cronbach's alpha coefficient was very low, so it remains questionable if the items for this sub-dimension were adequately selected.

We verified that the degree of urbanization has a positive relationship with 'interacting experience (polychronicity)'. 'Pace of life' did not have one, but again, we have to question the reliability of this measure, as previous studies found a strong relationship (Levine and Norenzayan 1999). This finding is particularly of interest, as we see a shift towards urban centers worldwide. This implies that cities foster temporal digital change, and the increasing automation and tendency for smart devices is likely to accelerate this process.

Gender differences in internet-induced change of temporal understanding could not be found. This is surprising, as women are usually reported to be more focused on 'interacting experience (polychronicity)' or multi-tasking (Kenyon 2010: 48). Here it would be important to look at those differences across the four groups in more detail and also consider socialization effects. Moreover, it needs further studies to investigate how 'interacting experience (polychronicity)' serves as functional reasoning for people, e.g. as was shown in previous studies (Herdin 2017).

Last but not least, it is important to highlight that our findings empirically tested and diversify existing temporal change theories. We can conclude that each of the changed sub-dimensions does not have one causal reasoning but multiple, with age being a huge mediator of the way people deal with time besides the internet. Thus, temporal understanding is culture-bound, embedding socio-demographics, personality, behavior and habits. These reference collectives, here German and Chinese cultural context, give sense, meaning, and coherence to the individual through shared knowledge beyond cultural universalism. This diversification needs further empirical proof, and also a framework where dichotomies become obsolete in favor of integrative and culture-sensitive approaches (e.g. (Faust 2018)).

Limitations

On a theoretical account, we deduced the hypotheses on the base of a broad literature research on temporal digital change. However, authors of these theories were not consistent in defining sub-dimensions e.g. how to define 'past', 'present', etc. These inconsistencies in definitions are something we could not overcome in our study, but needs further theoretical streamlining of social time definitions.

The second limitation refers to our sample. We used a sample obtained through convenience sampling in both target countries (Germany and China). The sample is only to a small extent comparable with data from large-scale studies in Germany (ARD ZDF Forschungskommission 2019) and China (China Internet Network Information Center 2019), and thus, it is not representative. Future studies would want to consider quota sampling to overcome this obstacle.

Another limitation can be attributed to the nature of our data. We used data from a cross-sectional survey. Therefore our results only indicate associations, not causality. Thus, we cannot make a clear proclamation about whether temporal understanding is a predictor, i.e. requirement, or an outcome of internet use and its styles; or, as was indicated before, that the two constructs are transactionally linked.

Moreover, we already indicated that the confirmatory factor analysis we conducted for temporal understanding was not as solid as it should ideally be with limitations in strict confirmatory testing and low Cronbach's alpha for the sub-dimension indices. We thus have to conclude that we accepted it as first testing and thus adequate solution. However, we generally suggest that future studies need to verify and cross-check the new instrument which was developed, and/or find alternative measures and instruments.

Age was found to be crucial in our analysis as a confounding variable. However, we cannot explicitly state whether we faced real effects of age, or of (media) generational differences. This is even more important as non users will gradually disappear, leaving a fully saturated on-liner society. Moreover, we did not control for other confounding variables which are likely to affect our analysis as well e.g. increase in 'fatalism' might also be caused by climate change, populism, worrying about life in general. These attitudes were not surveyed.

Besides, our findings only touch upon the differences across Germany and China, as we foremost researched homogenization effects. The disparities in internet access, infrastructure, and use (e.g. even looking at certain platform use more specifically) between Germany and China in relation to temporal understanding need further investigation.

A very specific theoretically oriented limitation we reflect is that we used nationality as a criterion to differentiate between Germans and Chinese. Culture is much broader though and nationality a criterion with specific implications. Some participants were naturalized, i.e. had other cultural roots additionally, such as older German participants stemming from previous German regions in Poland. This could not be accounted for in the analysis, even though years of living in the target country were also recorded but not evaluated. This is an issue future studies might want to address in more detail.

Finally, we seek to address a methodological issue. All hypotheses crossed the three different levels, namely micro, meso, and macro. However, our data analysis techniques did not include multilevel modeling, which might have enriched the results.

Conclusion

The aim of this study was to examine whether digital media has caused digital temporal change in Germany and China, and moreover to investigate three specific variations of the third digital divide, i.e. off-liners vs. on-liners related, urbanization induced, and gender-related temporal change. Overall, the majority of findings show support for this temporal change. Even after controlling for variables that have traditionally been shown to influence temporal understanding (e.g. age), the noted associations were robust. This falls in line with recent empirical research for Germany, which also found temporal change i.e. a tendency towards acceleration inclusive of multi-tasking due to digital media for Germany (Görland 2020) or traditional second and third screen studies.

In order to answer RQ 1 and RQ 2, we now seek to discuss the three forms of digital inequalities and link the results to the Sustainable Development Goals formulated in the UN 2030 agenda (United Nations, 2018). Marginalization as stated in RQ1 happens along the lines of the access and use divide as well as along urbanization. Thus, especially internet users and the urban population are more subject to temporal change, and here it is urgent to consider adequate measures in time policy with relations to, e.g. stress, well-being, and the labor market (Mückenberger 2011; Reisch 2015) to provide answers to RQ2. Sustainable living implies sustainable cities and decent work in relation to good health and well-being (United Nations, 2018). Wu (2010: 38) links these aspects closely to industrial capitalism, which also implies to critically question current forms of economies and its functioning. In a similar manner (economic) globalization tendencies are to question (Fei 2015).

Finally, we would like to pinpoint one future area of empirical digital temporal change research as an example that needs investigation related to inequalities (Ragnedda 2020). Our present study did not look at the aspect of labor force, which is, however, crucial to and inextricably tied to economic conditions of late modernity we touched upon and very crucial to inequalities. In this sense, work-life-balance and therewith mental well-being is an issue arising from mobility and flexibility in the work place. Digital media may enhance or hinder this temporally, both in Germany (Jurczyk 2013) and China (Qiu 20.05.2018). So, with a shift towards industry 4.0 and digital labor, higher educated and more flexible work status users gain benefits of space-independent work that allow for more leeway in work organization, yet at the same time lead to a 'presence bleed' (Gregg 2011). Non internet users and those with few media competence skills in both countries are still bound to shift-work, factory labor force and the like. Moreover, online access in China has partially gone straight from non-use to smartphone online access, which is different from Germany and would also need further investigation through the diversity of devices. In China, this process of work-related inequality is moreover shaped through the Hukou system (户口制度), which restricts access to social welfare, pensions, and education (OECD Publishing 2015). Such a structural relation, that internet non users face poorer job opportunities, plays out in temporal inequalities as well and enhances capitalist tendencies of exploitation.

Thus, we come to conclude that future empirical research, be it qualitative, quantitative or even mixed-method, on the subject and especially time policy research are urgently needed to contribute to sustainable living policies. In this sense, future research and time policy are yet up to challenge Marx:

We should not say that one man's hour is worth another man's hour, but rather that one man during an hour is worth just as much as another man during an hour. Time is everything, man is nothing: he is at the most time's carcass (1847: 22).

Note

1. Such inequalities might also occur through the Social Credit System (社会信用体系), which as of 2020 has been centralized and standardized all over China. During the time data was gathered (spring to winter 2019), the SCS had not been standardized, e.g. with local systems such as Sesame Credit, and thus was not considered in the survey (for works on the subject compare Kostka (2019)).

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No potential conflict of interest was reported by the author(s).

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Herzlich willkommen! Sehr geehrte Damen und Herren,

im Rahmen meiner Doktorarbeit beschäftige ich mich mit dem Thema „Internetnutzung und Internet-Nichtnutzung in Deutschland und China“. Für die Bearbeitung dieses Themas ist die Befragung von Internetnutzern und Nicht-Nutzern sehr wichtig. Daher bin ich auf Ihre Hilfe angewiesen. Ich bitte Sie, durch das Ausfüllen des Fragebogens zu der Untersuchung beizutragen.

Bei der Beantwortung der Fragen sind allein Ihre persönlichen Ansichten und Meinungen wichtig. Es gibt keine richtigen oder falschen Antworten. Die Befragung wird ca. 25 - 40 min dauern.

Diese Befragung erfolgt anonym. Das Datenschutzgesetz schreibt vor, von den Befragten die Einwilligung zur Speicherung solcher Daten einzuholen. Mit der Teilnahme an der Befragung erklären Sie sich damit einverstanden, dass die Daten Ihres Fragebogens elektronisch gespeichert und zum Zweck der wissenschaftlichen Auswertung von mir computergestützt verarbeitet werden. Selbstverständlich werden alle Angaben, einschließlich aller persönlichen Informationen, vertraulich behandelt. Niemand außer mir wird Zugriff auf diese Daten haben. Alle Ergebnisse werden nur in zusammengefasster Form dargestellt, die keine Rückschlüsse auf einzelne Personen erlauben.

Die Teilnahme an dieser Befragung ist freiwillig und Sie können dabei einzelne oder aber auch alle Fragen nicht beantworten. Dennoch hoffe ich, dass Sie an der Befragung teilnehmen, da Ihre Ansichten und Meinungen wichtig sind. Bitte beantworten Sie also möglichst viele der Fragen! Für Rückfragen stehe ich Ihnen gern zur Verfügung unter: maria.faust@uni-leipzig.de

Wichtiger Hinweis: Bitte benutzen Sie zur Navigation nicht den Zurück-Button Ihres Browsers! Bitte verwenden Sie zur Navigation die Schaltflächen in den Formularen (Zurück/Weiter)!

Vielen Dank für Ihre Unterstützung!

Maria Faust M.A. Universität Leipzig



Teil A: Fragen vor der Umfrage

A1. Möchten Sie an dieser Befragung teilnehmen?

ja

nein

Teil B: Personenbezogene Fragen

Im Folgenden finden Sie eine Reihe von Persönlichkeitseigenschaften, die mehr oder weniger stark auf Sie zutreffen.

B1. Bitte geben Sie Ihr Geschlecht an.

weiblich

männlich

B2. Wie alt sind Sie?

--	--	--	--	--	--	--	--	--	--	--

B3. Welche Sprache(n) sprechen Sie?

Deutsch

Chinesisch (vereinfacht)

Englisch

Französisch

Russisch

Spanisch

Japanisch

Kantonesisch

Sonstiges

Sonstiges

--

B4. Welche Staatsangehörigkeit(en) haben Sie?

Deutsch

Chinesisch



Sonstiges

Sonstiges

B5. Welcher Ethnizität gehören Sie an?

Deutsche

Sorben

Friesen

Dänen

Sinti und Roma

Keine Angabe

Keine Angabe

Sonstiges

Sonstiges

B6. Bitte geben Sie Informationen zu Ihrem Geburtsort an.

Land

Bundesland

B7. Bitte geben Sie Informationen an zu dem Ort, an dem Sie momentan leben.

Land

Bundesland

B8. Wenn Sie nicht in Deutschland geboren sind, wie lange haben Sie schon in Deutschland gelebt?

Jahre

Monate



Teil C: Kontaktbezogene Fragen

Im Folgenden geht es darum, mit welchen Personen Sie Kontakt haben.

C1.

Überlegen Sie zunächst, welche vier bis sechs Personen in Ihrem alltäglichen Leben wichtig sind. Tragen Sie bitte diese Personen mit deren Vornamen oder Spitznamen in die untere Tabelle ein.

1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>
6	<input type="text"/>

C2. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ001} (1) im Inland oder Ausland lebt.

Inland

Ausland

C3. Überlegen Sie bitte, zu welcher der folgenden Personengruppen {INSERTANS:651625X5X13SQ001} (1) gehört:

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)

C4. Schätzen Sie schließlich bitte ein, wie wichtig {INSERTANS:651625X5X13SQ001} (1) in Ihrem Leben ist.

Sehr wichtig

Wichtig

Weniger wichtig

C5. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ002} (2) im Inland oder Ausland lebt.

Inland

Ausland



**C6. Überlegen Sie bitte, zu welcher der folgenden Personengruppen
{INSERTANS:651625X5X13SQ002} (2) gehört:**

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)

**C7. Schätzen Sie schließlich bitte ein, wie wichtig
{INSERTANS:651625X5X13SQ002} (2) in Ihrem Leben ist.**

Sehr wichtig

Wichtig

Weniger wichtig

**C8. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ003} (3) im
Inland oder Ausland lebt.**

Inland

Ausland

**C9. Überlegen Sie bitte, zu welcher der folgenden Personengruppen
{INSERTANS:651625X5X13SQ003} (3) gehört:**

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)

**C10. Schätzen Sie schließlich bitte ein, wie wichtig
{INSERTANS:651625X5X13SQ003} (3) in Ihrem Leben ist.**

Sehr wichtig

Wichtig

Weniger wichtig

**C11. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ004} (4) im
Inland oder Ausland lebt.**

Inland

Ausland

**C12. Überlegen Sie bitte, zu welcher der folgenden Personengruppen
{INSERTANS:651625X5X13SQ004} (4) gehört:**

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)



**C13. Schätzen Sie schließlich bitte ein, wie wichtig
{INSERTANS:651625X5X13SQ004} (4) in Ihrem Leben ist.**

Sehr wichtig

Wichtig

Weniger wichtig

**C14. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ005} (5) im
Inland oder Ausland lebt.**

Inland

Ausland

**C15. Überlegen Sie bitte, zu welcher der folgenden Personengruppen
{INSERTANS:651625X5X13SQ005} (5) gehört:**

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)

**C16. Schätzen Sie schließlich bitte ein, wie wichtig
{INSERTANS:651625X5X13SQ005} (5) in Ihrem Leben ist.**

Sehr wichtig

Wichtig

Weniger wichtig

**C17. Überlegen Sie bitte, ob {INSERTANS:651625X5X13SQ006} (6) im
Inland oder Ausland lebt.**

Inland

Ausland

**C18. Überlegen Sie bitte, zu welcher der folgenden Personengruppen
{INSERTANS:651625X5X13SQ006} (6) gehört:**

Familie (Familienmitglieder, Verwandte, Partner)

Freunde (enge Freunde, Bekannte)

Andere (Arbeitskollegen, Nachbarn)

**C19. Schätzen Sie schließlich bitte ein, wie wichtig
{INSERTANS:651625X5X13SQ006} (6) in Ihrem Leben ist.**

Sehr wichtig

Wichtig

Weniger wichtig



Teil D: Fragen zur Internetnutzung

Bitte beantworten Sie zunächst einige Fragen zu Ihrer Person.

D1.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Von Angesicht zu Angesicht kommunizieren

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)

D2.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Brief und/oder Postkarte schreiben

{INSERTANS:651625X5X13SQ001} (1)



{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)

D3.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Telefonieren über das Festnetztelefon

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)



D4.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Telefonieren über das mobile Endgerät

- {INSERTANS:651625X5X13SQ001} (1)
- {INSERTANS:651625X5X13SQ002} (2)
- {INSERTANS:651625X5X13SQ003} (3)
- {INSERTANS:651625X5X13SQ004} (4)
- {INSERTANS:651625X5X13SQ005} (5)
- {INSERTANS:651625X5X13SQ006} (6)

D5.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

SMS schreiben über das mobile Endgerät

- {INSERTANS:651625X5X13SQ001} (1)
- {INSERTANS:651625X5X13SQ002} (2)
- {INSERTANS:651625X5X13SQ003} (3)



{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)

D6.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Internettelefonie oder Videotelefonie über das mobile Endgerät

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)



D7.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Internettelefonie oder Videotelefonie über den Computer

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)

D8.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Kurznachrichtendienst über mobiles Endgerät, z.B. WhatsApp, Facebook Messenger

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)



{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)

D9.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Kurznachrichtendienst über den Computer, z.B. Skype Nachricht, Facebook Messenger

{INSERTANS:651625X5X13SQ001} (1)

{INSERTANS:651625X5X13SQ002} (2)

{INSERTANS:651625X5X13SQ003} (3)

{INSERTANS:651625X5X13SQ004} (4)

{INSERTANS:651625X5X13SQ005} (5)

{INSERTANS:651625X5X13SQ006} (6)



D10.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

E-Mail Nutzung über das mobile Endgerät

- {INSERTANS:651625X5X13SQ001} (1)
- {INSERTANS:651625X5X13SQ002} (2)
- {INSERTANS:651625X5X13SQ003} (3)
- {INSERTANS:651625X5X13SQ004} (4)
- {INSERTANS:651625X5X13SQ005} (5)
- {INSERTANS:651625X5X13SQ006} (6)

D11.

Welche Kommunikationswege nutzen Sie, um mit diesen Personen generell in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege und die in Frage 9 genannten Personen aufgelistet.

Kreuzen Sie bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie mehr als einmal genutzt haben und nutzen.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

E-Mail Nutzung über den Computer

- {INSERTANS:651625X5X13SQ001} (1)
- {INSERTANS:651625X5X13SQ002} (2)
- {INSERTANS:651625X5X13SQ003} (3)



D13. Wie viele Stunden nutzen Sie das Internet durchschnittlich an einem Tag, an dem Sie Ihrer Haupttätigkeit nachgehen (z.B. Arbeiten, Studieren, Hausarbeit)?

Stunden

Minuten

D14. Wie viele Stunden nutzen Sie das Internet durchschnittlich an einem freien Tag?

Stunden

Minuten

D15. Wo nutzen Sie das Internet wie häufig?

Ich geh online...

	Mehrmals am Tag	Täglich	Mehrmals in der Woche	Wöchentlic h	Monatlich	Seltener	Nie	Ich weiß es nicht
Zu Hause / Im Wohnheim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am Arbeitsplatz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobiler Internetzugang über Smartphone bzw. Handy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobiler Zugang über Notebook, Ultrabook oder Tablet PC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In der Schule/Universität/Bibliothek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An öffentlichen Orten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bei Freunden, Bekannten oder Verwandten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D16. Welchen Internetzugang/welche Internetzugänge nutzen Sie zu Hause?

DSL (z. B. Telekom, 1&1)

Kabel-Internet (z. B. früher Kabel Deutschland)

Mobiles Internet (z. B. LTE/3G/UMTS/Stick)

Ich weiß es nicht

Sonstiges

Sonstiges



	Mehrmals am Tag	Täglich	Mehrmals in der Woche	Wöchentlich	Monatlich	Seltener	Nie	Ich weiß es nicht
Zum Abendessen ausgehen/Restaurantbesuch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feiern gehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In Verein/Partei/Gemeinde aktiv sein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Über wichtige Dinge reden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kaffeetrinken/Kuchen essen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freizeitpark/Zoo besuchen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mit Freunden Karaoke singen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Café oder Bar besuchen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spazieren gehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport treiben/Fit bleiben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Musik machen/Singen/Instrument spielen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kreatives Gestalten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sportveranstaltungen besuchen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Theaterstück/Museum besuchen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ausruhen/Entspannen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sich in Ruhe pflegen/Körperpflege	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schach/Karten/Gesellschaftsspiele spielen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reisen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shoppern gehen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Haushaltspflichten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D30. Sie haben eben gesagt, wie oft Sie bestimmten Aktivitäten nachgehen. Bestimmt gibt es einige davon, die Sie gern häufiger ausüben würden, aber nicht können. Welche Einschränkungen gibt es, die Sie daran hindern?

Gesundheitliche Gründe

Familie, Freunde oder Bekannte leben weit entfernt



	Trifft über- haupt nicht zu - 1	2	3	4	5	6	Trifft voll und ganz zu - 7	Ich weiß es nicht
Ich mache oft „mein eigenes Ding“.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meine eigene Persönlichkeit, unabhängig von anderen, ist mir sehr wichtig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die meiste Zeit verlasse ich mich auf mich selbst.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist mir wichtig, die Entscheidungen, die von meinen Gruppen getroffen wurden, zu respektieren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich bin mir sehr unsicher in meinem Urteil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Wohlergehen meiner Kollegen ist mir wichtig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil E: Abschlussfragen

Bitte beantworten Sie zum Abschluss noch einige weitere Fragen zu Ihrer Person.

E1. Welcher Tätigkeit gehen Sie hauptsächlich nach?

- Arbeiter/-in
- Angestellte/-r
- Beamte/-r
- Selbständige/-r, Freiberufler/-in
- Schüler/-in
- Auszubildende/-r
- Studierende/-r
- Ruhestand, Vorruhestand
- Hausfrau, Hausmann
- Arbeitslos, Arbeitssuchend
- Sonstiges

Sonstiges



E6. Gern sende ich Ihnen eine kostenlose Zusammenfassung der Ergebnisse zu. Wenn Sie daran interessiert sind, notieren Sie hier bitte Ihre E-Mail Adresse. Ihre persönlichen Daten werden technisch getrennt von Ihren Antworten erfasst. Sie können nicht mit den Ergebnissen in Verbindung gesetzt werden. Ihre Antworten bleiben also anonym!

Sollten Sie nur versehentlich auf nein geklickt haben, können Sie die Umfrage hier neu starten.

Jetzt haben Sie es geschafft. Als Dank folgen Sie bitte diesem Link und Sie können einen Artikel von mir über deutsche und chinesische Kultur lesen.

Ansonsten: Vielen Dank für Ihre freundliche Teilnahme! Wir danken Ihnen für Ihre Bereitschaft diesen Fragebogen auszufüllen.

Maria Faust M.A. Universität Leipzig

Herzlich willkommen!
Sehr geehrte Damen und Herren,

im Rahmen meiner Doktorarbeit beschäftige ich mich mit dem Thema „Internetnutzung und Internet-Nichtnutzung in Deutschland und China“. Für die Bearbeitung dieses Themas ist die Befragung von Internetnutzern und Nicht-Nutzern sehr wichtig. Daher bin ich auf Ihre Hilfe angewiesen. Ich bitte Sie, durch das Ausfüllen des Fragebogens zu der Untersuchung beizutragen.

Bei der Beantwortung der Fragen sind allein Ihre persönlichen Ansichten und Meinungen wichtig. Es gibt keine richtigen oder falschen Antworten. Die Befragung wird ca. 30 bis 40 min dauern.

Diese Befragung erfolgt anonym. Das Datenschutzgesetz schreibt vor, von den Befragten die Einwilligung zur Speicherung solcher Daten einzuholen. Mit der Teilnahme an der Befragung erklären Sie sich damit einverstanden, dass die Daten Ihres Fragebogens elektronisch gespeichert und zum Zweck der wissenschaftlichen Auswertung von mir computergestützt verarbeitet werden. Selbstverständlich werden alle Angaben, einschließlich aller persönlichen Informationen, vertraulich behandelt. Niemand außer mir wird Zugriff auf diese Daten haben. Alle Ergebnisse werden nur in zusammengefasster Form dargestellt, die keine Rückschlüsse auf einzelne Personen erlauben.

Die Teilnahme an dieser Befragung ist freiwillig und Sie können dabei einzelne oder aber auch alle Fragen nicht beantworten. Dennoch hoffe ich, dass Sie an der Befragung teilnehmen, da Ihre Ansichten und Meinungen wichtig sind. Bitte beantworten Sie also möglichst viele der Fragen!

Für Rückfragen stehe ich Ihnen gern zur Verfügung unter: Maria Faust, Lauenhainer Str. 42, 09648 Mittweida, oder Sie fragen meine Mutter Annemarie Faust, die Ihnen den Bogen ausgehändigt hat.

Vielen Dank für Ihre Unterstützung!

Maria Faust M.A.
Universität Leipzig

Fragebogennummer

Bitte tragen Sie alle Antworten sauber und leserlich ein!

Möchten Sie an dieser Befragung teilnehmen?

- ja
 nein

Frage 0)

Sie haben ja gesagt, dass Sie das Internet nicht nutzen. Trotzdem wäre es wichtig, dass Sie hier nochmal diese Frage beantworten: Nutzen Sie das Internet?

- ja
- nein

Frage 1)

Bitte geben Sie Ihr Geschlecht an.

- weiblich
- männlich

Frage 2)

Wie alt sind Sie?

_____ Jahre

Frage 3)

Welche Sprachen sprechen Sie? (Mehrfachnennungen)

- Deutsch
- Chinesisch (vereinfacht)
- Englisch
- Französisch
- Russisch
- Spanisch
- Japanisch
- Kantonesisch
- Sonstige, _____

Frage 4)

Welche Staatsangehörigkeit haben Sie?

- Deutsch
- Sonstige, _____

Frage 5)

Welcher Ethnie gehören Sie an?

- Deutsche
- Sorben
- Friesen
- Dänen
- Sinti und Roma
- Sonstige, _____

Frage 6a)Bitte geben Sie Information zu Ihrem **Geburtsort** an.

Land	_____
Bundesland	_____

Frage 6b)

Wenn Sie nicht in Deutschland geboren sind, wie lange haben Sie schon in Deutschland gelebt?

___	Jahre
___	Monate

Frage 7)In welchem Gebiet leben Sie **gegenwärtig**?

<input type="radio"/>	Städtisch
<input type="radio"/>	Vorstädtisch
<input type="radio"/>	Ländlich
<input type="radio"/>	Ich weiß es nicht

Im Folgenden finden Sie eine Reihe von Persönlichkeitseigenschaften, die mehr oder weniger stark auf Sie zutreffen.

Frage 8)

Bitte markieren Sie für jede Aussage, inwieweit sie auf Sie zutrifft. Sie sollen diese Einstufung jeweils für Paare von Eigenschaften vornehmen, auch wenn möglicherweise die eine Eigenschaft stärker zutrifft als die andere. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstufen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Ich sehe mich selbst als...								
Extravertiert, begeistert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kritisch, streitsüchtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zuverlässig, selbstdiszipliniert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ängstlich, leicht aus der Fassung zu bringen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offen für neue Erfahrungen, vielschichtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zurückhaltend, still	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verständnisvoll, warmherzig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unorganisiert, achtlos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gelassen, emotional stabil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Konventionell, un kreativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Im Folgenden geht es darum, mit welchen Personen Sie Kontakt haben.

Frage 9)

Überlegen Sie zunächst, welche **vier bis sechs Personen** in Ihrem alltäglichen Leben wichtig sind.

Tragen Sie bitte diese Personen mit deren **Vornamen oder Spitznamen** in die untere Tabelle ein.

1	
2	
3	
4	
5	
6	

Frage 10)

1) Tragen Sie bitte die Personen, die Sie in Frage 9 angegeben haben, mit deren **Vornamen oder Spitznamen sowie deren zugehöriger Nummer** in die untere Tabelle ein.

2) Dabei werden die Personengruppen **Familienmitglieder, Freunde und Andere** unterschieden. Ihre vier bis sechs Personen können auch nur zu einer Personengruppe gehören.

3) Überlegen Sie bitte außerdem, ob diese Personen im **Inland oder Ausland** leben.

4) Schätzen Sie schließlich bitte ein, wie wichtig diese Personen in Ihrem Leben sind. Dabei können Sie abstufen von sehr wichtig bis weniger wichtig.

Hinweis: Sie können auch **mehrere Personen** in ein Kästchen eintragen!

		Sehr wichtig	Wichtig	Weniger wichtig
In-land	Familie (Familienmitglieder, Verwandte, Partner)			
	Freunde (enge Freunde, Bekannte)			
	Andere (Arbeitskollegen, Nachbarn)			
Aus-land	Familie (Familienmitglieder, Verwandte, Partner)			
	Freunde (enge Freunde, Bekannte)			
	Andere (Arbeitskollegen, Nachbarn)			

Frage 11)

Welche Kommunikationswege nutzen Sie, um mit diesen Personen **generell** in Kontakt zu bleiben? Dabei wird nicht von einer täglichen Kommunikation ausgegangen. In der folgenden Tabelle sind alle Kommunikationswege aufgelistet.

1) Tragen Sie bitte zunächst in die obere Zeile der folgenden Tabelle die **Vornamen der vier bis sechs Personen** ein, die Sie in **Frage 10** bereits in die Tabelle eingetragen haben.

2) Kreuzen Sie nun bitte an, über welche Kommunikationswege Sie mit diesen Personen in Kontakt bleiben. Gemeint sind nur die Kommunikationswege, die Sie **mehr als einmal** genutzt haben und **nutzen**.

Hinweis: Als mobile Endgeräte sind Mobiltelefone, Smartphones und Tablet-Computer zu verstehen.

Bitte Namen eintragen!	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6
Von Angesicht zu Angesicht kommunizieren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brief und/oder Postkarte schreiben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Telefonieren über das Festnetztelefon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Telefonieren über das mobile Endgerät	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SMS schreiben über das mobile Endgerät	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sonstiges, und zwar _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 12)

Wie häufig nutzen Sie generell die folgenden Medien?

	Mehr- mals am Tag	Täg- lich	Mehr- mals in der Wo- che	Wö- chent- lich	Mo- nat- lich	Selte- ner	Nie	Ich weiß es nicht
Ich nutze...								
Privates Smartphone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smartphone von Arbeit gestellt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
privates Handy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arbeitshandy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Festnetztelefon zu Hause	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Festnetztelefon auf Arbeit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privater Tablet PC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tablet PC von Arbeit gestellt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privates Netbook, Notebook oder Ultrabook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Netbook, Notebook oder Ultrabook von Ar- beit gestellt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privater regulärer PC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulärer PC von Arbeit gestellt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digitalkamera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fernseher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zeitung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zeitschrift	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tonträger (CD, Kasette, LP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sonstiges, und zwar _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 13)

Sie haben ja gesagt, dass Sie das Internet nicht nutzen. Haben Sie früher einmal das Internet genutzt?

- ja → **weiter mit Frage 14), Seite 8**
- nein → **weiter mit Frage 15), Seite 9**

Frage 14)

Im Folgenden finden Sie eine Reihe von Aussagen, die beschreiben, warum Sie das Internet nicht mehr nutzen. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstimmen.

Ich nutze das Internet nicht mehr...	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
... weil ich umgezogen bin oder meine Arbeit gewechselt habe/die Schule verlassen habe, wo es verfügbar war.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es mir zu teuer war.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil kein Computer oder Ähnliches mehr verfügbar ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es mir zu kompliziert war.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich mir um meine Privatsphäre Gedanken gemacht habe bzw. ich schlechte Erfahrungen mit Viren oder SPAM gemacht habe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es nichts mehr für mein Alter ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich auf Alternativen (Atlas, Bibliothek, ...) zurückgreifen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es nichts mehr für Leute wie mich ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich es nicht interessant fand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich nicht genügend Zeit hatte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich den Eindruck hatte, dass es süchtig macht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich es aus gesundheitlichen Gründen nicht mehr kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich den Eindruck hatte, dass das Internet etwas Schlechtes ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich den Eindruck hatte, dass es mich überfordert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sonstiges, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bitte springen Sie jetzt zu **Frage 16a), Seite 10!**

Frage 15)

Im Folgenden finden Sie eine Reihe von Aussagen, die beschreiben, warum Sie das Internet nicht nutzen. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstufen.

Ich nutze das Internet nicht...	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
... weil ich keine Internetverbindung habe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es mir zu teuer ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil der Computer und die Software mir zu teuer ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es mir zu kompliziert ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich mir um meine Privatsphäre Gedanken gemacht habe bzw. ich schlechte Dinge über Viren oder SPAM gehört habe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es nichts für mein Alter ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich auf Alternativen (Atlas, Bibliothek, ...) zurückgreifen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil es nichts mehr für Leute wie mich ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich es nicht interessant finde.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich nicht genügend Zeit habe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich den Eindruck habe, dass es süchtig macht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich es aus gesundheitlichen Gründen nicht kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich den Eindruck hatte, dass das Internet etwas Schlechtes ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weil ich gehört habe, dass es einen überfordert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sonstiges, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 16a)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstimmen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Viele neigen zu Tagträumen über die Zukunft. Mir passiert das auch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin zufrieden mit meiner gegenwärtigen Lebenssituation innerhalb meines Netzwerks an Leuten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin mir bewusst, was mir für Gedanken durch den Kopf gehen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich folge gern einem Zeitplan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn mir jemand einen Gefallen tut, ist es mir wichtig, mich bei nächster Gelegenheit zu revanchieren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich würde lieber etwas früher zu einer Verabredung kommen und warten, anstatt zu spät zu sein.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich hasse es einem Zeitplan zu folgen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich ein Projekt beginne, höre ich nicht auf damit, bevor es fertig ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich mit anderen spreche, bin ich mir über deren Mimik und Gestik bewusst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich denke viel darüber nach, wie mein Leben eines Tages aussehen wird.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich werde nostalgisch, wenn ich an die Vergangenheit denke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es macht mehr Spaß eine Sache nach der anderen zu machen, als meinen Tag im Voraus zu planen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bevorzuge es, eins nach dem anderen zu erledigen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich dusche, bin ich mir bewusst, wie das Wasser über meinen Körper fließt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich mag es, einen festen Terminplan zu haben und diesen einzuhalten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Das Leben heute ist zu kompliziert; ich würde das einfachere Leben, wie es früher war, bevorzugen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin darauf bedacht, Freunde und Familie nicht bloß zu stellen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 16b)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstufen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Wenn ich mich erschrecke, bemerke ich, was in meinem Körper vorgeht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bevorzuge es, ein sehr großes Projekt durchzuführen, anstatt vieler kleiner Projekte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mein Lebensweg wird von Kräften bestimmt, die ich nicht beeinflussen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich würde lieber zwei oder drei Dinge schnell erledigen, als viel Zeit mit einer Sache zu verbringen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich finde, es ist wichtiger, sein Verhalten auf wichtige langfristige Folgen als auf weniger wichtige unmittelbare Folgen auszurichten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich draußen spazieren gehe, bin ich mir der Gerüche bewusst oder wie sich die Luft auf meinem Gesicht anfühlt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist mir wichtig, harmonisch mit anderen zusammen zu leben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich alleine arbeite, dann bearbeite ich normalerweise ein Projekt nach dem anderen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich gehe gern verschiedenen Tätigkeiten zur gleichen Zeit nach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich bei einer Aufgabe unterbrochen werde, setze ich sie so schnell wie möglich fort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manchmal habe ich das Gefühl, dass die Art und Weise, wie ich meine Zeit verbringe, nutz- und wertlos ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn mich jemand fragt, wie es mir geht, kann ich meine Emotionen leicht bei mir selbst erkennen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich glaube, dass es für Menschen am besten ist, wenn ihnen mehrere Aufgaben und Aufträge zur Ausführung anvertraut werden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich würde mich als vertrauenswürdige Person gegenüber Freunden und Familie bezeichnen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ob mir etwas einen momentanen Nutzen bringt, ist ein wichtiger Faktor bei meinen Entscheidungen und Handlungen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich strukturiere meine Aktivitäten so, dass sie einen bestimmten Tagesablauf ergeben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 16c)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Sie können Ihre Antworten dabei zwischen 1 = trifft überhaupt nicht zu und 7 = trifft voll und ganz zu abstufen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Durch ein bestimmtes Verhalten möchte ich Resultate erzielen, auch wenn sie noch Jahre auf sich warten lassen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich glaube, dass Menschen ihre Arbeit am besten ausführen, wenn sie viele Aufgaben zu vollenden haben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich überlege mir, wie die Dinge in der Zukunft aussehen könnten, und versuche in meinem täglichen Leben, diese Dinge zu beeinflussen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin gewillt, mein unmittelbares Wohlbefinden zu opfern, wenn es dem Erreichen zukünftiger Ziele dient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich verbringe Zeit damit, mir vorzustellen, wie meine Zukunft aussehen könnte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bemerke Veränderungen in meinem Körper, wie, dass mein Herz schneller schlägt oder dass sich meine Muskeln anspannen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin von meinen alltäglichen Aktivitäten gelangweilt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich arbeite eher ungern an mehr als einer Aufgabe oder einem Auftrag zugleich.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist sinnlos, sich über die Zukunft Sorgen zu machen, da ich ohnehin nichts daran ändern kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich nur durch Beeilen pünktlich zu einer Verabredung kommen kann, bin ich lieber zu spät.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich würde lieber jeden Tag Teile verschiedener Projekte abschließen, anstatt ein ganzes Projekt zu beenden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich mit einer Aufgabe begonnen habe, bleibe ich so lange dabei, bis sie fertig ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn sich meine Emotionen ändern, bin ich mir dessen immer sofort bewusst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Egal wie sehr ich mich bemühe, ich komme fast immer etwas zu spät.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 16d)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstimmen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Ich hasse es, jegliche Art von Plänen im Voraus Wochen oder Monate vorher festzulegen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Man kann die Zukunft nicht wirklich planen, weil die Dinge sich so sehr ändern.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manchmal ertappe ich mich dabei, wie ich in der Vergangenheit schwelge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich denke oft darüber nach, wie mein Leben gewesen ist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich allein bin, dann kreisen meine Gedanken oft um die Vergangenheit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich mit anderen Menschen spreche, bin ich mir der Emotionen bewusst, die ich erfahre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich denke, es ist wichtig, Warnungen über negative Folgen ernst zu nehmen, auch wenn die negativen Folgen jahrelang nicht eintreten werden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bevorzuge es, viele kleine Projekte durchzuführen, anstelle eines sehr großen Projekts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich glaube, dass man sich bemühen sollte, viele Dinge gleichzeitig auszuführen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich würde lieber jeden Tag ein ganzes Projekt abschließen, anstatt Teile verschiedener Projekte abzuarbeiten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist wichtig für mich, keine Konflikte mit meiner Familie und meinem Freundeskreis zu haben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es verdirbt mir die Freude an meinem Schaffensprozess, wenn ich mir über Ziele und Ergebnisse meiner Tätigkeiten Gedanken machen muss.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist mir wichtig, Freunden und Familie gegenüber tolerant zu sein.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 17)

Wie oft gehen Sie den folgenden Aktivitäten nach?

	Mehr- mals am Tag	Täg- lich	Mehr- mals in der Wo- che	Wö- chent- lich	Mo- nat- lich	Selte- ner	Nie	Ich weiß es nicht
Sich mit Freunden/Bekanntem treffen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Familienunternehmungen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zum Abendessen ausgehen/Restaurantbesuch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feiern gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In Verein/Partei/Gemeinde aktiv sein	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Über wichtige Dinge reden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kaffeetrinken/Kuchen essen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freizeitpark/Zoo besuchen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mit Freunden Karaoke singen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Café oder Bar besuchen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spazieren gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sport treiben/Fit bleiben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Musik machen/Singen/Instrument spielen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kreatives Gestalten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sportveranstaltungen besuchen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Theaterstück/Museum besuchen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ausruhen/Entspannen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sich in Ruhe pflegen/Körperpflege	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schach/Karten/Gesellschaftsspiele spielen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reisen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shoppern gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Haushaltspflichten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sonstiges, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 18)

Sie haben eben gesagt, wie oft Sie bestimmten Aktivitäten nachgehen. Bestimmt gibt es einige davon, die Sie gern häufiger ausüben würden, aber nicht können. Welche Einschränkungen gibt es, die Sie daran hindern? (Mehrfachnennungen)

<input type="radio"/>	Gesundheitliche Gründe
<input type="radio"/>	Familie, Freunde oder Bekannte leben weit entfernt
<input type="radio"/>	Pflege einer oder mehrerer hilfsbedürftigen/-r Person(en) (Kind(er), ältere(r) Mensch(en), ...)
<input type="radio"/>	Mein Beruf ist sehr fordernd
<input type="radio"/>	Finanzielle Gründe
<input type="radio"/>	Fehlende Fähigkeiten und Fertigkeiten

Frage 19a)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Bitte markieren Sie für jede Aussage, inwieweit sie auf Sie zutrifft oder nicht. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstufen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Vergnügen ist für mich, Zeit mit anderen zu verbringen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich weiß immer, warum ich Sachen mag.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin lieber auf mich selbst als auf andere angewiesen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich habe gelegentlich mal jemanden ausgenutzt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich wäre stolz, wenn ein Kollege eine Auszeichnung bekäme.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich fühle mich gut, wenn ich mit anderen zusammenarbeite.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn eine andere Person etwas besser macht als ich, werde ich angespannt und erregt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Familienmitglieder sollten zusammenhalten, egal welche Opfer dafür gebracht werden müssen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mein erster Eindruck von Menschen erweist sich oft als richtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin immer ehrlich zu anderen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gewinnen ist alles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eltern und Kinder sollten so nah wie möglich beieinander bleiben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wettbewerb ist ein Naturgesetz.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist meine Pflicht, mich um meine Familie zu kümmern, auch wenn ich dadurch auf Dinge, die ich will, verzichten muss.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist wichtig, dass ich meine Arbeit besser als andere mache.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich habe schon mal zu viel Wechselgeld bekommen und nichts gesagt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich mache oft „mein eigenes Ding“.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meine eigene Persönlichkeit, unabhängig von anderen, ist mir sehr wichtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Die meiste Zeit verlasse ich mich auf mich selbst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es ist mir wichtig, die Entscheidung, die von meinen Gruppen getroffen wurden, zu respektieren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin mir sehr unsicher in meinem Urteil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Frage 19b)

Im Folgenden finden Sie eine Reihe von Eigenschaften, die mehr oder weniger stark auf Sie zutreffen. Bitte markieren Sie für jede Aussage, inwieweit sie auf Sie zutrifft oder nicht. Sie können Ihre Antworten dabei zwischen 1= trifft überhaupt nicht zu und 7= trifft voll und ganz zu abstufen.

	Trifft überhaupt nicht zu						Trifft voll und ganz zu	Ich weiß es nicht
Das Wohlergehen meiner Kollegen ist mir wichtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bitte beantworten Sie zum Abschluss noch einige weitere Fragen zu Ihrer Person.

Frage 20)

Welcher Tätigkeit gehen Sie hauptsächlich nach?

<input type="radio"/> Arbeiter/-in
<input type="radio"/> Angestellte/-r
<input type="radio"/> Beamte/-r
<input type="radio"/> Selbständige/-r, Freiberufler/-in
<input type="radio"/> Schüler/-in
<input type="radio"/> Auszubildende/-r
<input type="radio"/> Studierende/-r
<input type="radio"/> Ruhestand, Vorruhestand
<input type="radio"/> Hausfrau, Hausmann
<input type="radio"/> Arbeitslos, Arbeitssuchend
<input type="radio"/> Sonstiges, _____

Frage 21)

Welches ist Ihr **höchster** Bildungsabschluss?

<input type="radio"/> Grundschule
<input type="radio"/> Schulabschluss nach 8 Jahren Schulbesuch, Volksschulabschluss
<input type="radio"/> Hauptschulabschluss
<input type="radio"/> Realschulabschluss / Mittlere Reife
<input type="radio"/> Fachabitur, Abitur, EOS
<input type="radio"/> Abschluss einer Lehrausbildung
<input type="radio"/> Meister
<input type="radio"/> Bachelor (inkl. Ingenieur)
<input type="radio"/> Master, Magister oder Diplom (inkl. Ingenieur)
<input type="radio"/> Doktor
<input type="radio"/> Kein Schulabschluss/nicht zur Schule gegangen
<input type="radio"/> Sonstiges, _____

Frage 22)

Wie ist Ihr Familienstand?

- Ledig
- In einer Beziehung
- Verheiratet/Eingetragene Lebenspartnerschaft
- Verwitwet/Eingetragene/-r Lebenspartner verstorben
- Geschieden/Eingetragene Lebenspartnerschaft aufgehoben

Frage 23)

Wie viele Personen leben in Ihrem Haushalt, Sie eingerechnet?

____ Person(en)

Frage 24)Bitte geben Sie Ihr monatliches **Haushaltseinkommen** (netto) an.

____ €

- Keine Angabe

Vielen Dank für Ihre freundliche Teilnahme!

Ich danke Ihnen für Ihre Bereitschaft diesen Fragebogen auszufüllen.

Maria Faust M.A.
Universität Leipzig

Gern sende ich Ihnen eine kostenlose Zusammenfassung der Ergebnisse zu. Wenn Sie daran interessiert sind, notieren Sie hier bitte Ihre E-Mail Adresse oder sonstigen Kontaktdaten. Ihre persönlichen Daten werden technisch getrennt von Ihren Antworten erfasst. Sie können nicht mit den Ergebnissen in Verbindung gebracht werden. Ihre Antworten bleiben also anonym!

Name

Straße und Hausnummer

PLZ und Ort

Land

Und schließlich: Noch einmal herzlichen Dank für Ihre Mithilfe!

Maria Faust M.A.
Universität Leipzig



B3. 您讲什么语言?

- 中文
- 德文
- 英文
- 法语
- 俄语
- 西班牙语
- 日语
- 广东话/粤语
- 其它

其它

B4. 您的国籍是?

- 德国
- 中国
- 其它

其它



B5. 请选择你的民族?

- 汉
- 彝
- 回
- 藏
- 羌
- 苗
- 蒙
- 其它

其它

B6. 请填写您的出生地。

国家

省/自治区/直辖市/特别行政区

B7. 请填写您的现驻地。

国家

县

B8. 如果您不是在中国出生的, 那么您在中国生活多久了?

年

个月

B9. 您现在居住在哪个地方?

城市

郊区

乡村

不清楚



B10. 您应选择每一对性格描述在何种程度上符合您，使那一对中的一个描述比另一个更合适。请以1-7表示你的同意程度。

我认识自己

	非常不同意 - 1	2	3	4	5	6	7 非常同意	不清楚
外向的, 有热情的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
善批判的, 好争论的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
可靠的, 自律的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
焦虑的, 容易烦乱的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
接受新经验的, 复杂型的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
内向的, 安静的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
有同情心的, 温暖的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
缺乏组织的, 粗心大意的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
平静的, 情绪稳定的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
传统类型的, 缺乏创造性的	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

段 C: 联系 M1 问题

请给出与您有联系的人。

C1.

请在您的生活中列出 1 个到 6 个重要的人。

请在下面的表格填写这些人的名字或姓氏。

1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>
6	<input type="text"/>



C2. 请插入INSERTANS:651625X94X5457SQ001 (1) 是居住在国内还是国外。

国内

国外

C3. 请插入INSERTANS:651625X94X5457SQ001 (1) 关于以下哪个人群：

家庭（家庭成员，亲戚，伴侣）

朋友（很好的朋友，熟人等）

其他（工作伙伴，邻居等）

C4. 最后，请插入INSERTANS:651625X94X5457SQ001 (1) 在您生活中的重要性。

非常重要

重要

比较重要

C5. 请插入INSERTANS:651625X94X5457SQ002 (2) 是居住在国内还是国外。

国内

国外

C6. 请插入INSERTANS:651625X94X5457SQ002 (2) 关于以下哪个人群：

家庭（家庭成员，亲戚，伴侣）

朋友（很好的朋友，熟人等）

其他（工作伙伴，邻居等）

C7. 最后，请插入INSERTANS:651625X94X5457SQ002 (2) 在您生活中的重要性。

非常重要

重要

比较重要

C8. 请插入INSERTANS:651625X94X5457SQ003 (3) 是居住在国内还是国外。

国内

国外



C9. 请插入INSERTANS:651625X94X5457SQ003 (3) 于以下哪个人群:

家庭 (家庭成员, 亲戚, 伴侣)

朋友 (很好的朋友, 熟人等)

其他 (工作伙伴, 邻居等)

C10. 最后, 请插入INSERTANS:651625X94X5457SQ003 (3) 在您生活中的重要性。

非常重要

重要

比较重要

C11. 请插入INSERTANS:651625X94X5457SQ004 (4) 是居住在国内还是国外。

国内

国外

C12. 请插入INSERTANS:651625X94X5457SQ004 (4) 于以下哪个人群:

家庭 (家庭成员, 亲戚, 伴侣)

朋友 (很好的朋友, 熟人等)

其他 (工作伙伴, 邻居等)

C13. 最后, 请插入INSERTANS:651625X94X5457SQ004 (4) 在您生活中的重要性。

非常重要

重要

比较重要

C14. 请插入INSERTANS:651625X94X5457SQ005 (5) 是居住在国内还是国外。

国内

国外

C15. (2)

家庭 (家庭成员, 亲戚, 伴侣)

朋友 (很好的朋友, 熟人等)

其他 (工作伙伴, 邻居等)



C16. (4)

非常重要

重要

比较重要

C17. (6)

国内

国外

C18. 请插入INSERTANS:651625X94X5457SQ006 (6) 关于以下哪个人群:

家庭 (家庭成员, 亲戚, 伴侣)

朋友 (很好的朋友, 熟人等)

其他 (工作伙伴, 邻居等)

C19. 最后, 请插入INSERTANS:651625X94X5457SQ006 (6) 在您生活中的重要性。

非常重要

重要

比较重要

段 D: 有 1 互联网使用的问题
 请先提供一些个人信息。

D1.

您使用什么设备与这些人保持联系? 如果不是, 每? 的。下表列出了所有的设备。

请在下表的»一行中先填入你在表格中(见上方的问题10)已经填入的名称。在适当的地方用: | 来表示用来与这些人保持联系的设备。请注意: 可以多选。

注意: 移动电话、笔记本电脑和固定电话。

对设备

{INSERTANS:651625X94X5457SQ001} (1)

{INSERTANS:651625X94X5457SQ002} (2)

{INSERTANS:651625X94X5457SQ003} (3)

{INSERTANS:651625X94X5457SQ004} (4)

{INSERTANS:651625X94X5457SQ005} (5)



{INSERTANS:651625X94X5457SQ006} (6)

D2.

您使用什么 { i } 与这 t 人保 ũ 联系? ñ 不是 L ! 每 ? 的 通。下
表 出了所有的 { i }。

请在下表的 » 一行中先 { A你在表格中 (见上方的问题10)
已经 { A的名 +。在 a 当的地方 u : | 以表示用来与这 t 人保 ũ 联
络的 { i }。请注意: 可以多选。

注意: Mî !!, “ Mî 电 Å、 A能 m机和 Ü ð 电 7。

写信和/或明信片

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)

D3.

您使用什么 { i } 与这 t 人保 ũ 联系? ñ 不是 L ! 每 ? 的 通。下
表 出了所有的 { i }。

请在下表的 » 一行中先 { A你在表格中 (见上方的问题10)
已经 { A的名 +。在 a 当的地方 u : | 以表示用来与这 t 人保 ũ 联
络的 { i }。请注意: 可以多选。

注意: Mî !!, “ Mî 电 Å、 A能 m机和 Ü ð 电 7。

用 V机通 Å

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)



D4.

您使用什么设备与这个人保户联系？如果不是，请填写。下表列出了所有的设备。

请在下表的每一行中先填写您在表格中（见上方的问题10）已经填写的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

用移动电话

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)

D5.

您使用什么设备与这个人保户联系？如果不是，请填写。下表列出了所有的设备。

请在下表的每一行中先填写您在表格中（见上方的问题10）已经填写的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

用移动电话？

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)



D6.

您使用什么 CE@{ j 与这 t 人保 û 联系? ñ 不是 L ! 每 ? 的 通。下
表 出了所有的 CE@{ j 。

请在下表的 » 一行中先 { A 你在表格中 (见上方的问题10)
已经 { A 的名 +。在 a 当的地方 u : | 以表示用来与这 t 人保 û 联
络的 CE@{ j 。请注意: 可以多选。

注意: Mî !!, “ Mî 电 Å、 A 能 m 机和 Ü ð 电 7。

通过 Mî 电 Å 进行网络 j Ô/通 Å

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)

D7.

您使用什么 CE@{ j 与这 t 人保 û 联系? ñ 不是 L ! 每 ? 的 通。下
表 出了所有的 CE@{ j 。

请在下表的 » 一行中先 { A 你在表格中 (见上方的问题10)
已经 { A 的名 +。在 a 当的地方 u : | 以表示用来与这 t 人保 û 联
络的 CE@{ j 。请注意: 可以多选。

注意: Mî !!, “ Mî 电 Å、 A 能 m 机和 Ü ð 电 7。

通过电 7 进行网络 j Ô/通 Å

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)



D8.

您使用什么设备与这个人保户联系？如果不是每一种的。下表列出了所有的设备。

请在下表的每一行中先勾选您在表格中（见上方的问题10）已经使用的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

手机网络 信（短信，☺）

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)

D9.

您使用什么设备与这个人保户联系？如果不是每一种的。下表列出了所有的设备。

请在下表的每一行中先勾选您在表格中（见上方的问题10）已经使用的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

通过固定电话 信息（qq，☺）

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)



D10.

您使用什么设备与这个人保户联系？如果不是每一种的。下表列出了所有的设备。

请在下表的每一行中先勾选您在表格中（见上方的问题10）已经使用的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

手机查询

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)

D11.

您使用什么设备与这个人保户联系？如果不是每一种的。下表列出了所有的设备。

请在下表的每一行中先勾选您在表格中（见上方的问题10）已经使用的设备名称。在适当的地方用：| 来表示用来与这个人保户联系的设备。请注意：可以多选。

注意：移动电话、笔记本电脑和固定电话。

固定电话查询

- {INSERTANS:651625X94X5457SQ001} (1)
- {INSERTANS:651625X94X5457SQ002} (2)
- {INSERTANS:651625X94X5457SQ003} (3)
- {INSERTANS:651625X94X5457SQ004} (4)
- {INSERTANS:651625X94X5457SQ005} (5)
- {INSERTANS:651625X94X5457SQ006} (6)



D12. 以下！！您多久使用一 Q?

我使用...

	每日 多次	每天一次	每周多次	每周一次	每月一次	很少	从不	不清楚
私人智能手机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作智能手机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
私人手机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作手机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
私人座机电话	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作座机电话	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
私人平板电脑	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作平板电脑	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
私人上网本,笔记本或, 超级本	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作上网本,笔记本或, 超级本	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
私人计算机/电脑	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
工作计算机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
数码相机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
收音机	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
电视	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
报纸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
杂志	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
书籍	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
音乐媒体	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D13. 请 I n (1) 是居住在内 d î 是国外。

小时

分钟

D14. 最后, 请 B N (1) 在您生活中的重要性。

小时



	每日 多次	每天一次	每周多次	每周一次	每月一次	很少	从不	不清楚
积极参加俱乐部/派对/社区活动	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
谈论重要的事情	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
喝咖啡/吃蛋糕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
游乐园/动物园参观	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
和朋友一起唱卡拉OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
参观咖啡馆或酒吧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
去散步吧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
做运动/保持健康	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
制作音乐/唱歌/演奏乐器	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
创意设计	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
参观体育赛事	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
参观剧院/博物馆	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
休息/放松	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
放松/身体护理	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
下棋/打牌/桌游	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
旅游	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
去购物	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
家务	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D30. 请 In (6) 于以下哪个人群:

- 健康问题
- 家人, 朋友或熟人住得很远
- 照顾有需要的人 (孩子, 老人, ...)
- 我的工作占据了我大部分的时间
- 财政原因
- 缺乏能力



段 E: 最后的问题

最后请再提供一些个人信息。

E1. 您是从 Y 什么 y 作的?

工人 (蓝领)

员工 (白领)

公务员

自由工作者

在校学生

技工学校学员

大学生

退休人员

家庭妇女

失业

其它

其它



E6.

我很乐意给您最后的调查结果。如果您对调查有任何疑问，请在N处填写您的联系方式。您的个人信息将与问卷内容分离并受到保护，问卷内容将以匿名方式保存，您的个人信息不会被用作任何其他用途。

电子邮箱

感谢您的参与，您对调查非常有帮助。如果您不感兴趣，可以在N处重新调查。

感谢您完成这份调查问卷。作为回报，请点击N处链接，您可以查看我写的关于德国和中国文化的文章。

再次感谢您的参与！

我们再次感谢您能填写这份调查问卷。

傅丽娅M.A. 莱比锡大学

莱比锡大学
通信及传媒研究系
齐柏林之家
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尊敬的女士、先生，您好！

我的博士论文将研究“网络运用”在德国和中国的对比。我将通过调查来研究这个主题。使用互联网的用户和不使用互联网的用户是我的重要调查群体，所以我希望您能够帮助我填写这份问卷，衷心的感谢。

在回答问卷中的问题时您的个人意见和想法是最重要的，答案没有对或错。填写这份问卷将占用大概 30 到 40 分钟左右时间。

调查问卷采取匿名式填写。数据保护法规定，如果要保存被调查者的问卷信息需要先征得被调查者的同意。当您填写这份问卷时，就代表您已经同意，我把您填写的内容做电子存档和计算机处理，目的是用于我的学术研究。您填写的所有内容都会被认真的处理。除了我本人以外，其他人不会看到或使用您给出的信息。所有的问卷结果会以总结式的段落呈现，所以从呈现出的内容也不会联系到某个人。

参与本调查是自愿的，您可以选择不回答其中任何一个问题或全部问题。但是，您的观点和意见是很重要的，我希望您能参加本调查。所以，请回答尽可能多的问题！

如果您有任何问题，请联系我的研究合作伙伴新重庆邮电大学的靳雪莲副教授。

我衷心的感谢您的合作和帮助！



傅丽娅 M. A.
莱比锡大学

问卷编号

请您清楚的填写您的答案！

您愿意接受我们的调查吗？

- 愿意
- 不愿意

问题 0)

您曾说过您不使用互联网。尽管如此，这个问题很重要，请您在这里再回答一遍：您是否使用互联网？

- 使用
- 不使用

问题 1)

请注明自己的性别。

- 女
- 男

问题 2)

您今年多大？

____ 岁

问题 3)

您讲什么语言？（多项选择）

- 中文
- 德文
- 英文
- 法语
- 俄语
- 西班牙语
- 日语
- 广东话/粤语
- 其他, _____

问题 4)

您的国籍是？

- 中国
- 其他, _____

问题 5)

请选择你的民族?

<input type="radio"/>	汉
<input type="radio"/>	彝
<input type="radio"/>	回
<input type="radio"/>	藏
<input type="radio"/>	羌
<input type="radio"/>	苗
<input type="radio"/>	蒙
<input type="radio"/>	其他, _____

问题 6a)

请填写您的出生地。

国家	_____
省	_____

问题 6b)

请填写您的现住地。

国家	_____
省	_____

问题 6c)

如果您不是在中国出生的, 那么您在中国生活多久了?

_____	年
_____	个月

问题 7)

您现在居住在哪个地方?

<input type="radio"/>	城市
<input type="radio"/>	郊区
<input type="radio"/>	乡村
<input type="radio"/>	不清楚

以下是一些性格特征，它们可能符合您，也可能并不符合。

问题 8)

您应选择每一对性格描述在何种程度上符合您，即使那一对中的一个描述比另一个更贴切。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
我认为自己是...	○	○	○	○	○	○	○	○
外向的，有热情的	○	○	○	○	○	○	○	○
善批判的，好争论的	○	○	○	○	○	○	○	○
可靠的，自律的	○	○	○	○	○	○	○	○
焦虑的，容易烦乱的	○	○	○	○	○	○	○	○
接受新经验的，复杂型的	○	○	○	○	○	○	○	○
内向的，安静的	○	○	○	○	○	○	○	○
善解人意的，热心的	○	○	○	○	○	○	○	○
缺乏组织的，粗心大意的	○	○	○	○	○	○	○	○
平静的，情绪稳定的	○	○	○	○	○	○	○	○
传统类型的，缺乏创造性的	○	○	○	○	○	○	○	○

请给出与您有联系的人。

问题 9)

请考虑在您的日常生活中四个到六个重要的人。

请在下面的表格填写这些人的名字或称号。

1	
2	
3	
4	
5	
6	

问题 10)

- 1) 请在下面的表填写这些人的名字或称呼号和号（见上方的问题 9）。
- 2) 请区分家庭成员、朋友和其他人（例如认识的人、同事、邻居）。您选择的四个到六个人可以编辑成为一组。
- 3) 也请考虑这些人生活在国内还是国外。
- 4) 最后请评价这些人在您的生活里有多重要。您可以按重要性排序，从非常重要到非常不重要。

注意：一个框可以输入多人！

		非常重要	重要	比较重要
国内	家庭（家庭成员，亲戚，伴侣）			
	朋友（很好的朋友，熟人等）			
	其他（工作伙伴，邻居等）			
国外	家庭（家庭成员，亲戚，伴侣）			
	朋友（很好的朋友，熟人等）			
	其他（工作伙伴，邻居等）			

问题 11)

您使用什么交流渠道与这些人保持联系？下表列出了所有的交流渠道。

1) 请在下表的第一行中先输入你在表格中（见上方的**问题 10**）已经输入的名单。

2) 在适当的地方打记号以表示用来与这些人保持联络的交流渠道。**请注意：可以多选。**

注意：移动设备，包括移动电话、智能手机和平板电脑。

请填写上面的人名 或称呼!	人 1	人 2	人 3	人 4	人 5	人 6
面对面交流	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
写信和/或明信片	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
用座机通话	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
用移动设备通话	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
用移动设备发短讯	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
其他, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 12)

以下设备您使用多久了？

	每日多次	每天一次	每周多次	每周一次	每月一次	很少	从不	不清楚
我使用...								
私人智能手机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作智能手机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
私人手机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作手机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
私人座机电话	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作座机电话	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
私人平板电脑	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作平板电脑	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
私人上网本, 笔记本或, 超级本	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作上网本, 笔记本或, 超级本	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
私人计算机/电脑	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
工作计算机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
数码相机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
收音机	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
电视	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
报纸	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
杂志	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
书籍	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
音乐媒体	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
其他, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 13)

您说您现在不使用互联网。您以前用过互联网吗？

<input type="radio"/>	是的, 我以前用过 →请继续回答问题 14 页 8 号!
<input type="radio"/>	不, 我以前没用过 →请继续回答问题 15 页 9 号!

问题 14)

以下是一系列有关网络运用的描述，您为什么不再使用互联网。以下的描述您认同吗？请以 1 至 7 表示你的同意程度。

我不再使用互联网.....	非常不同意						非常同意	不清楚
... 因为我搬家了或是工作/学校变化等原因离开了能使用的地方。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
因为这对我来说太贵了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
因为没有计算机或类似设备可用了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为这对我来说太复杂了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我考虑过我的隐私，或者我遇到过病毒或垃圾邮件的糟糕经历。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为这已经不再适合我这年龄段的人了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我可以依靠替代品（图集，图书馆.....）。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为找不到像我这样的人了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我没有兴趣。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
..... 因为我没有足够的时间。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它给我的印象是它会让人上瘾。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为健康原因我不能再这样做了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它给我的印象是互联网上有不好的东西。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它给我的印象是它让我不堪重负	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
其他， _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

请继续回答问题 16 第 10 页！

问题 15)

以下是一系列有关网络运用的描述，您为什么不使用互联网。以下的描述您认同吗?? 请以 1 至 7 表示你的同意程度。

我不使用互联网.....	非常不同意						非常同意	不清楚
... 因为我没有互联网连接。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它对我来说太贵了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为电脑和软件对我来说太贵了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它对我来说太复杂了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我考虑过我的隐私，或者我听说过有关病毒或垃圾邮件的坏事。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为这不适合我的年龄。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我可以依靠替代品（图集，图书馆.....）。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为这对我这样的人说已经没有了。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我发现它并不有趣。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我没有足够的时间。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它给我的印象是它会让人上瘾。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为出于健康原因我不能这样做。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为它给我的印象是互联网不好。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... 因为我听说，它的要求很高。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
其他， _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 16a)

以下是一些性格特征，它们可能符合您，也可能并不符合。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
我们中的大多数人常常会对未来做白日梦，我也如此。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我对我在人际网络中的生活状况感到满意。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我会意识到出现在我脑中的想法。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢遵循时间表做事。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当别人有恩于我的时候，我应该给予回报。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
比起约会迟到，我宁愿选择提前到。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我讨厌遵循时间表。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我开始从事一个项目以后，我不喜欢在没完成它之前就停下来。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我和别人交谈时，我会注意他们的面部表情和身体举动。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我常常思考我将来的日子会是什么样子。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我感觉我很怀旧。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
比起事先计划好的一天，突发奇想做一件事情更能给我带来乐趣。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢完成一件事情之后再开始新的工作。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我在洗澡时，我会注意水是如何流过我的身体。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢制定一个明确的时间表并且严格遵循它。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
如今的生活太复杂，我更喜欢过去较为简单的生活。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我不想在朋友和家人面前失了面子。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢计划我的日常活动，因此我知道什么时候该去做哪一件事情。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为完成一件事情之后再开始新的工作任务是最好的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我经常会觉得我的生活是没有目的的、没有明确目标的生活。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 16b)

以下是一些性格特征，它们可能符合您，也可能并不符合。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
当我受到惊吓时，我会在意我身体里的变化。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
相对几个小项目来说，我更喜欢做一个大的项目。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我的生活道路受制于某些我无法控制的力量。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我更喜欢试着去快速的完成两三件事情而不是花所有的时间在一个大的项目上面。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为，做出一个有长远意义的行为比做出一个没有长远意义的行为更重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
对我来说重要的是为人随和，与别人和平相处。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
与他人和睦相处对我很重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
如果我自己做事，我通常一件一件事情去完成。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢同时处理很多事情	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我在做一项项目的时候被其它事情耽搁了，我总是想尽快回来继续。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
有时候，我感觉我消磨时间的方式没有什么用处和价值。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当别人问我感受如何的时候，我可以轻松地察觉到我的情绪状况。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为人被分配到很多不同的工作是最好的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我会形容自己是一个值得信赖的朋友和家人。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
在制定计划或采取行动时，我自己是否方便是一个重要的因素。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
对于我所计划的活动，它们都会落入一个特定的模式。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
命运主宰着我的生活。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我会意识到我的想法，当我的心情发生改变。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我喜欢遵循时间表。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 16c)

以下是一些性格特征，它们可能符合您，也可能并不符合。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
我做出的某些行为举止，通常都是为了得到那些许多年之后才能产生的结果。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为当人们有许多工作或任务需完成时能做得最好。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我常考虑的是事情的将来，而且，努力用我的一举一动去影响这些事情。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
为了长远的结果，我乐意牺牲当前的快乐和安逸。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我会花时间去思考我的未来可能会是什么样子。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我可以察觉我的身体内部变化，比如心跳加快或是肌肉紧绷。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我对我日复一日的规律生活感到厌倦。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我不喜欢同时处理很多工作。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为担忧未来毫无意义，因为你根本无能无力。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
如果非要赶着去才能准时赴约的话，我可宁愿迟到。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我倾向于每天完成不同的几部分，而不是一天完成一个项目。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
一旦我开始了一项活动，我会坚持直到完成它为止。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我情绪发生变化时，我会很快得察觉到。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
不管如何努力，我几乎每次都要迟到一点。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
回顾生命中平常的一天，我觉得在这一天里做的大部分事情都是有目的的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
既然一切都是注定，我做了什么其实并不重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我常常 would 考虑我将来要做的事情。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我讨厌提前为未来的几周或者几个月做任何形式的明确的计划。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
由于时事变化无常，因此无法规划未来。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
有时，我发现自己停留在过去。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 16d)

以下是一些性格特征，它们可能符合您，也可能并不符合。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
我时常会去回忆我过去的的生活。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我独自一个人并且开始思考的时候，我的思绪总会回到过去。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当我和别人交谈时，我会在意我目前的情绪。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为，时刻警惕负面的（消极的）结果是很重要的，尽管这种结果也许在许多年内都不会发生。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
相对一个大的项目来说，我更喜欢做几个小项目。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我认为，人应该努力去把不同的工作同时处理。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我倾向于每一天完成一项任务，而不是把这个任务分成几部分来做。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
对我来说，不与家人和朋友发生冲突很重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
如果必须考虑目标和结果的话，我的活动过程就会失去快乐。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
对我来说，对朋友和家人要宽容是很重要的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 17)

您参加以下活动的频率是多少？

	每日多次	每天一次	每周多次	每周一次	每月一次	很少	从不	不清楚
与朋友/熟人见面	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
家庭事务	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
出去吃饭/餐厅	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
去庆祝	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
积极参加俱乐部/派对/社区活动	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
谈论重要的事情	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
喝咖啡/吃蛋糕	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
游乐园/动物园参观	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
和朋友一起唱卡拉 OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
参观咖啡馆或酒吧	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
去散步吧	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
做运动/保持健康	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
制作音乐/唱歌/演奏乐器	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
创意设计	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
参观体育赛事	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
参观剧院/博物馆	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
休息/放松	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
放松/身体护理	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
下棋/打牌/桌游	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
旅游	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
去购物	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
家务	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
其他, _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

问题 18)

您刚才提到了业余时间您喜欢的活动。其中有一部分您非常喜欢做但是由于各种各样的原因，您不能常常做，是什么样的原因限制了您做您喜欢的活动呢？（多项选择）

<input type="radio"/>	健康问题
<input type="radio"/>	家人，朋友或熟人住得很远
<input type="radio"/>	照顾有需要的人（孩子，老人，...）
<input type="radio"/>	我的工作占据了我大部分的时间
<input type="radio"/>	财政原因
<input type="radio"/>	缺乏能力

问题 19)

以下是一些性格特征，它们可能符合您，也可能并不符合。请以 1 至 7 表示你的同意程度。

	非常不同意						非常同意	不清楚
对我来说与他人共处是件很愉快的事。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我总是知道我为什么喜欢某些东西。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
于其依靠别人不如依靠自己。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我偶尔会利用别人。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
如果我的同事被嘉奖了，我会为感到自豪。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
和别人合作时我感觉很好。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
当别人做的比我好的时候，我会感到紧张和不安。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
无论做出什么样的牺牲，家庭成员都应该待在一起。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我对别人的第一印象通常是准确的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我总是诚实地对待他人。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
胜利就是一切。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
家长和孩子必须尽可能待在一起。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
竞争是大自然的法则。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
照顾我的家庭是我的责任，哪怕为此我必须牺牲自己想要的。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
对我来说比别人做的更好很重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
店员曾经找多钱给我，我没有告诉他/她。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我经常“做我自己的事”。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
独立于他人的个人身份对我来说非常重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
大部分时间我都靠我自己。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
接受我所在的团队的决定对我而言很重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我对我的判断力很没有自信	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
同事的良好处境对我而言很重要。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

最后请您提供一些个人信息。

问题 20)

您是从事什么工作的？

- | | |
|-----------------------|-----------|
| <input type="radio"/> | 工人 (蓝领) |
| <input type="radio"/> | 员工 (白领) |
| <input type="radio"/> | 公务员 |
| <input type="radio"/> | 自由工作者 |
| <input type="radio"/> | 在校学生 |
| <input type="radio"/> | 技工学校学员 |
| <input type="radio"/> | 大学生 |
| <input type="radio"/> | 退休人员 |
| <input type="radio"/> | 家庭妇女 |
| <input type="radio"/> | 失业 |
| <input type="radio"/> | 其他, _____ |

问题 21)

您的最高学历？

- | | |
|-----------------------|-----------|
| <input type="radio"/> | 小学 |
| <input type="radio"/> | 初中 |
| <input type="radio"/> | 高中 |
| <input type="radio"/> | 中专/技校 |
| <input type="radio"/> | 职高 |
| <input type="radio"/> | 学徒 |
| <input type="radio"/> | 大专 |
| <input type="radio"/> | 本科 (学士) |
| <input type="radio"/> | 研究生 (硕士) |
| <input type="radio"/> | 博士 |
| <input type="radio"/> | 没有读过书 |
| <input type="radio"/> | 其他, _____ |

问题 22)

您的婚姻状况是什么？

- | | |
|-----------------------|-----|
| <input type="radio"/> | 未婚 |
| <input type="radio"/> | 恋爱中 |
| <input type="radio"/> | 已婚 |
| <input type="radio"/> | 丧偶 |
| <input type="radio"/> | 离异 |

问题 23)

你们家有几口人?

____ 口人

问题 24)

请提供您的家庭月收入。

____ 元

不愿意透露

非常感谢您的参与!

我非常感谢您能填写这份调查问卷。

maria faust

傅丽娅

莱比锡大学

我很乐意免费寄给您最后的调查结果。如果您对此感兴趣的话，请在此处填写您的联系方式。您的个人信息将与问卷内容分离并且受到保护，问卷内容将以匿名形式保存，您的个人信息不会被用作任何其他用途。

姓名

地址

邮编

国家

最后，再次感谢您的参与！

Maia Faust

傅丽娅
莱比锡大学

Co-Author Agreement for the Paper
*An Empirical Verification of Social Time Theories: Investigating Digitally
Induced Temporal Change in Germany and China*
Published in Journal of Multicultural Discourses

Between:

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Overall goals and vision

We have agreed to collaborate in scientific research and publish our results in a scientific paper with the "Journal of Multicultural Discourses". We agree to the following guidelines as we worked together toward this goal.

Roles in Publication and Data Management

Team members split responsibilities throughout the research process. The following duties were undertaken throughout the research process by each Team member as listed:

Maria Faust contributed as follows:

- 1) writing the paper
- 2) altering the paper according to the revisions after peer review
- 3) developing and pretesting the survey (both online and offline)
- 4) data collection in Germany (both internet users and internet non-users)
- 5) data collection in China (internet users only)
- 6) entering the German non-user data into SPSS
- 7) analyzing the data with SPSS and AMOS
- 8) informing the participants of the project about the scientific results in simple language

Xuelian Jin contributed as follows:

- 1) cross-checking the survey questionnaire

- 2) data collection in China (all internet non-users, additionally internet users who were still missing to fulfill the target of the sample)
- 3) entering the Chinese non-user data into an excel file for data analysis
- 4) informing the Chinese non-users about the results via a sheet provided by Maria Faust

Data for this project belong to both the Team members for the purposes of this paper. Data was managed by the people who generated them and shared as needed for analysis. The data was credited to the people who created them.

Authorship, credit, and responsibility

If appropriate to the journal, the acknowledgements of the paper will describe each co-author's specific contributions briefly. The contributions of other collaborators who are not co-authors will also be described in the acknowledgements.

All co-authors share some degree of responsibility for the entire paper as an accurate, verifiable research report. Co-authors are responsible for the accuracy of their contributions, but may have only limited responsibility for other results.

All co-authors can give presentations of this paper after publication, using material in the paper and dataset, providing they reference the paper and their co-authors. They will also notify the co-authors of these presentations beforehand.

All co-authors can respond to media inquiries relating to this paper. Press releases should include the names and contact information of all co-authors. Team members should acknowledge the contributions of other co-authors during interviews and encourage reporters to contact them.

Contingencies and communication

All Team members are free to develop their own collaborations and directions using the ideas and data in the paper, once it is published. Team members should make every reasonable effort to inform each other when starting new collaborations and spin-off projects that result from this paper. In practice, the Team members may continue to work together on follow-up projects, but this needs to be discussed among the group, and should not be assumed.

Conflict of interest

All Team members will disclose to the Team any real or perceived conflicts of interest related to this project and paper. All Team members will disclose to the Team whether they or any close family members or associates will benefit financially from this project and paper.

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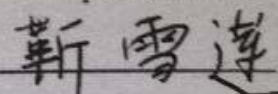
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Mittweida, 23th March 2020

Signature and Stamp Xuelian Jin

Chongqing, 

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