

Turning Chaos into Meaning – A Chat GPT-Assisted Exploration of COVID-19 Narratives

Master Thesis

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August 11th, 2023

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Abstract

The COVID-19 pandemic caused widespread chaos and uncertainty in societies and among individuals. This led them to employ sensemaking, a process to cope with alike adversities, by creating narratives, that connect them to a greater whole. Those pandemic narratives evolve around the virus and the compliance with government measures. The study at hand explores a wider range of individual and collective narratives, to understand crisis-related sensemaking and inform appropriate health strategies. For this it first extracts the narratives from a dataset of 114 interviews with 38 German citizens, collected over three timepoints. For the extraction automatic summarization and compliance scoring based on the Health Belief Model are used. Consecutively the extracted narratives are analyzed with storyline analysis. Both phases employ Chat GPT as a research assistant. Further, the corresponding results are evaluated to inform about AI use in (narrative) psychological research. The analysis uncovered two distinct narratives: The dominant narrative of compliers, relying on authorities and perceiving the endorsement of measures as a collective duty that can end the pandemic. And the counter-narrative of non-compliers, doubting the trustworthiness of institutions and media, viewing the regulations as a greater threat than the virus. Although very different in most respects, both narratives match in refusing mandatory vaccination and the endorsement of open and clear government communication. Overall, the findings suggest a support of with personalized public health strategies, that promote individual choice. The study further delivers a successful methodological case-study of human-AI collaboration in research, by merging the efficiency and accuracy of Chat GPT with human flexibility and context-awareness. Thereby it demonstrates the feasibility of AI as a research assistant and progresses its implementation into psychological operations.

Keywords: COVID-19, Sensemaking, Compliance, Narrative Analysis, Storyline Analysis, Automatic Summarization, Chat GPT, AI, Text Mining, Health Belief Model

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Turning Chaos into Meaning – A Chat GPT-Assisted Exploration of COVID-19

Narratives

The COVID-19 pandemic confronted people all over the world with a large variety of difficult situations and potentially traumatic experiences (Liu et al., 2020). In order to deal with them, individuals apply Sensemaking, which integrates happenings into a greater whole assigning meaning to them. In this process narratives are employed that serves as frameworks and transcend individual perspectives onto a collective level. The study at hand explores pandemic narratives to understand crisis-related sensemaking and inform appropriate health strategies. It further inquires compliance with government measures, such as mask-wearing or social distancing. This will enable the research to supply the development and implementation of appropriate public health strategies. Additionally, the study at hand will do so by applying and also examining a novel approach that helps to evaluate and implement AI into qualitative psychological research. This approach makes use of the AI Chat GPT as a research assistant in multiple ways: This includes the extraction of individual and collective narratives from interview transcripts through automatic summarization, the scoring of individual compliance portrayed in those narratives, based on the Health Belief Model (HBM) as well as their analysis through storyline analysis.

The Role of Sensemaking and Narratives during the COVID-19 pandemic

For most citizens the COVID-19 pandemic had a huge impact on everyday life. Through multiple factors, like fear of infection, isolation, economic instability, job loss and social tensions it altered beliefs about safety, predictability, and control (Liu et al., 2020). At the same time, this traumatic impact presents a unique opportunity to study sensemaking on a large scale. This is important to understand how sensemaking can be used as a positive psychological resource by individuals to empower themselves in the face of crisis, but also against the adversities of daily live. Sensemaking is a continuous process, of reflection that

aligns past and present experiences. For this, contextual cues are used to form plausible personal interpretations, rather than objectively accurate observations (Weick, 1995). More specific mental processes like interpretation, categorization, and pattern recognition are used to connect events, objects, and experiences. This integrates them into a greater framework, thereby assigning meaning to them (Gergen, 1995). As a result, sensemakers construct narratives about what occurred, why it happened, and how it impacts them. This brings coherence that raises the feeling of control of the situation and offers direction and motivation for taking action to overcome challenges (Baumeister, 2013; Maitlis, 2009).

For individuals regained sense of control and hope increases the likelihood of post-traumatic growth (e.g., heightened appreciation for life, enhanced relationships, and a sense of personal strength and resilience). Further to this, narratives function on a communal scale, promoting a shared process of comprehension by an inter-personal framework that links individuals and actions, thereby enabling collective measures (Gergen, 1995). Those shared narrative frameworks – consisting of cultural and societal factors – provide context cues and through them shape personal sensemaking. To assess this, the study at hands uses narrative analysis. Narrative analysis enables the identification of shared themes and patterns while at the same time preserving uniqueness and complexity of individual narratives (Polkinghorne, 1995). At the same time, it takes into account, social, and political factors that shaped the narratives, and thus is feasible to capture sensemaking in many nuances (Creswell, 2014; Denzin & Lincoln, 2011).

Towards a More Nuanced Understanding of Compliance

Understanding narratives can provide insights into effective communication and decision-making. This study adopts a narrative approach to inquire compliance with government regulations. Analyzing pandemic narratives helps to understand the perspectives and actions that are influencing compliance which in turn supports the development of

targeted interventions that take them into account. The HBM will be applied as a framework to assess the interplay between personal attitudes and health behavior in a bottom-up approach (Clark et al., 2020; Rosenstock et al., 1988).

The HBM is used to predict and influence health related behavior by identifying factors like perceived threat, perceived benefits of actions, perceived self-efficacy, cues to action and individual traits. The HBM was already use in previous studies to predict COVID-related measure compliance (Tadesse & Alemayehu, 2021) and vaccination adherence (Limbu et al., 2022). For example, an Indonesian study found perceived threat of the virus to be one of the most important determinants in this (Sulistyawati & Nugroho, 2020). However, alike studies mostly were limited to quantitative approaches (like regression-models, based on self-reported, scaled questionnaire-values). The ones that applied qualitative approaches, mostly assessed compliance in a top-down approach as goal-behavior, rather than performing an open inquiry on individual perspectives.

Still, there are studies already taking the individual perspectives into account, showing that the way in which individuals make sense of and interpret government measures, such as wearing masks and social distancing, can influence their compliance with measures (Freeman et al, 2022). For example, individuals who perceive them as necessary and effective in preventing the spread of COVID-19 are more likely to comply (Alagili & Bamashmous, 2021). Accordingly, those seeing these measures as unnecessary or burdensome are less likely. However, in the aforementioned studies, the personal accounts were not yet investigated in form of narratives; but rather as isolated stances towards certain points. In this case the researchers integrated the individual parts into a greater whole, thereby taking over the sensemaking and undermining the individual perspectives with their narrative. The study base for insights into crisis-related compliance narratives is still limited as it foremostly features research that adopts a one-sided conception of compliance. Most studies

conceptualize adherence to measures as necessary and deviation from that viewpoint as dangerous and something to be minimized rather than understood in its nuances (e.g., Allington et al., 2021). This shows in the presented explanation of non-compliance, which often make use of a top-down approach in which the assign theories, labels and frames to individual experiences, instead of analyzing the experiences themselves. For example, Allington et al. (2021) define a certain set of beliefs as conspiratory and dismiss contrary information, and with them the perspectives of the individuals who hold them.

Some researchers already criticize this and advocate more individualistic approaches. Desmet (2022) for example sees the top-down approach as part of a larger tendency to introduce invisible bias with the firm belief in objectivity of numbers. He argues that quantifying subjective matters, like pandemic narratives, doesn't make them objective, but that many institutions, media, researchers and citizens act as if it would to battle uncertainty. Desmet however sees the belief in objectivity of measurements and numbers as dangerous, as they are used to within subjective narratives to confirm them. Thereby creating a spiral of self-affirmation, that iteratively loosens the model's correspondence to reality. He further claims that this is especially prevalent in the COVID-19 pandemic and connected to various negative consequences like psychological distress, social isolation, economic recession and the rise of totalitarianism. He deems this enabled by a dominant narrative, that comes along with a lack of attention to individual differences, diverse perspectives and thereby unvoices counter-narratives. Following Desmets argumentation diverse narratives must be considered and assessed to prevent a distorted perception of reality.

By taking into account Desmet's critique, we can better understand the necessity of adopting a more nuanced, bottom-up approach, that takes into account a wide range of dominant- and counter-narratives about compliance during the COVID-19 pandemic. This study addresses Desmets request, by assessing the differences between compliers and non-

compliers at a detailed level through their own words. In doing so, it is possible to build a bridge between different positions and ultimately optimize government measures. To observe a strong stance towards compliance, narratives of citizens under strict measures are assessed. Between 2020 and 2021 Germany constantly ranked in the top five strictest regulations world-wide, according to the Oxford stringency index (Hale et al., 2021). The index argues this based on: enforced school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls.

To address the previously described research gap, the following research question for this study was derived: *Which narratives do German citizens, differing in government compliance, use to make sense during different stages of the COVID-19 pandemic?*

Exploring the Feasibility of Chat GPT in Narrative Psychological Research

The current study aims to answer the aforementioned research question by preparing and examining narratives not with traditional methods, like thematic, structural or discursive analysis. Instead, in addition to the first research question, another more explorative research question will be discovered, relating to the introduction of a novel method approach of using interactive large language models, such as Chat GPT, as research assistants for (narrative) psychological research. Even while some preliminary studies suggest that large language models have potential to provide accurate insights into human cognition and behavior (Bhattacharya, 2022), and can perform scientific research, there is still a lack of research on the use of large language models as assistants in psychological research. While they have been successfully used in other fields, such as medicine and law (Wallace et al., 2012), their potential in narrative psychology, a field that aligns closely with large language model abilities, is yet unexplored. Although many studies in narrative psychology make use of

techniques like text mining for data preparation, most of them still rely on human workforce, when it comes to the qualitative analysis of the data (e.g., Jiang et al., 2021). In this study it shall be examined, how well the implementation of Chat GPT into the whole research process works, involving automatic summarization as a form of data preparation, storyline analysis as a form of qualitative analysis as well as compliance ratings based on the HBM-model and various statistical tests for the quantitative interpretation of compliance-values.

Chat GPT, which is considered one of the most advanced NLP-models on the public market, openly accessible and trained on a wide variety of data (Goyal et al., 2022). While there is just limited research on its application in summarization of interviews, a study of Goyal et al. (2022) demonstrated that summaries of news, made by GPT are highly accurate, and don't suffer from most dataset-specific issues. Chat GPT's advanced abstractive capabilities are demonstrated on various benchmarks, including passing a simulated bar exam with a top 10 % score (OpenAI, 2023), show its ability to comprehend and generate most text-based tasks on a human-level. It addresses aforementioned limitations of automatic summarization, as it is not only able to "understand" stylistic devices and technical language, but also to comprehend context, semantics, and complex language structures (OpenAI, 2023). This results in coherent and meaningful summaries that accurately capture individual perspectives. Chat GPT, can be fine-tuned for specific tasks or domains and also allows the researcher to give feedback on its output, to afterwards correct itself. This ability along with its post-training alignment process improving factuality and desired behavior adherence (OpenAI, 2023), ensures generated summaries stay tailored to the studies intent.

Moreover, Chat GPTs abilities not only allow its application for automatic summarization, but additionally bear the question, if they can be applied successfully in the upcoming analysis of the data that has beforehand been summarized. This hints at a whole new way to generate answers to research questions out of datasets, which makes it valuable to

explore, if and to what extent storyline analysis can be conducted by a Chat GPT instance. The adaptivity of Chat GPT, as well as its function to “remember” previous interactions, should enable highly specific training for the purpose at hand with relatively moderate expense. It needs to be taken into account, that the quality of the output, is dependent on the quality of the input. To maximize the reliability and validity, Chat GPT can be specifically trained with a set of instructions. The design of the prompts amplifies the quality. Input of the researcher can be connected to a bias, but also the chatlogs of Chat GPT are available, making it easy to fulfill the criteria of generalizability, transparency and reflectiveness. Since the chatlogs show exactly, how the algorithm was trained, which also allows the research process to be replicated and expanded, since the used input can be applied by others and on other datasets as well.

In summary, this study not only tried to answer the previously mentioned research question, but by doing so also introduced a concrete case study of Chat GPTs application as a research assistant, which will enable other researchers to repeat and alternate the process, data and field of application. This method-based research gap is significant as large language models can assist researchers in preparing and analyzing large amounts of qualitative data, such as transcribed interviews, more efficiently and accurately. Therefore, this study integrates the novel approach in order to deliver insights into its feasibility and examine its potential benefits and limitations for aiding narrative research. To address the described research gap, the following explorative research question will be examined: *What are the feasibility, benefits, and limitations of using Chat GPT, as a research assistant in narrative psychological research for data preparation, analysis, and hypothesis testing?*

Methods

To answer both research questions this study uses a qualitative interview dataset gathered over three time-points. It adapts it with a two-stepped method design comprising of

automatic summarization and storyline analysis to first extract and then analyze representative narratives. Those are used to answer the first research question: *Which narratives do German citizens, differing in government compliance, use to make sense during different stages of the COVID-19 pandemic?* Combining automatic summarization and storyline analysis aims to provide a comprehensive understanding of the research question, which is needed for a concrete example of how the sensemaking process in face of adversity events, is structured, and in which way it influences actions on an individual and collective level. During automatic summarization the compliance of the participants gets rated to extract group narratives corresponding to different compliance levels.

The aforementioned steps were performed with the collaboration of Chat GPT. The AI was used to summarize the interview data, derive narratives from it, rate these for compliance, according to the HBM model, and finally analyze them with storyline analysis. For this purpose, Chat GPT was pre-trained by the researcher and provided with human supplementation. To answer the second research question a pre-evaluation as well as a post-evaluation were performed, assessing the results and process of AI application.

Extracting COVID-19 Narratives with Automatic Summarization

In order to answer the second research question about the feasibility of Chat GPT as a research assistant, it was used for automatic summarization. Automatic summarization is a form of text mining, which is a set of techniques that utilize machine learning, and statistics to extract meaningful insights from large amounts of (semi-)unstructured data, such as interview transcripts automatically (Liu et al., 2012). The summarization helps to reduce the dimensionality of the data by eliminating noise and reduce the complexity, creating a subset of the original data that contains the most important information, while keeping the sense intact (Nenkova & McKeown, 2011). This makes it suited to extract individual narratives as well as deriving overarching narratives out of them. This enables to prepare original data,

such as the interview transcripts, with a relative low amount of bias, compared to manual summarization. On the contrary automatic summarization may not be able to capture more complex or nuanced notions, or grasp stylistic devices such as metaphors, sarcasm or irony, which might be present in the interviewees' responses (Nenkova & McKeown, 2011).

Furthermore, traditional automatic summarization as a form of text mining relies on pre-trained models, that by their training introduce bias and inaccuracy that can lead to errors when applied on a new context. To answer the first research question, a deep understanding of the unprecedented pandemic context, as well as the subtleties of compliance related notions is necessary. This requires a highly flexible approach of automatic summarization, not met by traditional methods (Klymenko et al., 2020). This is the reason why Chat GPT is used instead. While being mostly known for its conversational agent, the underlying algorithm „GPT“ belongs to one of the most capable large language models in the open market. Due to its employment of 175 billion parameters (in their function comparable to human neurons) and a database of 570 GB (OpenAI, 2023), it can be used for a huge variety of tasks, including automatic summarization. Unlike conventional automatic summarization models, it doesn't require intensive prior training and instead can be tailored to multiple purposes and contexts by the use of prompts. As Zhang et al. (2023) show, those enable it to generate accurate and nuanced complex summaries, tailored to specific user preferences and tasks. Unlike traditional techniques, it can understand content at a deeper semantic level. Therefore, advancements like GPT are viewed by some researchers as the new state-of-the-art in automatic summarization, given their ability to effectively handle the limitations posed by the scarcity of high-quality, annotated datasets in various domains (Zhang et al., 2023). Additionally, it helps answering the second research question as it brings an opportunity for testing Chat GPTs overall data preparation abilities for narrative research on a complex task, that normally requires a knowledgeable human research assistant.

Storyline Analysis of the Extracted Narratives

The specific framework of narrative analysis which was applied is storyline analysis. Storyline analysis is a narrative analysis framework that connects the individual experiences and viewpoints of a narrative to its social and contextual factors, therefore letting its specific features serve as an empirical example of theoretic implications (Murray & Sools, 2014). This serves the answering of the given research question in multiple ways. Firstly, contextual factors are of high relevance when it comes to the individual experience of the pandemic (e.g., Kafadar et al., 2022). Secondly, the same framework has been developed within the health setting and was previously used to understand the formation and modification of health-related behavior (Murray & Sools, 2014). Additionally, the authors of storyline analysis consider it to be a bottom-up approach, that begins with individual words of participants and becomes gradually more theory-driven, incorporating a wider context (Murray & Sools, 2014). This maps perfectly to the aforementioned research-gap of this study. Storyline analysis incorporates a wide variety of nuanced elements, such as “agents”, “actions”, “means”, “events”, “purpose”, that suits the content of the given interview data well as it corresponds to the elements that structure the Covid-Pandemic measures. For example, in many interviews conducted during previous studies on pandemic-related behaviors, the government is perceived as an agent, whose actions are the legislation of regulations, in means of reacting to the event of the virus to serve the purpose of reducing its spread (i.e. Betsch et al., 2020).

Another utility of storyline analysis is its ability to capture changes within narratives, as will most likely be apparent in this study, as it features three timepoints. This enabled the analysis to reveal how the storyline elements (actions, means, etc.) change over time and how this influenced the compliance. It also resembles a bottom-up-approach, as it derives its conclusions directly from the participants words and experiences, which according to Desmet

(2022) results in less biased results. Additionally, it conserves the richness of the original interview data, but extends it by relating the individual notions to each other.

Materials

Data Sample

The dataset used in this study was collected as part of a project titled “Viral Communication: Public Responses to the COVID-19 Pandemic” (Herbig et al., 2022). The Viral Communication project investigates the dissemination and use of information relevant to the COVID-19 pandemic. In this it explores phenomena such as reception of scientific information, risk perceptions, and attitudes to protective behaviors. The goal of the project as stated by the authors is to inform tailored strategies to minimize the impact of the pandemic by providing a knowledge base of German citizens perceptions, attitudes, and behaviors related to COVID-19.

To gather data, the project team carried out a series of three semi-structured qualitative interviews, in which they inquired participants on the following topics: challenges and resources, information and misinformation, media trust, measurement compliance and vaccination. The research procedures of the “Viral Communication” study were approved by the Ethics Committee of the Sigmund Freud University. Participants agreed to the publication of their anonymized interviews. During the three interview rounds the following events shaped the German context: During December 2020 (T1), infections surged rapidly, and with them the worry about consequences on daily life, national economy and the healthcare system. The German government enforced strict lockdowns encompassing the closure of „non-essential“ businesses, schools and restriction of social gatherings. During April 2021 (T2), Germany introduced „emergency brakes“ with stricter restrictions on areas with high infection rates. There were problems with the rollout of vaccination, due to a shortage of supply and missing distribution infrastructure. This gave rise to public debates about the

government's response and prolonged lockdowns. In September 2021 (T3), the vaccination was progressing promoted by campaigns that offered a lift of restrictions for the vaccinated. At the same time concerns about new variants took a rise and some people were also concerned about the vaccines. The interviews were held in German via phone call or Zoom. They got transcribed with internal Zoom features and a software called MAXQDA. This provided the study with textual interview transcript data, which the authors of the Viral Communication project deem specifically relevant to narrative research about compliance (Herbig et al., 2022).

Participants. In the "Viral Communication" study, the authors employed a purposive sampling method to choose participants, striving for a balanced sample representing diverse socio-demographic variables, attitudes, and beliefs. The authors implemented two sets of selection criteria. The first set aimed to balance age group, gender, and socio-economic status. The second encompassed trust level, migration background, vaccination willingness, and perspectives on protective measures. This resulted in a final sample of 40 participants, with 30 % of them being aged between 16-29 years, 25 % being 30-44, 22.5 % being 45-59, and the remaining 22.5 % being 60 years old and above. 55 % of the participants were female and 45 % male. 15 % of the participants had a migration background. 50 % had a high socio-economic status and 45 % a low socio-economic status. A majority of 50 % expressed moderate trust, 32.5 % expressed high trust and a minority of 15 % low trust. Half of the participants were in favor of vaccination, 27.5 % against, and 22.5 % undecided.

Participant Data. The interviews consisted of 17-25 questions, encompassing six topics: challenges and resources, information/misinformation, trust/distrust, compliance, vaccination, outlook and lessons learned. Of those questions, 2-4 were addressing compliance (e.g.: "What are the most important measures you use to protect yourself from the coronavirus?") and 7-8 about vaccination. (e.g.: "Can you think of reasons you might go

ahead and get vaccinated for the coronavirus?") all of them, as well as all other questions were used in this study. The questions about vaccination can be seen as concerning the compliance to government measures, since vaccination was promoted by the German government as a safety measure and also perceived as such, by the citizens (e.g., Böhm & Orth, 2022). Additionally access to fundamental rights such as social participation was regulated based on the status of vaccination, and a mandatory vaccination was in discussion, making the reaction towards it a valuable source of information concerning measure compliance. Nevertheless, not only questions directly concerning measures (including vaccination) were included, because even though they are more indicative of measure compliance, general beliefs about personal threat, as well as the background of the pandemic can not only influence compliance, but also be evaluated with help of the HBM (Tong et al., 2020). Additionally, they might be important parts of the narratives, since they cast light on a bigger context, which is highly relevant for sensemaking, thus even if including those questions wouldn't help in determining compliance, removing them would distort the narratives, which makes it essential that the whole interviews are taken into account. The use of questions in the original dataset was adapted based on the phase of the interview and the response of the participants, thus a quotation of all branches and used questions within this section is not possible, but they can be found in the appendix of the "Viral Communication" project (Pfleger et al., 2021).

The data of participant 3 and participant 24 from the original dataset, were excluded in this study, because they didn't reply at all three time-points. Thus, the final sample includes only 38 participants, resulting in 114 interview transcripts over three timepoints.

Chat GPT Preparation

Chat GPT was trained to act as a research assistant applying automatic summarization in order to reduce the vast amount of data, rate the compliance of participants based on the

HBM model, extract group summaries and derive the according narratives of the groups. Additionally, it was trained to perform narrative analysis in order to analyse the extracted narratives.

Addressing Chat GPT's limitations. By the time this study was conducted, Chat GPT was limited to 2048 tokens per prompt (about 1500 words) including the output. This would have made it impossible to grasp interviews fully, as many of them extend beyond 6000 words. However, this study worked around this issue with creation of a tailored python program, Load.py" (see Appendix A), that was developed in collaboration with Chat GPT as a Co-Developer, already showcasing research assistant abilities. The program serves not only as a automatic summarization tool, but also In order to provide it with a long-term memory, extending the token limit, as the program enables Chat GPT to access files on the researcher's computer and process them. This enabled Chat GPT to prompt itself under the researcher's guidance. It splits the interviews into chunks, that then get fed into the algorithm with accompanying prompts as well as output markers, which allows to process the data, receive a Chat GPT response and feed this response into the algorithm again with additional information for further summarization and evaluation.

Pre-Training Chat GPT. With help of the aforementioned program, the researcher pre-trained Chat GPT by priming it with specific prompts, for it to gain a deeper understanding of the research context, goals, and methodology, ensuring a more comprehensive and nuanced analysis. Traditional automatic summarization approaches, often lack this level of contextual understanding, which can result in generic or superficial summaries. Furthermore, prompting Chat GPT to incorporate theoretical frameworks, such as the HBM (Rosenstock, 2000), into its analysis aligns the findings with existing research, resulting in higher credibility and enabling comparisons with other studies (Glanz et al., 2008).

Chat GPT Pre-Evaluation. Before applying the process of automatic summarization on all documents, its quality needed to be tested (including Chat GPTs ability to understand and apply the HBM in the specific context of this study). For this, three tests were performed:

For the first test Chat GPT was provided with a randomly selected real interview of the dataset and asked to summarize it, assign it with a compliance value and provide a detailed explanation for its rationale behind this rating (see Appendix B1.1 and B1.2). This rationale then was compared by the researcher with Rosenstock's elaborations on the HBM model, which are the latest key contributions to it (Rosenstock, 2000). Both, Rosenstock's, as well as Chat GPTs elaborations were similar, showing that Chat GPT did correctly apply the framework to real world data of the case at hand.

The second test should help to assess if the original content gets distorted during the summarization and if the summaries contained all relevant information and no additional fake information or "hallucinations" as they are called within large language model research. For this, a new instance of Chat GPT was used, so it couldn't make use of previous information. It was provided with interview questions of the original dataset and asked to generate a fictional interview response on the basis of the aforementioned summary produced by the old Chat GPT instance (see Appendix B2.1). The fictional answers showed high resemblance of the original interview, as they contained all relevant information and no additional fake information (see Appendix B2.2). This shows Chat GPT is not only able to understand existing texts, but also use their gist to generate new texts that represent factual and relevant summaries.

Finally, the abilities previously tested, were combined in an attempt to double-check them together. This was done by providing Chat GPT a random compliance value, and asking it to generate a fictional interview response based on this value (see Appendix B2.3, Appendix B2.4). The fictional interview response of the first Chat GPT instance was then

provided to a second Chat GPT instance, that was asked to assign a compliance value to it (see Appendix B2.5). The second instance rated it with the same compliance value that was initially given to the first Chat GPT instance (see Appendix A2.6)

Altogether these Pre-Evaluations suggest that Chat GPT can be successfully applied to extract and rate narratives for compliance. Still a Post-Evaluation was conducted, employing a wider range of tests on the data of the final results. They are elaborated on in the last paragraph of this method section, to preserve the chronological order.

Data Preparation with Automatic Summarization

Before the data could be analyzed with the help of storyline analysis, it had to be prepared with automatic summarization. As storyline analysis is a form of narrative analysis it is necessary to provide narratives that can be analyzed. Even though narratives can also be found within all kinds of texts, including interviews, analyzing all of the provided 114 interviews (making up more than half a million words) would only provide the researcher with 114 individual accounts, which would be informative but lack the systematic necessary to answer the research question at hand. Instead of using a top-down approach and deciding up front, who is seen as complier or non-complier and thus assigned to a certain narrative, a bottom-up approach was used to extract non-compliers and compliers narratives using their own words, and extracting the gist of them.

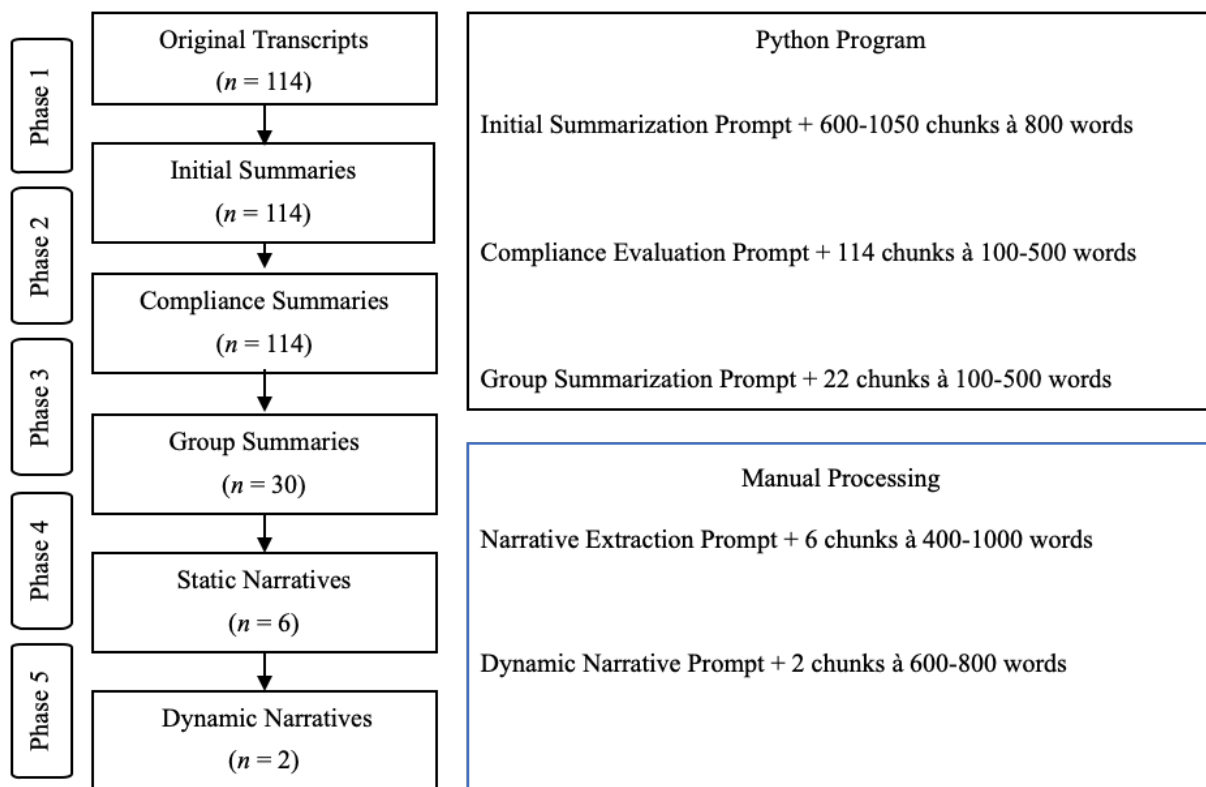
For this a rather complex multi-phased approach was necessary, which will be lined out in the following. It consisted of 5 phases, in which the initial individual interview transcripts got rated for compliance. Based on this rating they were merged into ten group summaries. Based on this group summaries possible thresholds between compliers- and non-compliers were explored, in order to determine with which narratives to supply the storyline analysis. This led to the discovery of two distinct groups with corresponding narratives: the non-compliers and the compliers. Having these two narratives over three timepoints, this

resulted in six narratives in total. As they only referred to one timepoint each, they were labeled “static narratives” and later merged into two “dynamic narratives” featuring all timepoints for both groups. This means, that in the end the 114 interviews were compressed into 2 distinct dynamic narratives with the help of automatic summarization.

All results of the in-between-stages, created in between the 5 phases of summarization are attached to the appendix (see Appendix C). This ensures that every transfiguration of the dataset is transparent, and can be observed and if necessary repeated by other researchers. The automatic summarization procedure is illustrated in Figure 1.

Figure 1

Automatic Summarization Procedure



Note. This flow-chart describes the data processing procedure. On the left side the version of processed texts is described, on the right side the used prompts to derive them. Their position indicates to which phase they belong.

Phase 1: Initial Automatic Summarization

Chat GPT was provided with the dataset consisting of 114 interviews of 38 participants and the following process was applied: As the interviews consists of 4000-7000 words each, all interviews together amount to about 480.000-840.000 words. The interviews were split into chunks of about 800 words each (without cutting off within questions, to not distort sense), resulting in 600-1050 chunks in total. These were then separately loaded into Chat GPT with the initial summarization prompt (see Appendix D1). Chat GPT then summarized the chunks, while keeping perspective, word use, context and content intact. This resulted in 600-1050 summarized chunks with a word count between 100 and 500 words.

The summarized chunks where then reattached based on interview number, thus resulting in 114 summaries (one summary for each timepoint per participant) of the original interviews, consisting of 500-1300 words per summary. Those were then put into Chat GPT again for the compliance evaluation.

Phase 2: Compliance Evaluation

Chat GPT was provided with the 114 summaries chunk by chunk, with the accompanying compliance evaluation prompt (see Appendix D2). This way it returned a compliance rating on an HBM-based scale between 1-100 with a 5-point denomination, where a higher rating resembles a higher compliance. This scale was created by Chat GPT internally, in the moment it received the prompt, thus resembling a black-box. But as evident from the pre-tests, it is a valid quantification of the HBM-model as the output is a rating resembling the components of the HBM model, which were evident in the summaries as they convey information about risk perception, efficacy beliefs, cues to action and alike aspects. The rating was also attached with refined 100-500 words compliance summaries of each participant for

each timepoint, which were created by Chat GPT within the rating process and used in the next phase to derive compliance groups.

Phase 3: Group Summary Extraction

The 114 compliance summaries which also contained the compliance ratings were grouped based on this rating. The participants summaries were sorted into 10 groups with each group covering a range of 10 points. All summaries with a rating from 1 to 10, were put into group 1, those ranging from 11 to 20 into group 2, and so on, all the way up to the last group with ratings of 91 to 100. All individual summaries of the corresponding groups were then combined and prompted into Chat GPT, in order for the algorithm to derive an overarching group summary for each group and timepoint, resulting in 22 compliance group summaries (with a length of 100-1000 words each). Even though there could have been 10 potential groups for each of the three timepoints, accounting for 30 group summaries, some of them didn't come into existence, i.e. because there were not participants showing higher compliance than 90, thus no compliance group 10. The used group summarization prompt (see Appendix D3) was almost identical to the initial summarization prompt.

Phase 4: Static Narrative Extraction

The algorithm was instructed to summarize 3 chunks (400-1000 words) of the combined answers of participants with high compliance (groups 6-10) and 3 chunks (400-1000 words) of the combined answers of participants with low compliance (groups 1-5) resulting in 6 static narratives (3 timepoints x 2 groups). The narrative extraction prompt (see Appendix D4) was used to extract the static narratives.

Phase 5: Dynamic Narrative Extraction

Finally, the algorithm was instructed to deduce two dynamic out of the six static narratives, by setting them into relation with each other, as well as into the temporal context, thus incorporating individual and collective changes over time. This way 2 chunks, consisting

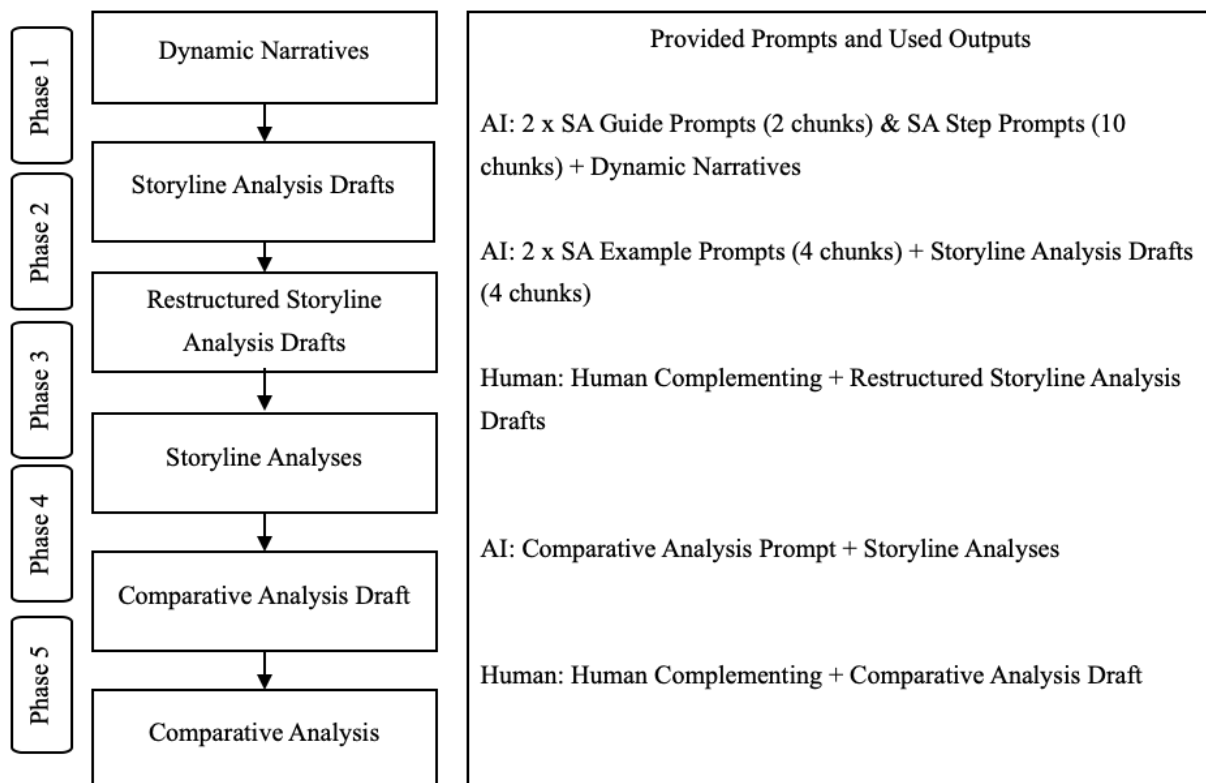
of 600 and 800 words, where turned into 2 dynamic narratives with word counts of 300 words and 500 words. The dynamic narrative prompt (see Appendix D5) was used to derive a dynamic complier and a dynamic non-complier narrative. The derived dynamic complier- and non-complier narratives were then analyzed, as described in the following. The storyline analysis Procedure is illustrated in Figure 2.

Data Analysis with Storyline Analysis

Based on the prepared data, the derived two dynamic narratives were analyzed exploratively by combining human and artificial intelligence to discover the patterns specified within the storyline analysis framework. For this Chat GPT was trained on how to conduct a storyline analysis, and asked to perform it under human supervision and modification.

Figure 2

Storyline Analysis Procedure



Note. This flow-chart describes the data analysis procedure. On the left side the version of processed texts is described, on the right side the used prompts to derive them. Their position indicates to which phase they belong.

Phase 1: Initial Storyline Analysis

Chat GPT was trained by providing it with instructions on how to perform a storyline analysis by using the “step-by-step guide” from Murray and Sools (2014). This was done by giving it a set of initial storyline analysis guide prompts, containing the Storyline analysis Guide in multiple chunks (see Appendix E1.1).

After that Chat GPT was prompted to perform the analysis step by step, by providing each step separately as a intro-text of a storyline analysis Step prompt, with the dynamic narrative as the body of the prompt (see Appendix E1.2). Steps 6 and 7 of the guide both involve forming and discussing conclusions from the previous steps by relating them to the research question. Thus, they were put into the same prompt and accompanied with the research question with the additional request for Chat GPT to related them to the previously performed steps from the last responses (see Appendix E1.3). The remaining steps were prompted one at a time, as usual. Chat GPTs outputs to all of the steps were then combined into Storyline analysis drafts (see Appendix C).

Phase 2: Storyline Restructuring

This storyline analysis drafts were then again given to Chat GPT in multiple chunks, together with storyline analysis example prompts (see Appendix E2) for each of the 4 sections, that gave it the example of the storyline analysis guide as a reference of how a storyline analysis should look like, and prompted it to modify the given storyline analysis drafts based on that structure. This resulted in the restructured storyline analysis drafts (see Appendix C). Chat GPT was instructed to carry out the storyline analysis for both narratives

separately. Thus, creating two storyline drafts: the “compliance narrative storyline draft”, as well as the “non-compliance narrative storyline draft”.

Phase 3: Storyline Analysis Complementation

To ensure that all important elements of the storyline analysis are incorporated, the drafts were analysed, modified and enriched by the researcher’s own analysis of the Storylines, in order to get the storyline elements (e.g., “breach”) correct, and spare the analysis of unspecific sentences. The researcher’s analysis and corresponding modification was also following the official “step-by-step guide” from Murray and Sools (2014) and resulted in finalized versions of the “compliance narrative storyline”, as well as the “non-compliance narrative storyline”.

Phase 4: Comparative Analysis

Both storyline analyses were compared, by using the Comparative Analysis of the Storyline-Analysis Guide (Murray & Sools, 2014). For this the section on comparative analysis and the storyline drafts were given to Chat GPT within the Comparative Analysis prompt (see Appendix E3.1). Accompanied with the two Storyline Analyses. After that, in order to enable a longer more elaborate response (as the word limit of Chat GPT also incorporates input length of the prompt) another prompt was used (see Appendix E3.3). This Resulted in the Comparative Analysis Draft (see Appendix C).

Phase 5: Comparative Analysis Complementation

The Comparative Analysis draft, was modified and expanded by the researcher in order to ensure a quality that is feasible enough to answer the first research question.

Chat GPT Post-Evaluation

The following post-tests were performed in order to address the validity of the results as well as the second exploratory research question: *What are the feasibility, benefits, and*

limitations of using Chat GPT, as a research assistant in narrative psychological research for data preparation, analysis, and hypothesis testing?

Evaluation of Compliance-Ratings

The compliance rating system was already validated within the pre-evaluation, showing its accuracy in quantifying the HBM model, as the ratings are consistent and reflect key HBM components like risk perception and efficacy beliefs. To further evaluate the reliability of the compliance rating, the summary of a random (by using a virtual 114-sided dice) participant and timepoint (participant 18, T3) was evaluated by 20 separate Chat GPT instances with the Compliance Evaluation Prompt (see Appendix D2), resulting in 20 different compliance evaluation summaries of the same participant (see Appendix F1). Those were put into 20 separate word-documents that got fed into another custom-made python program “Ast.py” (see appendix F), which assessed the reliability of the provided rating values by calculating the average, median, standard deviation, and standard error. A threshold SEM value of 2 was used to determine if the ratings were reliable, by setting up the requirement that the ratings shouldn’t deviate more than two points on the compliance scale.

Evaluation of Text-Understanding

The “Ast.py” python script, as well as the 20 previously produced compliance summaries of the same participant, were used to test the assumption that Chat GPT has a deeper understanding of the studies data, and thus produces more accurate summaries, than traditional text mining techniques. For this, the 20 different compliance evaluation summaries of the same participant got evaluated with traditional text mining techniques: sentiment analysis was performed using the TextBlob library. To capture the semantic meaning the Word2Vec model from the Gensim library was used to generate word embeddings. For topic modeling Latent Dirichlet Allocation (LDA) was used, utilizing the scikit-learn library, in order to identify the main themes by extracting topic distributions for each text. Lastly

bringing all of the aforementioned analysis together to assess the average and overall similarity between each pair of texts, text similarity analysis was conducted by calculating cosine similarity for sentiment scores, word embeddings, and topic distributions. For comparison, the same compliance evaluation summaries also were provided to Chat GPT in chunks of 5 random sets of 5 texts each, by combining them with a similarity evaluation prompt (see Appendix F3) that asked if they belong to the same person.

Evaluation of Automatic Summarization and Storyline Analysis

Due to their qualitative nature and the lack of an established taxonomy, the results of automatic summarization and storyline analysis got evaluated qualitatively by the researcher.

Results

This section begins by presenting the findings of the Chat GPT Post Evaluation tests, which were conducted to assess the feasibility of Chat GPT as a research assistant. These results are analyzed and concluded within the answer to the second, more exploratory, research question. Despite being post-tests, they are presented first, since they are crucial in determining the reliability of the storyline analysis and the overall usefulness of the study's results. Following this, the evaluation of the compliance values is highlighted as it was essential for categorizing the participants based on their compliance and for extracting the analyzed narratives. Finally, the section provides an overview of the summaries produced in various phases, along with the outcomes of their narrative analysis, which concludes to the answer to the initial research question.

Chat GPT Feasibility Post Evaluation

To evaluate Chat GPT's utility as a research assistant, its summaries and compliance ratings got evaluated.

Quality of the Compliance-Ratings

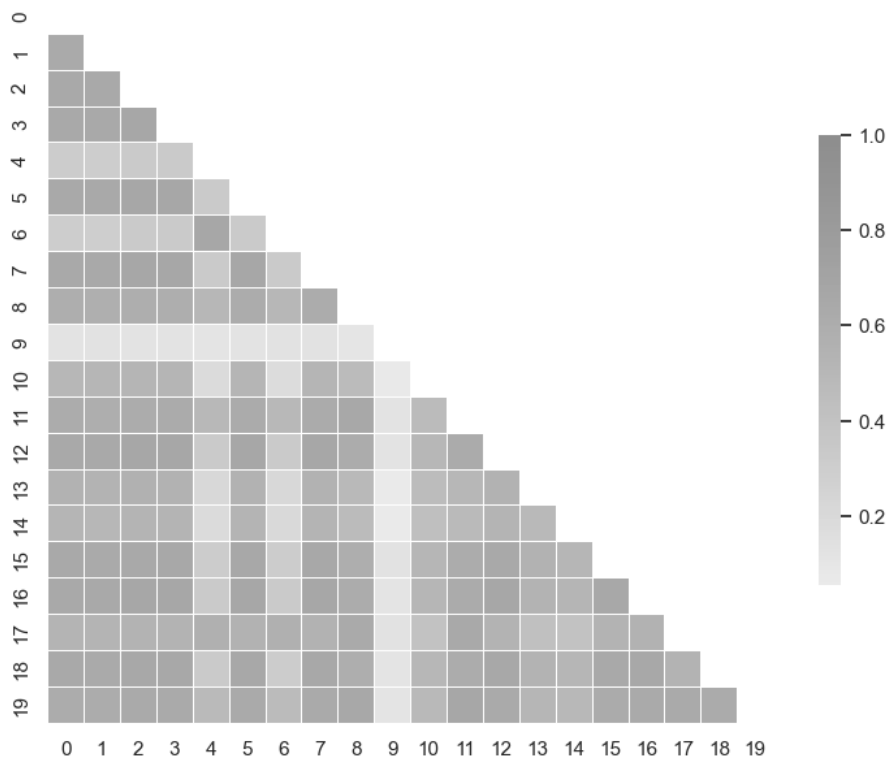
The summary of a random participant got evaluated by 20 different instances of chat GPT to check if it reliably assigns a similar score to the same text. With an average rating of 71.88 ($M = 71.88$, $SD = 5.83$), a median rating of 70 and a standard error of 1.46, the compliance ratings were found to be reliable, as they deviate less than 2 points in the overall ratings.

Quality of Text-Understanding

To evaluate the statistical significance of the observed similarity between 20 different summaries of the same initial texts, p-values and power values were calculated for all possible pairings, producing a similarity matrix, which is visualized in Figure 3.

Figure 3

Similarity of texts assessed by a combination of traditional text mining methods



Note. This heatmaps indicates the similarity between the texts. Each square represents a comparison between two texts, which are indicated by the x- and y-axes. The bar on the right side indicates the color corresponding to certain similarity scores.

While the average similarity score is moderate ($M = 0.67$) and some significant similarities got uncovered (e. g. text 10 and 15 with $p = 0.003$), the overall analysis suggests that the texts are not significantly similar ($p = .204$). The full similarity matrix and the corresponding significance and power values are attached to the appendix (see Appendix F2). As the texts in fact come from the same person, this suggests that the used combination of traditional text mining techniques, was able to assess the overall language use, structure and themes on a basal level, but unable to get close to human level understanding.

Chat GPT on the other hand, when provided with 5 random sets of 5 texts each, and asked with a similarity evaluation prompt (see Appendix F3) if they belong to the same person, provided probability ratings of 80 %, 85 %, 90 %, 85 %, and 85 % that those texts belong to the same person, arguing this based on the similarity of topics, themes, attitudes, and language use (see Appendix F4). Therefore, it can be argued that Chat GPT has a more elaborate understanding of the data than traditional text mining techniques, while at the same time requiring only a fraction of the researcher's time for the analysis.

Quality of Automatic Summarization

However, taking into account the produced summaries, Chat GPT also makes small mistakes, as it frequently switches into third-person view in some of the summaries or summarizes certain paragraphs multiple times with slight variations (e.g., T2 participant 11). The second issue however may most likely be caused by the python-program written by the researcher, as the manually prompted compliance group summaries don't contain such errors. It can even be argued, that the correct use of Chat GPT helps preventing such mistakes, as

applying it in a multi-phase approach, counteracts double information and wrong perspectives by cancelling them out with the additional prompts used later in the process. This is shown by the complier group summaries, where only 1 of 22 summaries (T1, Group 6) contains a third-perspective mistake, and none of them suffers from multiple paragraphs.

Even when taking multiple participants perspectives into account and deriving a new summary from them, there are close to no cases, where the internal logic or external context got distorted. However, one notable exception was found within the dynamic non-compliers-summary in the sentence: “*Despite my concerns about the vaccines and severe side effects, I worried about how the unvaccinated would be stigmatized in the winter.*” The word “Despite” doesn’t seem to make sense in this context, as it either has no, or an opposite relation to the rest of the sentence. Backtracking it’s origin with help of the transparent documentation of different summary stages (see Appendix C), it could be identified as a variation of the following sentence from participant 17 at T1: “*I’m also concerned about what’s happening in society, but I wouldn’t necessarily go public with my opinion.*”. Apparently, the concerns of participant 17 got correctly identified as fear of stigmatization, and at the same time with help of the context of other participants texts put to denser information level: “*concerns about what’s happening in society*” changed to the more concrete “*concerns about the vaccines and severe side effects*”. In this way the internal contradiction of the participant with his own values, which lies in being against something, but not speaking up, due to fear of getting stigmatized, got carried along resulting in a contradiction within the logical structure of the sentence. While Chat GPT has close to no problem with understanding irony, emotions, empathy and other complex interaction elements, in this case it lacks the intuition to grasp the inner ambivalence that comes with human nature, as it implicitly assumes coherence of action and words.

Quality of Storyline Analysis

The quality of the storyline analyses produced by Chat GPT were high but not exceptional. For instance, the human researcher could identify some minor inaccuracies, such as the AI randomly assigning the name “Alex” to the non-complier storyline narrator. While the results of summarization, likely exceeded the accuracy of human summaries, Chat GPTs limitations become most apparent at the highest level of abstraction, namely comparative analysis. Here, the AI had difficulty capturing important background-aspects such as the high emotional impact and thus importance of financial struggles mentioned in the non-complier’s narrative.

Feasibility of Chat GPT as a research assistant

Regarding the feasibility of Chat GPT for qualitative psychological work, this result suggests, that yet AI cannot work as an independent researcher but very well as a research assistant, as the combination of human researcher and an AI researcher, brings great benefits. This is particularly the case when the AI relies directly on the data for drawing conclusions, while the human researcher brings in a background context. However, human support not only adds the missing pieces of subjectivity, but with it also inevitably introduces bias as background noise. On the other hand, this can be isolated, as both the AI version and human version can be made available for comparison. In conclusion, the question whether to use human intelligence or artificial intelligence, can be neglected, as a combination of both should be utilized, because the blending of human resources with AI capabilities provides a more accurate and efficient approach to narrative psychological research.

HBM Compliance Score Results

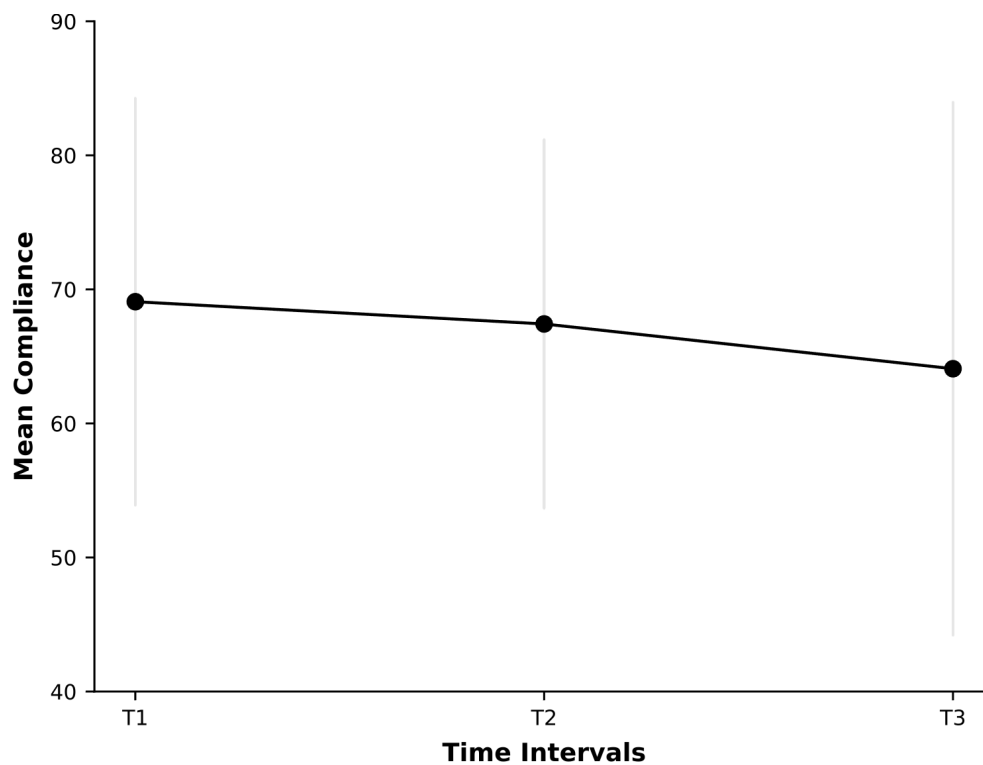
To shed light onto the changes between the different stages of the pandemic, and to accompany the upcoming qualitative analysis with quantitative aspects, the compliance scores given by Chat GPT were analyzed. This is relevant for the first research question, as it supplies the extracted summaries and narratives with detailed information on the compliance

of each individual during different time-points and the quantitative dimension was also used to assess the best possible split between compliers and non-compliers. It also relates to the second research question, as it details the rating procedure and thereby makes the quality of Chat GPTs work more assessable. The compliance ratings were derived by Chat GPT during Phase 2 of the automatic summarization procedure. The resulting compliance values over the three timepoints (T1: December 2020, T2: April 2021, T3: September 2021) and their change are presented in the following and will be interpreted on an overall, individual, and group level.

Illustrating the changes of the individual compliance by comparison of concrete values makes the otherwise solely qualitative interpretations more comparable. The final analysis models compliance in form of distinctive narratives. The analysis of values in combination with individual and group summaries (see Appendix C) enriches the work at hand by making compliance observable on a spectrum. The reader can navigate through all in between steps of summarization and analysis, and with help of the provided values and participant numbers (see Appendix G) get insight on all facets of the data. For example, this makes it possible to backtrack certain sentences of the final narratives, all the way back to the individuals who raised alike notions, or to observe the personal narratives of the individuals who turned from complier to non-complier and then back to complier, etc.

Average Compliance over time

A non-parametric Spearman's correlations showed significant associations between T1 ($M = 69.08$; $SD = 15.19$) and T2 ($M = 67.42$; $SD = 13.76$), ($r = 0.423$, $p = 0.008$), and likewise between T1 and T3 ($M = 64.08$; $SD = 19.89$), ($r = 0.424$, $p = 0.008$). This means, the overall mean compliance stayed consistent during the three timepoints, which is also displayed in Figure 4.

Figure 4*Mean compliance across three time intervals*

Note. The vertical lines indicate the standard deviations of the corresponding values

Individual Compliance Over Time

In regard to the shift from T1 to T2, a proportion of 55 % of individuals showed small changes (1-10 points), while 16 % displayed moderate changes (11-24 points), and a fraction of 13 % demonstrated huge or very huge changes (≥ 25 points). The residual 16 % didn't show relevant compliance changes. Between T2 and T3 42 % of the participants changed little and 18 % moderately. An equal amount had huge to very huge changes and the remaining 22 % showed no relevant changes. When assessed cumulative between T1 and T3 the compliance changes are distributed as follows: 42 % of participants had small changes, 21 % moderate changes and 21 % no changes. The remaining 11 % showed huge or very huge

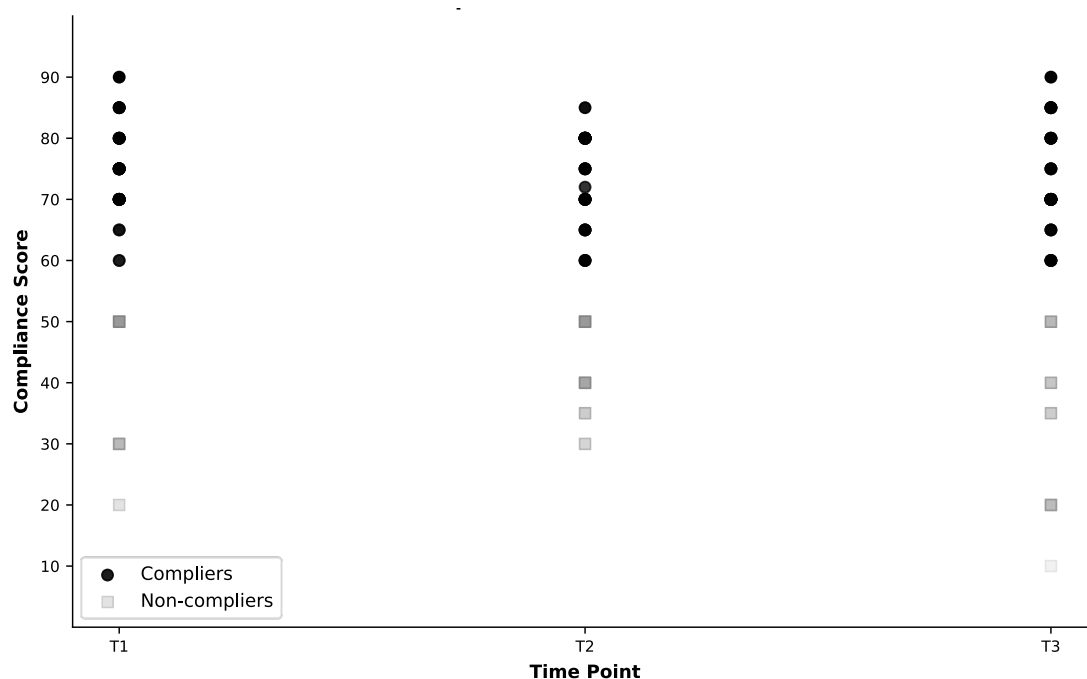
changes. The compliance values of all participants over all timepoints are features in the Appendix (see Appendix G).

Compliance Groups Over Time

A k-Means cluster analysis was used to explore how the compliance values change over time, when modeled as belonging to two discrete groups of compliers and non-compliers (see Figure 5). Initially, at T1, the majority of participants (33 individuals) fell into the first cluster, demonstrating compliance values ranging from 60 to 90. The remaining minority (5 individuals) constituted the second cluster, presenting compliance values within a band of 20 to 50. Moving to T2, the majority cluster was made up of 32 individuals with compliance scores ranging from 60 to 85, while the minority cluster contained 6 individuals whose compliance values lay between 30 and 50. At T3, the distribution of participants within the clusters remained constant, though the compliance score range shifted to 10-50 points for one group and 60-90 points for the other.

Figure 5

Individual Compliance scores across three time intervals



Validating the group fit. To verify the validity of assigning the participants into two distinct groups a qualitative analysis of the group summaries (see Appendix C) for groups 5 (compliance values 41-50) and 6 (compliance values 51-60) was conducted. It supported a threshold distinguishing non-compliers from compliers at between 50 and 51 points. For instance, excerpts from group 5 at T1, such as: *“I comply with the measures, but think wearing masks is stupid because it restricts my freedom. I would consider COVID-19 vaccination if no mandatory vaccination comes through the back door.”* Show that the corresponding participants follow the rules, but at the same time don’t subscribe to the dominant narrative, as they don’t believe in the rationale behind the rules. Group 6 (T2) on the other hand follows both, the measures and the rationale: *“I follow standard protective measures such as wearing masks and keeping my distance to minimize the risk of contracting COVID-19.”* With this at hand we can see the groups as distinct, at least on the operational level, which enables us to uncover the complier group as the majority group, producing the dominant narrative, and the non-complier-group as the minority-group producing the counter-narrative.

When setting the threshold for grouping compliers and non-compliers at the level of 1-50 points as non-compliance and 51-100 points as compliance, and treating a change of compliance-status as a significant change, we can observe the following: From T1 to T2, there were significant changes for 5 of the 38 participants (7, 10, 33, 24, 1). From T2 to T3, this was the case for 6, mostly different, participants (8, 34, 16, 19, 24, 35). When combined the transition between T1 and T3 led to significant changes for 6 Participants (22, 8, 16, 24, 35, 26). 10 of 38 participants changed their compliance at some timepoint. However, they did not constitute a large enough proportion to significantly affect the overall trend, at any timepoint. Looking closer, Participant 24 is the only one showing significant changes at both intervals

(T1-T2 and T2-T3), while Participants 22 and 21 demonstrated non-significant changes at both intervals, that resulted in significant changes when accumulating them from T1 to T3.

Storyline Analysis Results

The results from automatic summarization, including the compliers- and non-compliers narrative (in English translation) as well as the summaries and narratives from all other phases, timepoints and participants can be found in the appendix in the original language (see Appendix C).

The following are the Storyline Analyses and Comparative Analysis which are the results from “Phase 3: Storyline Analysis Complementation” and “Phase 5: Comparative Analysis Complementation”. They are the result of Chat GPTs analysis, additionally modified by the researcher. The results of all remaining phases (including the ones featuring results made solely by Chat) can be found in the appendix (see Appendix C).

The storyline analysis consists of four to five parts: While the first part: “Introduction” provides a brief overview over the story and its context, the second part: “Storyline Analysis” breaks the story down into key components (setting, characters, events, etc.) including the breach, which is the main conflict. The third part: “Interactional Analysis” examines the relation between narrator and audience, also portrait in the way the story is told. The fourth and last part “Analysis of Wider Contexts” relates the story to its broader social and cultural contexts, to get insight on its wider implication.

The “Comparative Analysis” can be used as an additional fifth part of storyline analysis. Unlike the aforementioned parts it assesses two or more narratives at the same time by comparing them to each other. It incorporates identifying similarities and differences and reveals overarching themes and patterns (i.e., plot types) that can be used to supply theories and address research questions.

Non-Compliers Storyline Analysis

Part I: Introduction – “Distrust and Discovery: A Non-Complier’s Pursuit of Truth in the COVID-19 Era”. This narrative was shared by multiple individuals, but broken down to an artificial individual whom we will refer to as the non-complier narrator, detailing their personal journey through the COVID-19 pandemic. The story captures the narrator’s evolving distrust in government institutions, media, and vaccination strategies, as well as the adaptations made in their everyday life, such as finding new sources of information and using positive psychological resources. It is also covering the dealing with financial and social problems and vaccination-related worries about the safety of their health and the intactness of basic human rights.

Part II: Storyline Analysis – Losing trust in government and media, but finding meaning in the family.

Setting: The story takes place in Germany between December 2020 and September 2021, within the unfolding pandemic and governmental actions against COVID-19. The emotional setting is characterized by uncertainty, worry, and a loss of faith in the government and media.

Agent/character(s): The main agent in this story is the narrator, who describes the COVID-19 pandemic and its impact on their life. The narrator is a concerned and skeptical citizen who changes their views about government institutions, media, and vaccination strategies as the pandemic unfolds. The narrator has children, they have to take care of. Other agents are politicians which are “acting out of actionism”, media, which spread “propaganda” and institution leave the narrator feeling “powerless over government decisions” while “violating basic rights”.

Acts/events: In order to deal with the untrustworthy media, the narrator informs themselves via alternative information sources such as Telegram groups. They are dealing with the economic uncertainty and the lack of a midwife by indulging in gratitude and

enjoying life in the moment, and taking care of their children on their own. They are scared of the nearing winter and how they as unvaccinated might be stigmatized.

Means/helpers: The means and helpers in this story are the alternative sources of information that the narrator relies on, such as independent news portals and Telegram groups. While normal media is perceived as not trustworthy, the narrator still consumes news from the Robert Koch Institute in April 2021, but by September 2021 stopped doing so, solely relying on alternative news-sources. Other helpers are the positive psychological resources of gratitude and mindfulness, portrayed as “enjoying life in the moment” that the narrator uses to get a positive lesson out of their struggles.

Purpose: The purpose of the story is the narrator’s personal growth during the pandemic, their search for truth and trustworthiness, resulting in a changing view of government institutions, media, and vaccination strategies, and the positive lessons they learn from the crisis to take care of their family and themselves and enjoy life.

Breach: The narrator searches truth and trustworthiness, to deal with the chaos, but doesn’t find it in classic media or institution and government, which by their inconsistency of measures against the virus not only lead to distrust, but also caused loss of financial stability, and access to a midwife that could help the narrator. Additionally the fear of unsafety of vaccination and discrimination as an unvaccinated person, come into play and motivate the narrator to seek alternative and find sources of information and adjust their views and attitudes as the pandemic unfolds.

Part III: Interactional Analysis. The narrator perceives themselves as a person seeking truth and understanding in the midst of the COVID-19 pandemic. They presume that the audience, in this case, us as readers, may have different perspectives on the situation. This becomes central to how the narrator conveys their experiences and shifting beliefs concerning the government, media, and vaccination strategies throughout the narrative. Relevant to the

interactional accomplishment of this account is a distancing of the narrator from those who blindly trust government institutions and media. In this way, the narrator positions themselves as someone who critically examines the situation, rather than simply accepting the mainstream narrative. Over the course of the narrative, the narrator comes to acknowledge their transformation from skepticism to adaptation in response to the ongoing pandemic. They do not express arrogance in their journey, but rather share their personal growth and realizations as they grapple with the challenges faced during the pandemic. The dynamics of the narrator sharing their experiences with the audience support the positioning of the audience as listeners who may learn from the narrator's journey and potentially reevaluate their own views and beliefs.

The audience, being passive recipients of the narrative, engage with the themes and emotions presented by the narrator.

Part IV: Analysis of Wider Contexts. The narrative unfolds during the COVID-19 pandemic, a time characterized by global turmoil and widespread uncertainty. In this context, skepticism and distrust towards government institutions, media, and vaccination strategies have become increasingly prevalent. For the narrator, much is at stake when expressing their personal experiences and beliefs in relation to the pandemic. This highly politicized environment influences how the narrator interprets and reacts to the unfolding crisis, and has implications for the broader social and political dynamics. What is at stake for the narrator is finding a way to make sense of their experiences during the pandemic while navigating the complex and often contradictory information landscape. They seek to maintain a critical perspective and adapt to the challenges of the pandemic, while also addressing the broader societal debates concerning government actions, individual freedoms, and the role of media. Critically reviewing the narrative, one might question whether the narrator's skepticism and distrust are merely reactions to the highly politicized environment, or if they reflect deeper

underlying concerns about the erosion of fundamental rights and the influence of state institutions. In the meantime, the narrator's story offers a perspective that partly aligns with the broader debates surrounding the pandemic (such as the balance between individual freedoms and public health measures), but also goes beyond these discussions to explore the personal, emotional, and moral dimensions of their experiences. In this context, the narrator's experiences and attitudes can be seen as both a product of and a response to the wider social and political climate.

Compliers Storyline Analysis

Part I: Introduction – “Embracing the New Normal: A Complier’s Journey through the COVID-19 Pandemic”. This narrative was shared by multiple individuals, but broken down to an artificial individual whom we will refer to as the complier narrator, detailing their personal journey through the COVID-19 pandemic from December 2020 to September 2021. The narrative illustrates their adaption to the pandemic by following government regulations and feeling safer after the vaccination. While they at the begin distrust political actors, who they perceive as not acting fast and strict enough. They trust state media as well as actors and institutions perceived as scientific, and want others to adapt to their stance.

Part II: Storyline Analysis – “We all need to adapt to the pandemic [...] and do our part”.

Setting: The story takes place in Germany between December 2020 and September 2021, within the unfolding pandemic and governmental actions against COVID-19. The emotional setting is characterized by uncertainty, worry, and a trust in the government and media.

Agent/Character(s): The narrator, an individual navigating the pandemic, initially trusts scientific authorities and follows protective measures. They focus on personal growth,

the well-being of their family and friends, and adapting to new circumstances. They see themselves responsible for fighting the pandemic by their actions.

Acts/Events: The narrator is experiencing changes in their professional life which result in them reflecting on relationships and personal priorities. The narrators actions to fight the pandemic include getting regularly tested and vaccinated and “fighting misinformation”. At the same time, they want others “fighting the pandemic and getting our lives back to normal”, and see themselves responsible for others who don’t comply: “Although I have vaccinated my family and feel freer, I worry about my parents who don’t want to get vaccinated.”

Means/Helpers: Key means and helpers in the story include trusted authorities, public broadcasters, the C-Infekt app, the vaccination and the narrator’s adaptability.

Purpose: The story illustrates the narrator’s journey through the pandemic with goals of staying safe, adapting to new circumstances, fostering relationships, and learning from the experience and growing into someone who feels self-efficient and believes in defeating the pandemic by being vaccinated and getting unvaccinated, to change their choice by informing them.

Breach: The breach lies in the discrepancy between the narrator’s idea that the pandemic can be solved by getting everyone vaccinated on a voluntary or persuasive basis with the information that the narrators trust, and the non-compliers not trusting the information sources and not seeing the vaccination as a solution, therefore stopping the narrator from reaching their desired goal.

Part III: Interactional Analysis. The storyteller presents their experience of the COVID-19 pandemic by emphasizing their trust in scientific actors such as the WHO, RKI, Christian Drosten, and Angela Merkel, while displaying skepticism towards politicians and regional governments. Through the narrative, the importance of protective measures like

social distancing, disinfection, and mask-wearing is highlighted. The narrator positions themselves as someone cautious and compliant with the recommended measures to minimize the risk of infection. They trust scientific experts and public broadcasters, appreciating the efforts made by leaders like Angela Merkel. The narrator acknowledges their role in combating the pandemic by getting vaccinated, regularly testing, and encouraging others to do the same. They emphasize personal responsibility and adaptation during the pandemic. In this way, the storyteller positions themselves as a responsible and informed citizen, who actively participates in the efforts to control the pandemic. The interaction between the narrator and the listener supports the positioning of the storyteller as someone sharing their experience and knowledge, while the listener learns from their insights.

Part IV: Analysis of Wider Contexts. The narrative is situated within Germany between December 2020 and September 2021, a period characterized by the COVID-19 pandemic and the associated governmental actions. This period saw heightened uncertainty, worry, and a complex mix of trust and distrust in government, media, and scientific institutions. The narrator's experiences reflect these broader societal concerns and debates, as they navigate the challenges of the pandemic and seek to make sense of the constantly changing information landscape. For the narrator, trust in scientific authorities and adherence to protective measures are crucial aspects of their response to the pandemic. Their actions and beliefs are shaped by their understanding of personal responsibility and their reliance on expert advice. Within the wider social context, this trust in experts and institutions can be seen as both a reflection of and a response to the broader debates surrounding the pandemic, such as the balance between public health measures and individual freedoms. As the narrator encounters non-compliers, the tension between trust in authorities and skepticism towards those who do not share their views becomes apparent. The narrator's concern for their unvaccinated parents highlights the personal and emotional stakes involved in navigating

these divergent perspectives. This tension reflects the wider social and political context, in which differing beliefs about the pandemic have led to divisions and debates about the appropriate response to the crisis. In this context, the narrator's experiences can be seen as a microcosm of the broader societal dynamics at play during the pandemic. Their story highlights the importance of trust, personal responsibility, and adaptability in the face of adversity, while also engaging with the broader debates about individual freedoms, the role of media, and the influence of scientific authorities. By examining the narrator's experiences and attitudes within this wider context, we gain a deeper understanding of the complex and often contradictory forces shaping individual and collective responses to the COVID-19 pandemic.

Comparative Analysis

Both groups share a similar emotional state of uncertainty, doubt and insecurity, and react to this by creating a narrative in order to turn chaos into meaning. These narratives are not built in isolation, but are closely affiliated to the meta-narratives resulting from the interplay between media, institutions, political entities, science-affiliated entities and society. The complier-narrative represents the dominant narrative and resolves the chaos by subscribing to state institutions and media (except politicians). The non-complier narrative, as the counter-narrative subscribes to independent media. While the non-compliers want additional information and freedom of choice, the compliers as the group belonging to the dominant narrative, hint at the responsibility of all and want the non-compliers to comply.

Both compliers, as well as non-compliers see the measures as inconsistent. While non-compliers see the media and government as acting along enforcing strong regulations, compliers believe them to be more independent, as they have much higher trust in the institutions, and distrust against politicians, and perceive their response as reluctant and not strong enough. Therefore, they are also not perceiving the institutional media as "state media", but more as the voice of reason. This voice of reason seems to be strongly connected

to the perception of “science” which is more seen as a static authority, and not as a systematic process that leads to new knowledge arising on the basis of observation, experiment, analysis and criticism. A remark showcasing this perception is the mentioning of Angela Merkel as a scientist, even though the former chancellor has worked in a different field (Quantum Chemistry) and only until 1990. Non-compliers question this kind of authority, suggesting a desire for a more dynamic, process-oriented understanding of science.

Compliers see themselves as in power to end the pandemic by following regulations and getting themselves and others vaccinated. As such they feel as the main actors for a good cause as can be seen by statements like: “Although I have vaccinated my family and feel freer... “. To the compliers the regulations, and more specifically „all complying“ to them is the solution to the virus and therefore to the crisis. While the compliers are scared of the virus’s effect on their health, and try to counteract that with vaccination. The non-compliers in contrary doubt the effectiveness of the measures as well as the safety of the vaccination, and see I in the passive role, wanting to defend themselves from stigmatization. For the non-compliers the regulations are a bigger problem than the virus, and thus them personally not complying is the solution, as they struggle by the effects the strict regulations have on their personal life (i.e. not finding a middle-mother or having an uncertain financial situation due to the regulations). Compliers on the other hand mentioned that they got better jobs and finished their studies. It is unclear if they are compliers because they can adapt, or if they can adapt because they are compliers. In the same way the struggles of the non-compliers, might make it harder for them to adapt and accept the measures.

Both narratives come along in the stance of dismissing vaccination through direct force. However, since the compliers see the vaccination as “the only way out of the crisis” but at the same time don’t agree to mandatory vaccination, they feel responsible for getting the non-compliers vaccinated on a voluntary basis. They try to do so by informing them, but for

this rely on the same information that the non-compliers either don't trust or/and in some cases already know as they also consume them in parallel to alternative information (for example the Robert Koch Institute).

Non-compliers as well as compliers experience personal growth during the pandemic, although in different forms. While non-compliers, engage with a wider range of information-sources, which allows them to build a positive identity as independent truth-seekers. Also, while feeling alienated from society, they form stronger bonds with their close family. Compliers on the other hand experience stronger self-efficiency, due to their compliance with protective measures as they see their own action as critical to overcoming the crisis. This also gives them a positive identity as they view themselves as capable and relevant actors supporting their close relationships and saving the global population by solving the crisis.

Discussion

In this study, we identified two distinct groups, compliers and non-compliers, each demonstrating unique narratives in their understanding and response to the COVID-19 pandemic. Furthermore, we successfully employed Chat GPT as a research assistant, uncovering its promising utility in narrative psychological research. The aim of this study was twofold. First, we sought to explore the narratives German citizens, varying in their compliance with government measures, employ to make sense of different stages of the COVID-19 pandemic. Secondly, we aimed to assess the feasibility, benefits, and limitations of using Chat GPT as a research assistant in narrative psychological research. To achieve these goals, we used automatic summarization and storyline analysis on interviews of 38 individuals. Their compliance was evaluated through scoring them, using the HBM model. Afterwards the summaries were further turned into group summaries, which were analyzed to find the best threshold for differing compliance. This resulted in the creation of two distinct groups (compliers and non-compliers) and the extraction and discovery of corresponding

narratives, that align well with Desmet's (2022) notions of dominant and counter-narratives: The majority group of compliers, following the dominant narrative. Compliers perceive the virus as a highly dangerous threat, see following along as a collective duty and perceive their own actions as critical to ending the pandemic. They trust institutions, media, and what they perceived as science. This aligns with the findings of previous research (e.g., van der Weerd et al., 2011). In contrast the minority of "non-compliers", exhibit skepticism towards dominant scientific authorities and view the regulations as a bigger problem than the virus itself. They subscribe to a wider range of media and perceive themselves as independent truth-seekers. Alike skepticism was also found to be a possible reaction to previous health crisis (e.g., Dubé et al., 2013).

Despite their differences, reflected in the otherwise contrasting narratives, both groups come along in their disapproval of mandatory vaccination. This hints at a shared set of values, potentially corresponding to a meta-narrative that works beyond the context of the pandemic. Future research, exploring this could inform measures that respect individual values and at the same time address public needs. Alike approaches would go along with recent notions about personal choice as a recurring theme in health psychology. For example, a study of Elwyn et al. (2012) promotes shared decision making in clinical practice, that favors informed patient preferences over prescribed standard treatments. An alike approach could also be incorporated on the public scale and would go along with Desmets (2022) request to leverage a wide range of perspectives instead of perpetuating one as objective truth.

Apart from this, the analyzed narratives also connect to previous research on post-traumatic growth, as they emphasize the transformative power of adversity (Tedeschi & Calhoun, 2004). Further the specific kind of growth was linked to the idiosyncratic identity of the compliance-groups, which goes along with Maitlis (2009) claim, that identity plays an important role in sense-making. While compliers felt more self-efficient and connected to a

greater whole, non-compliers embraced their values of truth and autonomy and formed stronger bonds with their close family. Further research could help to uncover the underlying mechanisms leading to different kinds of personal growth and how they can be willingly triggered by using individual and collective narratives.

Having identified these unique narratives of compliers and non-compliers, we will have a further look into Chat GPTs role in this research. It was crucial to gain the aforementioned rich insights into the diverse pandemic experiences and narrative trajectories. It not only produced higher quality summaries than traditional techniques, like previously suggested by Zhang et al. (2023), but also scaled the participants compliance by creating a reliable taxonomy and used those ratings to derive collective narratives reflecting near human text understanding. Afterwards it analyzed those with the help of its newly acquired knowledge from a guide on storyline analysis, and thereby produced a draft that enabled the human research to answer the first research question.

Although Chat GPT cannot yet conduct independent research, it can certainly assist a human researcher that hugely benefits from its efficient, scalable and systematic processing of complex data, while at the same time reducing bias and increasing replicability. Minor errors such as perspective shifts and repetition or lack of contextual awareness (i.e., about details like the importance of a safe employment), could be balanced out by human guidance. The applied multi-phase approach enabled Chat GPT to turn a complex interview dataset of more than half a million words from 38 participants over three timepoints, into two dense, coherent and nuanced narratives of less than 800 words. Within this process it derived a new compliance scaling-taxonomy based on the HBM model to quantify the narratives and accurately distinguished between the participants based on the similarity of topics, themes, attitudes, and language use. It successfully applied storyline analysis on the extracted

narratives, but needed to rely on human guidance for the comparative analysis of non-complier and complier narratives to get ahold of subtle, but relevant context cues.

This underscores the importance of human-AI collaboration in rotatory iterations, like suggested by the human-in-the-loop approach (Rahwan et al., 2019). According to this approach, AI is able to analyze large amounts of data quickly and accurately, but lacks contextual understanding of the surrounding context. Conversely humans are less efficient and accurate in data processing, but excel in integrating novel information and context cues as well as in providing feedback. Thus, the combination of both should bring fast and accurate data processing as well as nuanced embedding of the processed data in the external context. The study at hand stands as a testimony for this. It presents a prototype of a custom research tool as a concrete case-study. This opens a new field by extending the study's findings to the broader fields of narrative psychology and AI applications in psychological research. Future research could extend this approach by developing more general-purpose AI programs for narrative analysis, further automating aspects of the methodology and tailoring the AI's capabilities to specific research questions and data. While today this would likely require a multi-disciplinary collaboration through the field of IT and Psychology, it can be expected that future AI assistants, such as Chat GPT 5 could fully deal with natural language and directly supply the researcher with tailored programs.

Strengths & Limitations

One strength of this study is the nuanced insight into the thoughts, feelings and attitudes of diverse individuals. It assesses the sensemaking-process of compliers and non-compliers, through their own words, giving a good glimpse of their actual pandemic experience. It further builds up on that as it also shows how those experiences come together in society, intertwine and account to greater distinct narratives. Additionally, also the relation of those narratives to each other and the resulting dynamic gets examined on a deep level.

Lastly, the study incorporates different stages of the pandemic, and the corresponding changes in narrative and compliance, whereas most previous research has focused on just one time-point. Another huge strength of this work lies in its testimony as a case study showcasing great savings of research resources by automating parts of its methods by the use of a new approach. It used Chat GPT to co-develop a tailored program able to prepare a complex dataset, evaluate it through narrative analysis methods, and even evaluate these methods.

However, some of the aforementioned strengths, come with a set of limitations. To begin with, narrative analysis, helps delving into complex personal experiences and the cultural, social, and political contexts influencing them. But at the same time, it may overlook larger, overarching trends that more quantitative methodologies like content analysis could capture. Even though this study followed the step-by-step guidelines for storyline analysis and implemented a combination of artificial and human intelligence, it is of interpretative nature and thus involves a degree of subjective judgment, so bias cannot be entirely ruled out. The next limitation lies in the compliance evaluation. Even when derived from a scaled spectrum and qualitatively evaluated, the categorization of participants into compliers and non-compliers, could oversimplify the complex underlying phenomena. Further, the used sample was purposefully diverse, which although valuable for capturing a wide range of narratives, may limit generalizability to the broader German population and other cultural contexts. Finally, Chat GPT demonstrated its utility in various stages of the research process but is still inherently lacking human intuition, empathy, and thus the capacity to perceive narrative subtleties and interpret nuanced cultural, emotional, or idiosyncratic elements that a human researcher could identify. Making use of a human-in-the-loop approach aimed to balance these strengths and weaknesses, but the potential for overlooked nuances or misinterpretations remains.

Conclusion

This study's exploration of COVID-19 narratives contributed to the understanding of individual and collective sensemaking as a way to cope with crisis. It showcases a nuanced way of assessing compliance to government regulations and captured complex narrative dynamics with the help of storyline analysis. It showed that non-compliers and compliers differ in the institutions they trust in, and media consumption, but still share a common set of values when it comes to individual choice and wish for transparent communication of government measures. In this the findings of this study promote public health strategies that promote individual choice.

In terms of methodology, a distinguishing feature of this is the successful implementation of Chat GPT into the narrative analysis process. This pioneering approach displays the capability of AI in enhancing psychological research by dealing with complex datasets. Although the study accentuated certain AI limitations, such as missing glimpse of context-cues in the narrative analysis (i.e., meaning of job-loss), this introduces new directions for upcoming research and underlines the importance of merging artificial and human intelligence for the best research outcomes.

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Appendix A

Custom Python Programs

<https://drive.google.com/drive/folders/19UgRbu0FJR7Z6LTLbKUhQCc2fQVpOETn?usp=sh>

are link

Appendix B

Pre-Evaluation

B1.1 HBM Value Evaluation Prompt

Please provide a detailed analysis on the persons compliance to covid 19 government measures, judged with help of the health belief model and by the following summary of their interview responses. Provide me a numerical scaled value on a scale of 0 to 100, and share detailed your internal reasoning for your rating, elaborating on the several aspects of the health belief model : Original Document: 04_1.docx Ich hatte während der Pandemie persönliche Herausforderungen im privaten Bereich, da ich als Tanzlehrer tätig bin und meine Arbeit weggefallen ist. Das hat Auswirkungen auf meinen Freundeskreis und soziale Kontakte gehabt. Finanziell war es jedoch nicht so schwerwiegend. Ich suche meine Informationen hauptsächlich auf der Homepage der ZEIT und vertraue den Informationen, die sie bereitstellen. Wenn es um konkrete Bestimmungen geht, schaue ich auf die Homepage der Stadt oder Informationen, die dort ausgegeben werden. Die Pandemie konnte nicht gestoppt werden, aber eingegrenzt werden. Für mich waren die größten Herausforderungen in der Zeit der Pandemie der Verlust meines Nebenberufs als Tanzlehrer und die Einschränkung meiner sozialen Kontakte. Wenn ich nach Informationen zum Coronavirus suche, nutze ich hauptsächlich die Homepage der ZEIT. Ich vertraue den Informationen, die da sind, weil sie aus verschiedenen Perspektiven betrachtet werden und auch kontrovers sind. Ich habe ein höheres Vertrauen in wissenschaftliche Akteure wie die WHO und das RKI als in Lokalpolitik oder Lokalredaktionen wie zum Beispiel eine Bildzeitung. Als Einzelakteure haben Angela Merkel und Jens Spahn mein Vertrauen teilweise, aber ich habe eine gewisse Hemmschwelle, Politikern zu vertrauen, da noch andere Interessen und Motive eine Rolle spielen können. Ich glaube, dass einige Politiker Maßnahmen ergreifen, um Wählerstimmen zu gewinnen, was ich nicht positiv finde. Persönlich schütze ich mich durch das Tragen einer

Alltagsmaske, Desinfektion und Abstand, sowie durch eine Reduzierung meiner Kontakte. Ich trage die Maske dort, wo es Pflicht ist und wo ich es als notwendig empfinde, um Verantwortung mir selbst und anderen gegenüber zu übernehmen. Ich finde das Tragen der Maske unangenehm, aber notwendig. Wenn ich jemanden sehe, der keine Maske trägt, ignoriere ich es meistens, außer es handelt sich um Geschäftspartner oder meinen Chef. Ich glaube, dass es wichtig ist, sich mit Schutzmaßnahmen wie Maske tragen, Abstand halten und Desinfektion zu schützen, um nicht nur sich selbst, sondern auch andere zu schützen.

Persönliche Freiheit sollte nicht über das Wohlergehen von vielen anderen Leuten gesetzt werden. Ich würde mich auf freiwilliger Basis gegen das Coronavirus impfen lassen, da ich aufgeschlossen bin gegenüber dem Konzept einer mRNA-Impfung und glaube, dass die Kontrollstrukturen funktionieren. Aber ich würde auch verstehen, wenn medizinisches Fachpersonal kritischer ist. Ich selbst sehe mich nicht als Risikopatient und würde anderen, die es brauchen, den Vortritt bei der Impfung lassen. Ich bin auch für eine verpflichtende Corona-Impfung, um die Herdenimmunität zu erreichen. Ich halte es mit der Wissenschaft und denke, dass eine Herdenimmunität notwendig ist, um effektiv gegen das Virus vorzugehen. Ich denke, dass man in diesem Fall persönliche Freiheit ein bisschen zurückstellen sollte, um unseren Lebensstandard und unsere Wirtschaft zu schützen. Ich befürworte eine verpflichtende Impfung für bestimmte Einrichtungen oder Aktivitäten, um die Verbreitung des Virus einzudämmen. Ich werde mich wahrscheinlich nicht gegen die Grippe impfen lassen, da ich ein gutes Immunsystem habe und aufgrund der Schutzmaßnahmen ein geringeres Risiko sehe. In Bezug auf den Ausbruch des Virus denke ich, dass es viele Theorien gibt, aber der Umgang mit der Situation und die Vorbereitung darauf wichtiger sind als die Ursache selbst. Ich denke, dass es zu Beginn der Pandemie gravierende Lücken gab, insbesondere bei den Flughafenkontrollen, die zu lasch waren. Es wurden nicht alle Leute zu einem Test verpflichtet, was notwendig gewesen wäre, um die

Ausbreitung des Virus einzudämmen. Systemrelevante Berufe sollten früher abgeprüft werden, um zu verhindern, dass symptomfreie, aber ansteckende Personen ihre Arbeit ausüben. Auch die Klinikberufe sollten besser durchgetestet werden, da es hier oft an Material und Kontrolle mangelt. Ich denke, dass die gesellschaftliche Seite der Pandemie auch untersucht werden sollte. Ich frage mich, wie die Informationen, die Sie in den Befragungen erhalten, ausgewertet werden und wo man die Ergebnisse verfolgen kann.

B1.2 HBM Value Evaluation Response

Based on the interviewee's responses, I would give them a compliance score of 85 out of 100 according to the Health Belief Model. Below is an analysis of their compliance using the various aspects of the model: Perceived Susceptibility: The interviewee seems to acknowledge the threat of the virus and the need to protect oneself and others. They understand the importance of personal protective measures and are willing to follow them. However, they don't see themselves as a high-risk individual. Perceived Severity: The interviewee recognizes the pandemic's consequences, including personal challenges in their profession and the impact on social relationships. They also mention the importance of herd immunity and protecting the economy and living standards. Perceived Benefits: The interviewee understands the benefits of protective measures such as wearing masks, maintaining distance, and using disinfectants. They support voluntary vaccination and even mandatory vaccination in specific situations to achieve herd immunity. Perceived Barriers: The interviewee finds wearing masks uncomfortable but necessary. They acknowledge the skepticism some medical professionals might have towards the vaccine but are personally open to the concept of mRNA vaccines and believe in the control structures. Cue to Action: The interviewee follows guidelines and uses sources like ZEIT, WHO, and RKI for information on the pandemic. They are cautious about trusting politicians due to possible ulterior motives. Self-Efficacy: The interviewee is proactive in protecting themselves and

others by wearing masks, maintaining distance, and reducing social contacts. They are willing to get vaccinated voluntarily and give priority to higher-risk individuals. The score of 85 reflects a high level of compliance with government measures, but not a perfect score because of their concerns about trusting politicians and the belief that they are not a high-risk individual. Overall, the interviewee demonstrates a solid understanding of the situation and the importance of following the recommended measures to protect themselves and others.

B2.1 Summarization Accuracy Prompt

Erstelle aus der folgenden Zusammenfassung fingierte Antworten der interviewten Person, die Antworten auf die folgenden Fragen darstellen indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten Perspektive. Stelle sicher, dass die Antworten die wichtigsten Punkte aus der Zusammenfassung in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...!' verwendest. Hier ist die Zusammenfassung: Ich hatte während der Pandemie persönliche Herausforderungen im privaten Bereich, da ich als Tanzlehrer tätig bin und meine Arbeit weggefallen ist. Das hat Auswirkungen auf meinen Freundeskreis und soziale Kontakte gehabt. Finanziell war es jedoch nicht so schwerwiegend. Ich suche meine Informationen hauptsächlich auf der Homepage der ZEIT und vertraue den Informationen, die sie bereitstellen. Wenn es um konkrete Bestimmungen geht, schaue ich auf die Homepage der Stadt oder Informationen, die dort ausgegeben werden. Die Pandemie konnte nicht gestoppt werden, aber eingegrenzt werden. Für mich waren die größten Herausforderungen in der Zeit der Pandemie der Verlust meines Nebenberufs als Tanzlehrer und die Einschränkung meiner sozialen Kontakte. Wenn ich nach Informationen zum Coronavirus suche, nutze ich hauptsächlich die Homepage der ZEIT. Ich vertraue den Informationen, die da sind, weil sie

aus verschiedenen Perspektiven betrachtet werden und auch kontrovers sind. Ich habe ein höheres Vertrauen in wissenschaftliche Akteure wie die WHO und das RKI als in Lokalpolitik oder Lokalredaktionen wie zum Beispiel eine Bildzeitung. Als Einzelakteure haben Angela Merkel und Jens Spahn mein Vertrauen teilweise, aber ich habe eine gewisse Hemmschwelle, Politikern zu vertrauen, da noch andere Interessen und Motive eine Rolle spielen können. Ich glaube, dass einige Politiker Maßnahmen ergreifen, um Wählerstimmen zu gewinnen, was ich nicht positiv finde. Und hier sind die Fragen, auf die du mit ihrer Hilfe aus Perspektive der person antworten sollst: I1: Perfekt. Dann würden wir loslegen mit der Frage: Wenn Sie zurückdenken, wie Sie in eigenen Worten zusammenfassen würden, was seit Beginn der Pandemie in Deutschland passiert ist? I1: <unk>. Sie haben ja auch als eine der größten Herausforderungen in den letzten Monaten angegeben, dass generell die Eindämmung der Pandemie ist, also als Herausforderung für das Gesundheitssystem, aber auch die Politik. Da würde es uns noch mal interessieren, was denn für Sie persönlich während der Zeit der Pandemie vielleicht eine, oder die größte Herausforderung gewesen ist? I1: Also, das es sowohl private Auswirkungen dann hatte in Bezug auf den Freundeskreis und die sozialen Kontakte, aber eben auch in dem Fall <unk> <unk> ökonomische oder finanzielle Auswirkungen? I1: Und wie haben Sie versucht damit, damit umzugehen? Haben Sie da bestimmte Strategien entwickelt, für sich <unk>, um mit solchen Herausforderungen in der Zeit gut umgehen zu können? I1: Okay. Und wenn Sie nach Informationen zum Coronavirus suchen, was sind da für Sie die wichtigsten Informationsquellen? Und warum sind die auch relevant für Sie persönlich? I1: Ja, und in Bezug auf DIE ZEIT, können Sie da bestimmte Aspekte angeben, weshalb Sie, ja, da so ein großes Vertrauen, ja, hineinsetzen. Ist es vor allem, wie gesagt, diese Routine, dass man einfach ja, also sich sowas dann auch einschleicht. Oder gibt es da noch andere Faktoren? I1: So, vor allem das nicht so einseitig, oder zumindest das Gefühl zu haben, dass nicht nur einseitig berichtet wird, sondern aus

verschiedenen Perspektive auch ein Thema betrachtet wird? I1: Okay. Und dann hatten wir ja auch <unk> gefragt, generell nach dem Vertrauen in die verschiedenen <unk> Akteurinnen und Akteure während der Pandemie. Da haben Sie ja generell ein sehr hohes <unk> Vertrauenslevel angegeben, vor allem auch für die, sag' ich mal, mehr wissenschaftlichen Akteure, also <unk> Drosten zum Beispiel, aber auch die WHO oder das Robert Koch-Institut, und auch das Bundesministerium für Gesundheit und die Landesregierung. Was sind da so die Gründe für das <unk> sehr hohe Vertrauensniveau? I1: Und jetzt als die zwei Einzelakteurinnen, -akteure, denen Sie teilweise vertrauen, haben Sie Angela Merkel und Jens Spahn angegeben. Was sind da die Gründe für das etwas niedrigere Vertrauen? I1: Also das, das Gefühl, dass dann <unk> im politischen Bereich noch andere Interessen <unk> und Motive eine Rolle spielen?

B2.2 Summarization Accuracy Response

I1: Seit Beginn der Pandemie in Deutschland konnte sie nicht gestoppt, aber eingegrenzt werden.

I1: Meine größte persönliche Herausforderung während der Pandemie war der Verlust meines Nebenberufs als Tanzlehrer und die Einschränkung meiner sozialen Kontakte.

I1: Genau, es hatte sowohl private Auswirkungen auf meinen Freundeskreis und soziale Kontakte als auch finanzielle Auswirkungen.

I1: Um mit diesen Herausforderungen umzugehen, habe ich versucht, mich auf andere Aspekte meines Lebens zu konzentrieren und meine Zeit sinnvoll zu nutzen.

I1: Die wichtigsten Informationsquellen für mich sind die Homepage der ZEIT und die Informationen, die von der Stadt ausgegeben werden. Sie sind relevant, weil sie aus verschiedenen Perspektiven betrachtet werden und auch kontrovers sind.

I1: Ich setze mein Vertrauen in DIE ZEIT, weil sie nicht nur einseitig berichtet, sondern aus verschiedenen Perspektiven ein Thema betrachtet.

I1: Ja, genau. Ich schätze es, dass sie nicht nur einseitig berichten, sondern aus verschiedenen Perspektiven ein Thema betrachten.

I1: Das hohe Vertrauensniveau in wissenschaftliche Akteure wie Drosten, WHO oder das Robert Koch-Institut beruht darauf, dass ich ihre Expertise schätze und glaube, dass sie fundierte Entscheidungen treffen.

I1: Bei Angela Merkel und Jens Spahn habe ich ein etwas niedrigeres Vertrauen, weil ich das Gefühl habe, dass im politischen Bereich noch andere Interessen und Motive eine Rolle spielen können.

B2.3 Fictional Compliance Summary Prompt

Okay, jetzt generiere bitte eine fiktive Zusammenfassung einer anderen person, mit einem compliance-wert von 55 aus Eigenperspektive der person, die auf dieselben Interviewfragen antwortet (also z.B. "Ich bin während meines Jobs...")

B2.4 Fictional Compliance Summary Response

Während der Pandemie hatte ich einige Schwierigkeiten in meinem persönlichen Leben, da ich im Einzelhandel arbeite und mein Geschäft zeitweise geschlossen werden musste. Dies hatte auch Einfluss auf meine sozialen Kontakte. Finanziell habe ich mich durch staatliche Unterstützung über Wasser gehalten. Meine Informationsquellen sind unterschiedlich, aber ich folge hauptsächlich sozialen Medien und Nachrichtenportalen. Ich bin jedoch skeptisch gegenüber einigen Informationen und glaube, dass man sie hinterfragen sollte. Die Pandemie hat mein Leben und meine Arbeit beeinflusst, aber ich sehe mich selbst nicht als besonders gefährdet. Ich befolge einige Schutzmaßnahmen wie das Tragen einer Maske und das Einhalten von Abstand, aber ich finde es manchmal schwierig, sie konsequent durchzuführen. Insbesondere bei privaten Treffen mit Freunden und Familie bin ich weniger vorsichtig, da ich mich bei ihnen sicher fühle. Ich vertraue einigen politischen Akteuren und wissenschaftlichen Organisationen wie der WHO und dem RKI, aber ich habe auch Bedenken

hinsichtlich der Motive einiger Politiker. Ich denke, dass einige der Maßnahmen übertrieben sind, und ich bin nicht immer bereit, sie vollständig umzusetzen. Ich schütze mich und andere durch das Tragen einer Maske in öffentlichen Verkehrsmitteln und Geschäften, aber ich finde es unangenehm und manchmal unnötig. Wenn ich jemanden sehe, der keine Maske trägt, stört es mich nicht besonders, da ich glaube, dass jeder selbst entscheiden sollte, welche Maßnahmen er ergreift. Ich verstehe die Notwendigkeit von Schutzmaßnahmen, aber ich finde, dass persönliche Freiheit auch wichtig ist. Ich bin unsicher, ob ich mich gegen das Coronavirus impfen lassen würde, da ich Bedenken hinsichtlich der Langzeitauswirkungen und der Schnelligkeit der Impfstoffentwicklung habe. Ich bin nicht grundsätzlich gegen Impfungen, aber ich bevorzuge es, abzuwarten und die Situation zu beobachten, bevor ich mich impfen lasse. In Bezug auf die Herdenimmunität denke ich, dass es wichtig ist, aber ich bin unsicher, ob eine verpflichtende Impfung der richtige Weg ist. Ich glaube, dass es besser wäre, die Menschen zu ermutigen und zu informieren, damit sie selbst entscheiden können. Bei Grippeimpfungen lasse ich mich normalerweise nicht impfen, da ich glaube, dass mein Immunsystem stark genug ist, um mich zu schützen. Zum Ausbruch des Virus gibt es viele Theorien, aber ich denke, dass der Fokus darauf liegen sollte, wie wir als Gesellschaft damit umgehen und uns an die neuen Gegebenheiten anpassen. Es gab sicherlich Lücken in der Reaktion auf die Pandemie, insbesondere in den frühen Phasen, aber ich denke, dass wir uns alle an die Situation anpassen und versuchen, unser Bestes zu geben.

B2.5 Fictional Response Compliance Prompt

Please provide a detailed analysis on the persons compliance to covid 19 government measures, judged with help of the health belief model and by the following summary of their interview responses. Provide me a numerical scaled value on a scale of 0 to 100, and share detailed your internal reasoning for your rating, elaborating on the several aspects of the health belief model : Während der Pandemie hatte ich einige Schwierigkeiten in meinem

persönlichen Leben, da ich im Einzelhandel arbeite und mein Geschäft zeitweise geschlossen werden musste. Dies hatte auch Einfluss auf meine sozialen Kontakte. Finanziell habe ich mich durch staatliche Unterstützung über Wasser gehalten. Meine Informationsquellen sind unterschiedlich, aber ich folge hauptsächlich sozialen Medien und Nachrichtenportalen. Ich bin jedoch skeptisch gegenüber einigen Informationen und glaube, dass man sie hinterfragen sollte. Die Pandemie hat mein Leben und meine Arbeit beeinflusst, aber ich sehe mich selbst nicht als besonders gefährdet. Ich befolge einige Schutzmaßnahmen wie das Tragen einer Maske und das Einhalten von Abstand, aber ich finde es manchmal schwierig, sie konsequent durchzuführen. Insbesondere bei privaten Treffen mit Freunden und Familie bin ich weniger vorsichtig, da ich mich bei ihnen sicher fühle. Ich vertraue einigen politischen Akteuren und wissenschaftlichen Organisationen wie der WHO und dem RKI, aber ich habe auch Bedenken hinsichtlich der Motive einiger Politiker. Ich denke, dass einige der Maßnahmen übertrieben sind, und ich bin nicht immer bereit, sie vollständig umzusetzen. Ich schütze mich und andere durch das Tragen einer Maske in öffentlichen Verkehrsmitteln und Geschäften, aber ich finde es unangenehm und manchmal unnötig. Wenn ich jemanden sehe, der keine Maske trägt, stört es mich nicht besonders, da ich glaube, dass jeder selbst entscheiden sollte, welche Maßnahmen er ergreift. Ich verstehe die Notwendigkeit von Schutzmaßnahmen, aber ich finde, dass persönliche Freiheit auch wichtig ist. Ich bin unsicher, ob ich mich gegen das Coronavirus impfen lassen würde, da ich Bedenken hinsichtlich der Langzeitauswirkungen und der Schnelligkeit der Impfstoffentwicklung habe. Ich bin nicht grundsätzlich gegen Impfungen, aber ich bevorzuge es, abzuwarten und die Situation zu beobachten, bevor ich mich impfen lasse. In Bezug auf die Herdenimmunität denke ich, dass es wichtig ist, aber ich bin unsicher, ob eine verpflichtende Impfung der richtige Weg ist. Ich glaube, dass es besser wäre, die Menschen zu ermutigen und zu informieren, damit sie selbst entscheiden können. Bei Grippeimpfungen lasse ich mich normalerweise nicht impfen, da ich glaube, dass mein

Immunsystem stark genug ist, um mich zu schützen. Zum Ausbruch des Virus gibt es viele Theorien, aber ich denke, dass der Fokus darauf liegen sollte, wie wir als Gesellschaft damit umgehen und uns an die neuen Gegebenheiten anpassen. Es gab sicherlich Lücken in der Reaktion auf die Pandemie, insbesondere in den frühen Phasen, aber ich denke, dass wir uns alle an die Situation anpassen und versuchen, unser Bestes zu geben.

B2.6 Fictional Response Compliance Response

Basierend auf den Antworten des Befragten würde ich ihnen gemäß dem Health Belief Model einen Compliance-Wert von 55 von 100 geben. Hier ist eine Analyse ihrer Compliance anhand der verschiedenen Aspekte des Modells: **Wahrgenommene Anfälligkeit:** Der Befragte sieht sich selbst nicht als besonders gefährdet, obwohl er die Auswirkungen der Pandemie auf sein Leben und seine Arbeit anerkennt. **Wahrgenommene Schwere:** Der Befragte ist sich der Schwierigkeiten in seinem persönlichen Leben und seiner Arbeit bewusst, erkennt jedoch nicht unbedingt die potenziellen schwerwiegenden Folgen für sich selbst oder andere. **Wahrgenommene Vorteile:** Der Befragte versteht die Notwendigkeit von Schutzmaßnahmen, ist jedoch der Meinung, dass persönliche Freiheit auch wichtig ist. Sie setzen einige Maßnahmen um, sind aber nicht immer bereit, sie vollständig zu befolgen. **Wahrgenommene Barrieren:** Der Befragte findet das Tragen einer Maske unangenehm und manchmal unnötig. Sie haben Bedenken hinsichtlich der Langzeitauswirkungen und der Schnelligkeit der Impfstoffentwicklung. **Auslöser zur Handlung:** Der Befragte verfolgt hauptsächlich soziale Medien und Nachrichtenportale für Informationen zur Pandemie, ist jedoch skeptisch gegenüber einigen Informationen und glaubt, dass man sie hinterfragen sollte. **Selbstwirksamkeit:** Der Befragte befolgt einige Schutzmaßnahmen, ist jedoch bei privaten Treffen mit Freunden und Familie weniger vorsichtig. Sie sind unsicher, ob sie sich gegen das Coronavirus impfen lassen würden, und bevorzugen es, abzuwarten und die Situation zu beobachten. Ein Compliance-Wert von 55 spiegelt eine gemischte Haltung des Befragten

gegenüber den von der Regierung empfohlenen Maßnahmen wider. Sie sind sich der Notwendigkeit von Schutzmaßnahmen bewusst und befolgen einige von ihnen, setzen jedoch nicht alle konsequent um und haben Bedenken hinsichtlich der Impfung. Insgesamt zeigt der Befragte ein gewisses Verständnis für die Situation, ist jedoch in seiner Umsetzung der empfohlenen Maßnahmen nicht vollständig engagiert.

Appendix C

Results

https://drive.google.com/drive/folders/1213UZZQsSiaI23_xlXX4As9qN0GCQexr?usp=share

link

Appendix D

Automatic Summarization Prompts

D1 Initial Summarization Prompt

Beginne deine Antwort mit '###STARTSUM###'. Erstelle eine fingierte Äußerung der interviewten Person, die eine Zusammenfassung ihrer Antworten aus dem folgenden Text darstellt, indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten Perspektive. Stelle sicher, dass die prägnante Zusammenfassung die wichtigsten Punkte ihrer Antworten in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...' verwendest. Achte außerdem darauf, dass die Zusammenfassung ein Fließtext ist. Beende deine Antwort mit '###ENDSUM###' Hier ist der Text zum Zusammenfassen:

D2 Compliance Evaluation Prompt

Ich werde dir einen Text geben. Bewerte die Compliance zu COVID-19 Regierungsmaßnahmen mit Hilfe des Health Belief Models (HBM) auf einer Skala von 0 bis 100 mit einer konkreten Zahl. Beziehe dich in deiner Bewertung auf die Hauptkonstrukte des HBM: Wahrgenommene Anfälligkeit, Wahrgenommene Schwere, Wahrgenommene Vorteile, Wahrgenommene Barrieren und Selbstwirksamkeit. Beginne deine Antwort mit '###STARTCOM###' + dem Compliance-Wert der Person + '###' in der ersten Zeile. Setze deine Antwort dann fort mit einer fingierten Äußerung der interviewten Person, die eine Zusammenfassung ihrer Antworten aus dem folgenden Text darstellt, indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten

Perspektive. Stelle sicher, dass die prägnante Zusammenfassung die wichtigsten Punkte ihrer Antworten in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...!' verwendest. Achte außerdem darauf dass die Zusammenfassung ein Fließtext ist. Beende deine Antwort in der letzten Zeile mit '####ENDCOM####' + dem Compliance-Wert der Person. + '####' Hier ist der Text zum Zusammenfassen:

D3 Group Summarization Prompt

Beginne deine Antwort mit '####STARTCOMSUM####'. Erstelle eine fingierte Äußerung der interviewten Person, die eine Zusammenfassung ihrer Antworten aus dem folgenden Text darstellt, indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten Perspektive. Stelle sicher, dass die prägnante Zusammenfassung die wichtigsten Punkte ihrer Antworten in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...!' verwendest. Achte außerdem darauf dass die Zusammenfassung ein Fließtext ist. Beende deine Antwort mit '####ENDCOMSUM####' Hier ist der Text zum Zusammenfassen:

D4 Narrative Extraction Prompt

Erstelle eine fingierte Äußerung der interviewten Person, die eine Zusammenfassung ihrer Antworten aus dem folgenden Text darstellt, indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten Perspektive. Stelle sicher, dass die Äußerung die wichtigsten Punkte ihrer Antworten in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...!' verwendest. Achte außerdem darauf, dass die Zusammenfassung ein Fließtext ist. Hier ist der Text zum Zusammenfassen:

D5 Dynamic Narrative Prompt

Ich werde dir im folgenden 3 Interviewzusammenfassungen von drei unterschiedlichen Zeitpunkten (T1: Dezember 2020, T2: April 2021, T3: September 2021) geben. Diese gehören zu interviews die während der Covid-Pandemie in Deutschland vorgenommen wurden. Ich möchte, dass du sie auf logisch stringente art und weise miteinander verbindest, um den Verlauf der Pandemie, innerhalb der persönlichen narrative der Interviewten abzubilden. Setze die Zusammenfassungen in relation zueinander und zum zeitlichen kontext, wobei zeitlich zuerst T1, dann T2 und dann T3 folgt, damit individuelle und kollektive Änderungen über zeit nachvollziehbar werden. Erstelle eine fingierte ausführliche Äußerung der interviewten Person, die eine bündige und nuancierte Vereinigung ihrer Antworten aus dem folgenden Text darstellt, indem du ausschließlich die Original-Worte und Sprachart der interviewten Person verwendest und direkt aus ihrer Perspektive sprichst, als ob du die Person selbst wärst. Achte darauf, den Sinn, den Inhalt und ihre Denkweise beizubehalten, und vermeide jegliche Formulierungen aus der dritten Perspektive. Stelle sicher, dass die Äußerung die wichtigsten Punkte ihrer Antworten in ihren eigenen Worten enthält, indem du 'Ich'-Aussagen wie 'Ich glaube, dass...' verwendest. Achte außerdem darauf, dass die Äußerung ein Fließtext ist. Antworte ausführlich und nuanciert. Hier sind die Texte:

Appendix E

Storyline Analysis Prompts

E1.1 Storyline Analysis Guide Prompt 1

I want you to turn into a narrative psychologist, that is a research assistant on a project on covid-19 government regulation compliance narratives. For this you should perform a storyline analysis on the narratives I provide you. I will now provide you with the instructions on how to do a storyline analysis. Please don't respond yet, but wait for the next message, where I will provide you with more information. Don't respond to it, just learn from it, how to perform a storyline analysis.

*Storyline Analysis Guide

Wait for me to provide you with more information and then learn this, and then finally just respond after I provide you with a narrative that you can perform the learned storyline analysis on.

E1.2 Storyline Analysis Guide Prompt 2

*Storyline Analysis Guide Step x

*Dynamic non-compliers narrative

E1.3 Storyline Analysis Guide Prompt 3

Perform Step 6 on the previous analysis with having in mind the research question: 'Which narratives do German citizens, differing in government compliance, use to make sense of the COVID-19 pandemic?'. Here is Step 6:

*Storyline Analysis Guide Step 6+7

E2 Storyline Analysis Example Prompts

Here is the initial text, you should modify:

*Version 1 storyline analysis draft Part

Please adapt the style, so it fits the following pattern (just change the structure, not the content of what is said):

*Storyline Analysis Guide Example Part

E3.1 Comparative Analysis Prompt 1

Here is a text on comparative analysis. Please learn from it how to do it.” + Storyline Analysis Comparative Analysis+ “Now that you know how to perform comparative analysis, please perform it on the following 2 narratives, I will hand them to you in the next message. Dont reply anything yet, except "OK". Wait for my next message and perform the comparative analysis on the narratives I will give you in the next message.

E3.2 Comparative Analysis Prompt 2

*Storyline Analyses

E3.3 Comparative Analysis Prompt 2

Okay now perform the comparative analysis in great detail and as a flowing text.

E4 Research Question Prompt

Now please answer the research question "Which narratives do German citizens, differing in government compliance, use to make sense of the COVID-19 pandemic?" short and concise with the information of this text:

*Comparative Analysis

Appendix F

Post-Evaluation

F1 Compliance Evaluations

https://drive.google.com/drive/folders/1RPOwhvLWyx5zLx3QHxU-TAdghrCTvyjz?usp=share_link

[TAdghrCTvyjz?usp=share_link](https://drive.google.com/drive/folders/1RPOwhvLWyx5zLx3QHxU-TAdghrCTvyjz?usp=share_link)

F2 Text Similarity Evaluation

Table F1

Similarity Matrix

Text 1	Text 2	Text 3	Text 4	Text 5	Text 6	Text 7	Text 8	Text 9	Text 10	Text 11	Text 12	Text 13	Text 14	Text 15	Text 16	Text 17	Text 18	Text 19	Text 20
0.667	0.631	0.645	0.648	0.314	0.648	0.313	0.649	0.588	0.123	0.509	0.603	0.646	0.550	0.518	0.642	0.649	0.529	0.641	0.615
0.631	0.667	0.640	0.642	0.310	0.642	0.308	0.644	0.581	0.131	0.515	0.599	0.639	0.535	0.507	0.629	0.642	0.527	0.632	0.611
0.645	0.640	0.667	0.659	0.327	0.661	0.324	0.661	0.600	0.119	0.521	0.616	0.659	0.556	0.525	0.648	0.660	0.543	0.652	0.628
0.648	0.642	0.659	0.667	0.329	0.663	0.326	0.663	0.600	0.124	0.518	0.618	0.660	0.548	0.524	0.651	0.662	0.544	0.652	0.629
0.314	0.310	0.327	0.329	0.667	0.332	0.660	0.331	0.500	0.115	0.187	0.496	0.329	0.214	0.195	0.319	0.331	0.575	0.323	0.477
0.648	0.642	0.661	0.663	0.332	0.667	0.328	0.664	0.602	0.119	0.518	0.620	0.662	0.547	0.526	0.651	0.665	0.547	0.655	0.632
0.313	0.305	0.324	0.326	0.660	0.328	0.667	0.329	0.499	0.131	0.179	0.493	0.326	0.211	0.196	0.315	0.327	0.571	0.321	0.470
0.649	0.644	0.661	0.665	0.331	0.664	0.329	0.667	0.604	0.128	0.517	0.620	0.662	0.547	0.527	0.652	0.664	0.548	0.655	0.631
0.588	0.581	0.600	0.600	0.500	0.602	0.499	0.604	0.667	0.106	0.465	0.554	0.602	0.488	0.475	0.591	0.603	0.637	0.593	0.652
0.123	0.131	0.119	0.124	0.115	0.119	0.131	0.128	0.106	0.667	0.079	0.124	0.120	0.063	0.056	0.129	0.116	0.127	0.114	0.115
0.509	0.515	0.521	0.518	0.187	0.518	0.179	0.517	0.465	0.079	0.667	0.469	0.508	0.457	0.436	0.510	0.516	0.402	0.508	0.488
0.603	0.599	0.616	0.618	0.496	0.620	0.493	0.620	0.654	0.124	0.469	0.667	0.618	0.503	0.483	0.607	0.620	0.640	0.610	0.662
0.646	0.639	0.659	0.660	0.329	0.662	0.326	0.662	0.602	0.120	0.508	0.618	0.667	0.548	0.529	0.647	0.662	0.545	0.653	0.629
0.550	0.535	0.556	0.548	0.214	0.547	0.211	0.547	0.488	0.063	0.457	0.503	0.548	0.467	0.488	0.546	0.544	0.417	0.543	0.515
0.518	0.507	0.525	0.524	0.195	0.526	0.196	0.527	0.475	0.056	0.436	0.483	0.529	0.488	0.467	0.514	0.520	0.405	0.515	0.495
0.642	0.629	0.648	0.651	0.319	0.652	0.315	0.652	0.591	0.129	0.510	0.607	0.647	0.546	0.514	0.667	0.651	0.535	0.647	0.620
0.649	0.642	0.660	0.662	0.331	0.665	0.327	0.664	0.603	0.116	0.516	0.620	0.662	0.544	0.520	0.651	0.667	0.548	0.655	0.632
0.529	0.527	0.543	0.544	0.575	0.547	0.571	0.548	0.637	0.127	0.402	0.640	0.545	0.417	0.405	0.535	0.548	0.667	0.537	0.632
0.641	0.632	0.652	0.652	0.323	0.655	0.321	0.655	0.593	0.114	0.508	0.610	0.653	0.543	0.515	0.647	0.655	0.537	0.667	0.624
0.615	0.611	0.628	0.629	0.477	0.632	0.470	0.631	0.652	0.115	0.488	0.662	0.629	0.515	0.495	0.620	0.632	0.632	0.624	0.667

Table F2

Significance values (p-values)

Text 1	Text 2	Text 3	Text 4	Text 5	Text 6	Text 7	Text 8	Text 9	Text 10	Text 11	Text 12	Text 13	Text 14	Text 15	Text 16	Text 17	Text 18	Text 19	Text 20
0.174	0.232	0.207	0.204	0.135	0.203	0.134	0.202	0.315	0.014	0.491	0.285	0.206	0.396	0.469	0.213	0.202	0.444	0.215	0.262
0.232	0.174	0.216	0.213	0.130	0.214	0.125	0.210	0.329	0.015	0.475	0.293	0.219	0.430	0.493	0.236	0.213	0.449	0.230	0.269
0.207	0.216	0.174	0.186	0.153	0.182	0.148	0.183	0.291	0.013	0.462	0.260	0.186	0.383	0.454	0.203	0.184	0.412	0.196	0.238
0.204	0.213	0.186	0.174	0.155	0.179	0.151	0.180	0.290	0.014	0.469	0.256	0.185	0.400	0.455	0.199	0.180	0.410	0.197	0.235
0.135	0.130	0.153	0.155	0.174	0.158	0.184	0.157	0.489	0.012	0.033	0.481	0.154	0.046	0.036	0.141	0.158	0.342	0.147	0.437
0.203	0.214	0.182	0.179	0.158	0.174	0.153	0.178	0.286	0.013	0.470	0.253	0.181	0.404	0.450	0.198	0.177	0.403	0.192	0.230
0.134	0.125	0.148	0.151	0.184	0.153	0.174	0.154	0.488	0.015	0.030	0.473	0.151	0.045	0.037	0.137	0.152	0.349	0.144	0.422
0.202	0.210	0.183	0.180	0.157	0.178	0.154	0.174	0.283	0.015	0.472	0.252	0.181	0.403	0.448	0.196	0.178	0.402	0.192	0.231
0.315	0.329	0.291	0.290	0.489	0.286	0.488	0.283	0.174	0.011	0.409	0.193	0.287	0.463	0.431	0.308	0.284	0.222	0.304	0.197
0.014	0.015	0.013	0.014	0.012	0.013	0.015	0.015	0.011	0.174	0.007	0.014	0.013	0.005	0.005	0.015	0.012	0.014	0.012	0.012
0.491	0.475	0.462	0.469	0.033	0.470	0.030	0.472	0.409	0.007	0.174	0.418	0.493	0.392	0.345	0.488	0.473	0.276	0.491	0.461
0.285	0.293	0.260	0.256	0.481	0.253	0.473	0.252	0.193	0.014	0.418	0.174	0.256	0.496	0.451	0.276	0.253	0.216	0.271	0.181
0.396	0.219	0.186	0.185	0.154	0.181	0.151	0.181	0.287	0.013	0.493	0.256	0.174	0.400	0.445	0.205	0.181	0.407	0.196	0.235
0.396	0.430	0.383	0.400	0.046	0.404	0.045	0.403	0.463	0.005	0.392	0.496	0.400	0.174	0.463	0.405	0.410	0.307	0.412	0.477
0.469	0.493	0.454	0.455	0.036	0.450	0.037	0.448	0.431	0.005	0.345	0.451	0.445	0.463	0.174	0.478	0.464	0.282	0.476	0.478
0.213	0.236	0.203	0.199	0.141	0.198	0.137	0.196	0.308	0.015	0.488	0.276	0.205	0.405	0.478	0.174	0.199	0.430	0.205	0.253
0.202	0.213	0.184	0.180	0.158	0.177	0.152	0.178	0.284	0.012	0.473	0.253	0.181	0.410	0.464	0.199	0.174	0.401	0.192	0.231
0.444	0.449	0.412	0.410	0.342	0.403	0.349	0.402	0.222	0.014	0.276	0.216	0.407	0.307	0.282	0.430	0.401	0.174	0.426	0.231
0.215	0.230	0.196	0.197	0.147	0.192	0.144	0.192	0.304	0.012	0.491	0.271	0.196	0.412	0.476	0.205	0.192	0.426	0.174	0.246
0.262	0.269	0.238	0.235	0.437	0.230	0.422	0.231	0.197	0.012	0.461	0.181	0.235	0.477	0.478	0.253	0.231	0.231	0.246	0.174

Table F3

Power values

Text 1	Text 2	Text 3	Text 4	Text 5	Text 6	Text 7	Text 8	Text 9	Text 10	Text 11	Text 12	Text 13	Text 14	Text 15	Text 16	Text 17	Text 18	Text 19	Text 20
0.826	0.768	0.793	0.796	0.865	0.797	0.866	0.798	0.685	0.986	0.509	0.715	0.794	0.604	0.531	0.787	0.798	0.556	0.785	0.738
0.768	0.826	0.784	0.787	0.870	0.786	0.875	0.790	0.671	0.985	0.525	0.707	0.781	0.570	0.507	0.764	0.787	0.551	0.770	0.731
0.793	0.784	0.826	0.814	0.847	0.818	0.852	0.817	0.709	0.987	0.538	0.740	0.814	0.617	0.546	0.797	0.816	0.588	0.804	0.762
0.796	0.787	0.814	0.826	0.845	0.821	0.849	0.820	0.710	0.986	0.531	0.744	0.815	0.600	0.545	0.801	0.820	0.590	0.803	0.765

0.865	0.870	0.847	0.845	0.826	0.842	0.816	0.843	0.511	0.988	0.967	0.519	0.846	0.954	0.964	0.859	0.842	0.658	0.853	0.563
0.797	0.786	0.818	0.821	0.842	0.826	0.847	0.822	0.714	0.987	0.530	0.747	0.819	0.596	0.550	0.802	0.823	0.597	0.808	0.770
0.866	0.875	0.852	0.849	0.816	0.847	0.826	0.846	0.512	0.985	0.970	0.527	0.849	0.955	0.963	0.863	0.848	0.651	0.856	0.578
0.798	0.790	0.817	0.820	0.843	0.822	0.846	0.826	0.717	0.985	0.528	0.748	0.819	0.597	0.552	0.804	0.822	0.598	0.808	0.769
0.685	0.671	0.709	0.710	0.511	0.714	0.512	0.717	0.826	0.989	0.591	0.807	0.713	0.537	0.569	0.692	0.716	0.778	0.696	0.803
0.986	0.985	0.987	0.986	0.988	0.987	0.985	0.985	0.989	0.826	0.993	0.986	0.987	0.995	0.995	0.985	0.988	0.986	0.988	0.988
0.509	0.525	0.538	0.531	0.967	0.530	0.970	0.528	0.591	0.993	0.826	0.582	0.507	0.608	0.655	0.512	0.527	0.724	0.509	0.539
0.715	0.707	0.740	0.744	0.519	0.747	0.527	0.748	0.807	0.986	0.582	0.826	0.744	0.504	0.549	0.724	0.747	0.784	0.729	0.819
0.794	0.781	0.814	0.815	0.846	0.819	0.849	0.819	0.713	0.987	0.507	0.744	0.826	0.600	0.555	0.795	0.819	0.592	0.804	0.765
0.604	0.570	0.617	0.600	0.954	0.596	0.955	0.597	0.537	0.995	0.608	0.504	0.600	0.826	0.537	0.595	0.590	0.693	0.588	0.523
0.531	0.507	0.546	0.545	0.964	0.550	0.963	0.552	0.569	0.995	0.655	0.549	0.555	0.537	0.826	0.522	0.536	0.718	0.524	0.522
0.787	0.764	0.797	0.801	0.859	0.802	0.863	0.804	0.692	0.985	0.512	0.724	0.795	0.595	0.522	0.826	0.801	0.570	0.795	0.747
0.798	0.787	0.816	0.820	0.842	0.823	0.848	0.822	0.716	0.988	0.527	0.747	0.819	0.590	0.536	0.801	0.826	0.599	0.808	0.769
0.556	0.551	0.588	0.590	0.658	0.597	0.651	0.598	0.778	0.986	0.724	0.784	0.593	0.693	0.718	0.570	0.599	0.826	0.574	0.769
0.785	0.770	0.804	0.803	0.853	0.808	0.856	0.808	0.696	0.988	0.509	0.729	0.804	0.588	0.524	0.795	0.808	0.574	0.826	0.754
0.738	0.731	0.762	0.765	0.563	0.770	0.578	0.769	0.803	0.988	0.539	0.819	0.765	0.523	0.522	0.747	0.769	0.769	0.754	0.826

F3 Similarity Evaluation Prompt

Basierend auf Sprachgebrauch, stammen die folgenden Beiträge von derselben Person, oder von unterschiedlichen Personen? Bitte gib eine Wahrscheinlichkeitseinschätzung in Prozent ab und begründe wie du zu deinem Schluss kommst:

F4.1 Similarity Evaluation Response 1

Es ist schwierig, mit absoluter Sicherheit zu sagen, ob alle Beiträge von derselben Person stammen oder von unterschiedlichen Personen. Dennoch kann ich eine Wahrscheinlichkeitseinschätzung abgeben, basierend auf den Texten und deren Inhalten. Ich schätze die Wahrscheinlichkeit, dass die Beiträge von derselben Person stammen, auf etwa 80%. Hier sind meine Gründe: 1. Alle Beiträge enthalten ähnliche Meinungen über die COVID-19-Impfung, Impfgerechtigkeit und Impfpflicht. Sie sprechen auch alle positiv über den BioNTech-Impfstoff. 2. In den meisten Beiträgen werden die Natur und die Familie als wichtige Quellen der Kraft während der Pandemie erwähnt. 3. Die Beiträge verwenden teilweise ähnliche Formulierungen und Ausdrucksweisen, was darauf hindeutet, dass sie möglicherweise von derselben Person verfasst wurden. Allerdings gibt es auch Unterschiede in den Beiträgen, die darauf hindeuten könnten, dass sie von unterschiedlichen Personen stammen: 1. Die Beiträge variieren in der Struktur und der Länge der Absätze. 2. Einige Beiträge gehen mehr auf berufliche Aspekte ein, während andere stärker auf persönliche Erfahrungen und Einstellungen fokussieren. Insgesamt überwiegen die Ähnlichkeiten in den Meinungen und Ausdrucksweisen, sodass ich die Wahrscheinlichkeit, dass die Beiträge von derselben Person stammen, auf etwa 80% schätze.

F4.2 Similarity Evaluation Response 2

Es gibt eine gewisse Wahrscheinlichkeit, dass diese Beiträge von der gleichen Person stammen. Ich schätze diese Wahrscheinlichkeit auf etwa 85%. Hier sind die Gründe für meine Einschätzung: 1. Die Texte behandeln ähnliche Themen und wiederholen bestimmte Punkte. Beispielsweise sprechen sie alle über die Impfung, die Wirkung der Pandemie auf das berufliche Leben und die Bedeutung der Natur. 2. Die Autoren äußern in allen Beiträgen ähnliche Meinungen. Sie sind alle für die Impfung, befürworten eine Impfpflicht für bestimmte Berufe und Maßnahmen gegen Ungeimpfte, wie kostenpflichtige Tests. 3. In vielen Sätzen gibt es ähnliche Formulierungen und Textstrukturen, die darauf hindeuten könnten, dass sie vom gleichen Autor verfasst wurden. Es gibt jedoch einige Unterschiede in der Wortwahl und im Schreibstil, die darauf hindeuten könnten, dass sie von verschiedenen Personen stammen. Insgesamt halte ich es jedoch für wahrscheinlicher, dass sie von der gleichen Person geschrieben wurden, da die Übereinstimmungen inhaltlich und stilistisch überwiegen.

F4.3 Similarity Evaluation Response 3

Es ist wahrscheinlich, dass die Texte von der gleichen Person stammen. Ich schätze die Wahrscheinlichkeit auf etwa 90%. Meine Begründung basiert auf mehreren Faktoren: 1. Alle Texte haben eine ähnliche Struktur und behandeln ähnliche Themen wie Impfungen, BioNTech, Impfpflicht, Maßnahmen für Ungeimpfte und die Auswirkungen der Pandemie auf das persönliche Leben. 2. Die Texte äußern eine konsistente Meinung und Einstellung zur Impfung, insbesondere zu BioNTech als bevorzugtem Impfstoff. 3. Die Schreibstile der Texte sind ähnlich, mit ähnlichen Satzstrukturen und Formulierungen. Insgesamt gibt es genug Ähnlichkeiten in den Themen, Meinungen und Schreibstilen der Texte, um anzunehmen, dass sie von derselben Person stammen.

F4.4 Similarity Evaluation Response 4

Es ist wahrscheinlich, dass die Beiträge von derselben Person stammen. Ich schätze die Wahrscheinlichkeit auf etwa 85%. Die Begründung für diese Einschätzung basiert auf der Analyse von Sprachgebrauch, Stil und den wiederkehrenden Themen in den Beiträgen. Einige der gemeinsamen Elemente in den Beiträgen sind: 1. Erwähnung der steigenden Impfquote in Deutschland und der Delta-Variante. 2. Die Herausforderungen in Bezug auf das Berufsleben während der Pandemie. 3. Die Bedeutung von Familie und Natur als Kraftquellen. 4. Die Nutzung der Tagesschau-App und anderer Quellen zur Information über das Coronavirus. 5. Befürwortung der Impfpflicht für bestimmte Berufe und Maßnahmen wie kostenpflichtige Tests für Ungeimpfte. 6. Die Forderung nach mehr Impfgerechtigkeit weltweit und die Rolle der Politik dabei. 7. Die Annahme, dass die Pandemie nicht vor April oder Mai nächsten Jahres enden wird. Die Beiträge haben zwar unterschiedliche Längen und Detailgrade, aber die thematische Kohärenz und der ähnliche Schreibstil deuten darauf hin, dass sie von derselben Person stammen könnten.

F4.5 Similarity Evaluation Response 5

Es ist wahrscheinlich, dass die Texte von derselben Person verfasst wurden. Ich würde eine Wahrscheinlichkeit von etwa 85% angeben. Die Begründung für diese Einschätzung basiert auf den folgenden Gemeinsamkeiten und Übereinstimmungen: 1. Ähnliche Meinungen und Standpunkte: Alle Texte äußern positive Meinungen zur Impfung und befürworten Impfpflicht für bestimmte Berufe sowie kostenpflichtige Tests für Ungeimpfte. 2. Gemeinsame Themen: In den Texten werden ähnliche Themen angesprochen, wie z.B. die Bedeutung von Natur und Familie als Kraftquellen, die Auswirkungen der Pandemie auf das persönliche Leben und die Rolle der Politik. 3. Schreibstil: Der Schreibstil der Texte ist konsistent, was auf eine einzelne Person als Autorin hindeutet. Trotz dieser Übereinstimmungen gibt es einige Unterschiede in den Details, aber diese könnten auf

verschiedene Aspekte oder Perspektiven zurückzuführen sein, die der Autor in verschiedenen Kommentaren hervorheben möchte.

Appendix G*Individual Compliance Scores over time*

Participant Number	T1	T2	T3
1	80	80	80
2	60	70	60
4	75	75	75
5	70	65	60
6	70	80	90
7	70	65	70
8	20	40	20
9	70	60	50
10	70	70	70
11	80	70	70
12	75	60	65
13	75	70	70
14	50	40	70
15	50	30	35
16	85	85	75
17	75	70	60
18	90	80	85
19	70	50	70
20	80	72	65
21	80	50	20
22	30	60	80
23	65	70	40
25	70	80	60

26	75	35	75
27	80	80	65
28	75	80	70
29	75	60	80
30	85	75	80
31	70	80	85
32	70	80	85
33	70	65	70
34	75	80	85
35	85	80	70
36	30	75	10
37	65	80	20
38	60	65	60
39	75	70	70
40	70	75	70
