

We Wonder If They Mind

An Empirical Inquiry into the Narratological Function of Mind-Wandering in Readers of Literary Texts

The study investigates the content and triggers of mind-wandering (MW) in readers of fictional texts. It asks whether readers' MW is productive (text-related) or unproductive (text-unrelated). Methodologically, it bridges the gap between narratological and data-driven approaches by utilising a sentence-by-sentence, self-paced reading paradigm combined with thought probes in the reading of an excerpt of A. L. Kennedy's "Baby Blue". Results show that the contents of MW can be linked to text properties. We validated the role of self-reference in MW and found prediction errors to be triggers of MW. Results also indicate that the content of MW often travels along the lines of the text at hand and can thus be viewed as productive and integral to interpretation.

1. Introduction

Mind-wandering (MW) denotes the perceptual decoupling of internal thoughts and the external environment that occurs when our thoughts drift away from the task we are engaged in (Smallwood et al. 2008). It is commonly perceived as an unproductive or even pathological phenomenon that characterises a state of inattentiveness to the task at hand. However, this proves difficult in the case of reading literary fiction, where a simple semantic understanding of words and sentences does not suffice.

The aim of this study is to discern the possible functions of MW when reading fictional texts to differentiate between productive and unproductive MW with regard to the task at hand. Methodologically, we bridge the gap between narratological and data-driven approaches: Informed by narratological inquiry, this article attempts to establish an empirical understanding of MW as a productive phenomenon of interpretation and to gain insight into whether the narrative design of a text invites readers to engage in MW.

It is frequently claimed that lack of attention is the source of MW. Attention can be viewed as a spotlight directing the mental resources of consciousness at a certain task under the influence of the 'executive network' primarily located around the frontal region of the brain (Raichle 2015; Rossi et al. 2009). MW is suggested to be situated on a continuum with attention and therefore viewed as a 'failure' to maintain the spotlight on the task at hand (Sullivan / Davis 2020; Smallwood 2015). Since paying attention to an attention-demanding task increases task performance, MW is associated with several negative effects on the

task at hand (Smallwood et al. 2007). This is usually posited to impair the understanding of the content read (Schooler et al. 2004).

The current literature would consider MW to occur if the task was to read a text and the readers would relate this text to their own lives thus “unproductively” diverging from the task at hand (Mills et al. 2018; Smallwood / Schooler 2006). However, such an understanding leaves two questions open: First, what is the aim of the thoughts in relation to the task? Secondly, what triggers them? Both questions remain largely unaddressed in research but are relevant to understand if MW is productive or unproductive regarding the task.

Some scholars argue that frequent MW negatively influences well-being by negative rumination (Killingsworth / Gilbert 2010). However, more recently it is argued that MW has positive effects on creativity (Baird et al. 2012) and innovativeness (Zedelius / Schooler 2015) as well as self-knowledge (Smallwood et al. 2011). Especially MW about the future has been suggested as a positive link between the current and the future identity (Baird et al. 2011).

The self-referential role of MW is underpinned by its neurophysiological connection to the ‘default network of brain activation’ (Raichle et al. 2001). This network is most active when people are resting and is suggested to be connected to regeneration, memory processing, future planning and the navigation of social interactions. It comprises several subcortical areas and its activation is especially related to thought that is unconstrained by the current environment (Buckner / Vincent 2007), occurring in tasks that are easy or are well practised (Mason et al. 2007).

It becomes clear that there are two streams in thinking about MW: On the one hand, it is characterised by inattentiveness, obstructing the performance of a given task and possibly having pathological consequences (Killingsworth / Gilbert 2010; Schachter 2002). On the other hand, it may have productive functions, aiding interpretation of the task contents (especially in reading) and possibly playing a role in identity construction. It remains open which stream predominates MW in reading fictional literature and what factors determine the onset of MW.

Some contemporary studies make first steps towards investigating factors influencing MW, such as identification with content and topic (Soemer / Schiefele 2019), textual difficulty (Mills et al. 2017; Kahmann et al. 2021; Soemer / Schiefele 2019), understanding (Feng et al. 2013), cognitive involvement and the participant’s general mental state (Smallwood et al. 2009). However, it is unclear what textual triggers offset this decoupling and what effects this has on the reader and the task, that is, whether the MW is either productive or unproductive.

The only study we found analysing triggers and contents of MW is an investigation by Faber and D’Mello (2018). Categorising their findings into autobiographical memories, semantic memories, fantasies, prospection, task-related interferences, thoughts about the stimulus itself, environmental distractions and introspection, they found that ca. 50 % of participants reported the stimulus being the trigger to their MW and that MW about memories was more likely to

be semantically linked to the reported triggers than those that were prospective or introspective. However, the structure of the stimulus material itself was not analysed as well as MW containing thoughts about the stimulus itself which does not afford a deeper understanding of the relation between possible structural triggers and MW.

Some theoretical approaches investigate text-related MW specifically. Kuzničová and Bálint (2019) explore the implications of *personal relevance* of texts to individual readers, which can lead to MW or rather a specific form of MW, so-called “reminders” (ibid., 433). Fabry and Kukkonen (2019, 7) suggest *enculturated predictive processing* to account for “the specifics of the text, on the one hand, and [...] the skills and capacities of the reader on the other hand” as theoretical framework for reading comprehension. The comprehension of a text via interpretation is suggested to be achieved through enculturation realised through predictive processing. Predictive processing denotes the minimization of prediction errors through hierarchical generative models that process the discrepancy between top-down predictions and bottom-up signals. In reading, there are two ways to minimise prediction errors: “*palpable* epistemic active inference (e.g. eye movements) and *virtual* epistemic active inference (e.g. the generation of virtual scenarios)” (ibid., 8).

The idea is that divergences (i.e. MW) like this from a text enable the productive engagement with a text and are thus an indissociable part of the reading experience (Jacobs and Willems 2018). This is supporting the central aim of this paper to investigate the *purpose* of MW in readers of fictional texts – in specific, we distinguish three forms of MW, text-specific thoughts, concerned with the text itself on the level of plot or style, text-inspired thoughts, that stray further away from the text, but are still relatable to it, such as reflections on themes mentioned in the text or positioning oneself to the text via reminders, and thoughts not related to the text. In the first two cases we consider MW as productive, helping the reader orient in and with the text, in the third case as unproductive, distracting the reader from the task. Additionally, we are interested in the textual triggers eliciting these different types of MW.

2. The Current Study

Investigating the relationship of MW and the reading of fictional texts, our study sets out to investigate the relationship of textual triggers to productive (text-related) and unproductive (text-unrelated) MW. It links quantitative measurements while and after reading with participants’ reports on the content of their journeys. We employ a sentence-by-sentence self-paced reading paradigm in combination with thought probes. This mode of reading is indicated to not impair comprehension, recall or narrative transportation in comparison to normal page reading (Chung-Fat-Yim et al. 2016) and enables the collection of reading time data, which has been linked to the phenomenon of MW (Mills et al. 2017;

Feng et al. 2013). In combination with probing, this also allows establishing a precise link of MW to the text. In probing, readers are interrupted and asked whether MW has occurred prior to the interruption (Mills et al. 2017; Feng et al. 2013; Kahmann et al. 2021; Smallwood et al. 2008; Soemer / Schiefele 2019), which has been shown not to impair reading flow or MW frequency (Wiemers / Redick 2019). Additionally, we will control for frequently described mediating factors influencing the magnitude of MW (Thissen et al. 2020): identification with the text's content (Soemer / Schiefele 2019), the understanding of the text (Feng et al. 2013) and cognitive involvement (Smallwood et al. 2009). To achieve this, we will administer a post-experiment questionnaire comprising of the Realitäts-Fiktions-Unterscheidung(en) scale (PRFU; Schreier et al. 1999), the MW Questionnaire (MWQ; e.g. Mrazek et al. 2013; Trigueros et al. 2019) and the Mind Excessively Wandering Scale in its German Version (MEWSG; e.g. Mowlem et al. 2019a).

We hypothesise that stylistic and semantic properties of fictional texts amplify participants' MW behaviour (H1). More specifically: properties that align with the probability design of a text and can lead to prediction errors or precision shifts. In this regard, we focus on the withholding and revelation of information, revealing alternative scenarios, foreshadowing, focalisation, embodiment and MW in characters (Kukkonen 2020; Kukkonen 2019; Fabry / Kukkonen 2019). Additionally, we expect components of the text that are of personal relevance to the reader (Kuzmičová / Bálint 2019) to have an effect on MW. Furthermore, we expect probing to have no influence on participants' MW (H2) but instead hypothesise the magnitude of MW to be mediated by participants' ability to engage with the text as measured by the PRFU scale (H3).

The stimulus text is an excerpt of A. L. Kennedys short story "Baby Blue" (2020, 69–77) translated into German by Ingo Herzke, in which we identified twelve key passages (P) that might trigger MW in readers.¹

2.1 Prediction Errors

The text is characterised by the withholding of information, culminating in the revelation of the story's setting as a sex shop. It is hypothesised that the prediction error caused by this revelation in P5: "I was somewhere like a very big grocer's – **For yourself?** – a supermarket – times change and why be furtive, I suppose – a supermarket full of sex" (Kennedy 2015, 24) might lead to MW.

We also identified a passage clearly foreshadowing this revelation as trigger point, P4: "The gist of this was there in my head at the time – ideas being held – and there were other matters present, too, forming contours underneath the thinking, like knees underneath a bedspread. The knees have implications, but you don't have to deal with them, or not at once" (ibid.). The picture painted by this embodied representation of the protagonist's thinking expresses the act of

realisation of the environment she is in and hints at its nature as ‘bedroom related’ which is a clear change of the scenery we were previously presented with. Before that, the only information about the setting is that the shop assistant’s behaviour reminds the protagonist of either a dental hygienist or an expensive hairdresser (ibid.).

Furthermore, the reader’s predictions are constantly challenged by alternative scenarios. Consequently, we set a probing point on the third time an alternative scenario is opened up, P2: “If I’d been, I’ll suggest this again, some other person with other likes and dislikes and not myself, then what was, in this case, unique for me might have been an already long established and fond habit and no sweat” (ibid., 23). We expect that the repetition of this device, continuously hinting on an upcoming conflict but stalling its revelation, might lead to frustration and estrangement, resulting in stronger engagement into creating hypotheses about the story’s development than the actual act of reading.

2.2 Precision Shifts

Focalisation. The text’s character-narrator recollects the events from hindsight. The reader, therefore, is not directly experiencing the events as they unfold. Even though the reader is not directly addressed, attention is drawn to the very act of narration by meta-narrative comments: “So the proper preamble to my story is a blur of avoided purchasing and raised spirits” (ibid.)² as well as comments re-evaluating its veracity: “But I was neither in an alien country, nor suffering unusual conditions. That rubbish isn’t true” (ibid., 21).³ These comments are marked by a temporal shift to the present tense, as are the protagonist’s MW episodes, which enhances the effect of entanglement between the protagonist’s and the narrating voice.

We hypothesise that the disorientation between narration and plot increases the cognitive load, which could lead to MW. This is tested on three trigger passages: Firstly, P1: “I do wander. In my thinking” (ibid., 22), which in the German translation with “abschweifen” could first be interpreted as a comment on the narration. But with the following sentence this interpretation shifts into a comment on a MW episode directly before the passage, describing either the mental state of the narrator or the protagonist. Secondly, P11: “Except that they were more strangers intruding and I am tired of that. I am so tired. Contributing factor” (ibid., 30). The anecdote about the protagonist’s visit to the sex shop comes to an end and the narrator merges with her past protagonist self, marked by a last temporal shift and the slightly altered repetition of a phrase at the opening of the scene: “I was tired. Contributing factor” (ibid., 22).⁴ And thirdly, P10: “And anger is always the second emotion, something else having always been there first. I wish I’d never learned that. Fear and pain being the most usual precursors. I would rather not notice the signals that prove I’ve been hurt or frightened” (ibid., 29). This passage could be interpreted as a MW episode of the

protagonist, but with the temporal shift within the last sentence reveals itself as MW of the narrator, commenting on her past feelings.

Embodiment. The stimulus text is infused with references to and triggers of bodily sensations. First, there is the scenery of a sex shop, evoking a sense of sensuality. Further, the imagery the protagonist uses to express her thoughts is deeply sensual, as in “Lip gloss makes me feel constricted” (ibid., 24).⁵ Interestingly, there is a vast discrepancy between the way the protagonist perceives sexuality as presented in the sex shop, described as “wild attempts at satisfaction” (ibid., 27)⁶ and the way she defines it: “Even in the rush [...] of the moment, it’s only [...] tenderness” (ibid., 28)⁷ which is underlined by the markedly non-sexual imagery she uses to describe her impressions of the shop’s products: “[O]bjects that weren’t coat hooks, that wouldn’t enable arthritic hands to open jars” (ibid., 27).⁸ Overall, the protagonist, absorbed into her inner self, struggles with interacting with the outside world and its expectations. She is unable to communicate her discomfort and disinterest in a sales conversation to the shop assistant up to the point of unwillingly buying something to flee the situation. So, she chooses the most passive ways to overcome the expectations of the outside world this conversation evokes. One strategy is the bodily reaction of smiling, P7: “I attempted a smile that intended to seem well informed and relaxed. The assistant wore a name badge which called her Mandy, although I couldn’t accept that as likely. I adjusted my smile, broadened its dimensions” (ibid., 25). This passage directly follows a MW episode, stalling a reaction to the shop assistant’s question, and was chosen as a probing point, as we hypothesise that this shift from concrete intention and perception back into the diffuse might pull readers back into MW.

The second passage we probed in this regard is P12:

Which is why this preposterous shop – this preposterous story about this preposterous shop, preposterous strangers – it’s why I hold them tight. I hold them until I sweat with holding and I can have faith there is something in my arms, against my arms. I hold until I have confidence again in the truth of sweet and voluntary touch. (Ibid., 31)

In the German version this does not only repeat the motive of “Klammern” that has already been used prominently in the protagonist’s MW about love: “And you cling to whoever has robbed you and they cling back” (ibid., 27)⁹ but shifts from the known metaphorical usage of “sich an etwas klammern” and “an etwas festhalten” as an expression for holding on to abstract things like an idea to the physical action. This is achieved by explicitly describing the result of her holding on to the story with concrete embodied images like sweating and feeling something in her arms.

Second Order MW. The text is dominated by the inner monologue of the protagonist. She frequently loses herself in thoughts, ranging from theorising about the social implications of the world surrounding her up to deep rumination expressing her inability to communicate with the outside world. We assume that this behaviour might be mirrored by the readers: the protagonist’s MW may

lead them away from the story and provoke digressions in thought, from which the readers might not return instantly.

We picked four MW passages for probing. The first one, P3, is the scene after the protagonist is approached by the shop assistant. Instead of answering her question the protagonist's mind wanders off from thoughts about the shop assistant's appearance to a reflection on make-up (*ibid.*, 24). The second one, P6, is a passage of deep rumination, caused by the shop assistant's question: **“For yourself?”** (*Ibid.*, 25)¹⁰ Again, instead of an answer, what follows is a series of rhetorical questions about for whom and why the protagonist would buy an artificial vagina. The next MW episode, P8, is initiated by the protagonist wondering about the shop assistant's ability to assess her personality, resulting in thoughts about love (*ibid.*, 27). Finally, we probed passage P9, in which the protagonist, starting from expressing her indignation about chocolate-flavoured condoms, digresses into thoughts about the nature of sexuality itself (*ibid.*, 28).

We thus tested passages which on the level of plot revise the prediction of readers (P2, P4, P5), that might lead to precision shifts through the style of the text, namely focalisation (P1, P10, P11) and embodiment (P7, P12), as well as ones in which the protagonist engages in MW (P3, P6, P8, P9).

3. Methods

3.1 Participants

113 participants took part in the study, 43 were excluded due to unrealistic reading times (RT). We included participants with a total RT from 350 to 1600 seconds, which corresponds to 450/100 words per minute. Among the 70 remaining, 51 identified as female, 19 as male. The mean age was 28 years (SD = 9.06), the oldest being 66, the youngest 18 years. 10 participants indicated to be professional readers, e.g. students of literature. Participants were asked to categorise their leisurely reading habits when reading fictional narratives: regular readers (17), irregular readers (24), sporadic readers (23), I read seldomly (6). Participants were assigned to one of 7 groups by order of participation (A: 10, B: 13, C: 7, D: 12, E: 11, F: 5, G: 12), meaning that if one person started the survey, the next person clicking the link would automatically be assigned to the next group. 82 test persons were recruited using the online survey-sharing platform PollPool, 31 via social media. All participants were informed about the usage of their collected data and consented to take part.

3.2 Design

The study was designed and conducted using the *pcIbex* experiment farm (Zehr / Schwarz 2018), which enables the presentation of the stimulus using a

sentence by sentence self-paced-reading paradigm. First, sentences on a page were represented by lines, which changed to text if participants pressed the spacebar. If progressed, the previous sentence vanished. The stimulus text was ca. 2650 words long, original highlights and paragraphs were retained. RTs were measured for every sentence.

During probing, we asked participants whether they were MW in the moment of interruption and if yes, to state how far away from the text they felt on a 5-point Likert Scale: “I was still fully aware of what I read.” to: “I was fully in thought, no longer aware of the text.” After that they were asked to assign their thoughts to either text-specific, text-inspired or text-unrelated MW and to briefly describe what they were thinking in open text. While group A was not probed (control), the other groups were probed on four trigger-passages: B – P1, P4, P7, P10; C – P2, P5, P8, P11; D – P3, P6, P9, P12; E – P1, P8, P10, P12; F – P2, P4, P6, P11; G – P3, P5, P7, P9. This was used to balance possible dependency effects between the passages as well as ensuring an adequate distance between probes. To account for a possible delay in the onset of MW, particularly with very short trigger passages, probing was done one sentence after the targeted passage. Longer trigger points such as MW episodes were probed directly before they ended.

3.3 Procedure

After the consent and demographics form, participants were informed about how to operate the experimental set-up and introduced to a practice trial, in which they read an excerpt from the same story (but not passage) as the stimulus text. While the control group (A) only received information about self-paced reading, the other groups got a short explanation of MW, and the process of probing, including how to categorise the content of their MW. Probing was also part of their practice trial. Between the practice trial and the reading of the stimulus text, participants were informed about the beginning of the experiment. After reading, participants had to fill out four questionnaires: PRFU (Schreier et al. 1999), MWQ (e.g. Mrazek et al. 2013; Trigueros et al. 2019), MEWSG (e.g. Mowlem et al. 2019a) and 2 subscales of the Big 5 personality test (neuroticism and openness). The order of appearance of the first three was randomised as well as the items of each scale. Rating was done on a 5-point Likert Scale.

4. Results¹¹

The normal distribution of the values as prerequisite for the t-tests and ANOVA was determined using the Shapiro-Wilk normality test. The symmetry of distributions for the Mann-Whitney-U-Test (MWU) was calculated by Kolmogorof-

Smirnov-Tests. The threshold for the assumption of normality / symmetry was a p-value above 0.05.

4.1 Probing

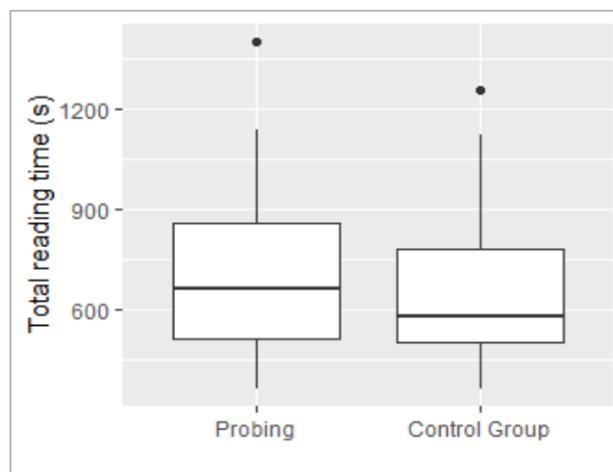


Fig. 1: Total RT in seconds in the control group and the experimental group

There was no statistically significant difference in overall RT between the groups that were interrupted during reading and the control group, $p=0.657$ (MWU). A t-test also showed no difference in ease of understanding, $p=0.554$, as well as attention, $p=0.588$, and liking, $p=0.215$, as tested using the PRFU scale. Probing and the accompanying explanation concerning MW showed no influence on the self-assessment in the MWQ, $p=0.455$ (t-test), or MEWSG, $p=0.298$ (MWU).

4.2 Reading Habit

We found no significant difference in RT between participants which stated being professional readers and those who did not, $p=0.36$ (MWU). Professionalism in reading had no effects on the number of times probing yielded a response indicating MW, $p=0.189$, the level of focus during probing, $p=0.213$, or the types of thoughts they had during reading, $p=0.505$, as indicated by a Fisher's Exact Test for Count Data (Fisher). Professionalism also showed no significant effect on the overall MW behaviour as measured by the MWQ, $p=0.296$, or the MEWSG, $p=0.248$ (t-test), or attention as measured by the PRFU, $p=0.417$ (MWU). However, the perceived easiness of understanding as measured by the PRFU, differed significantly between the two groups. In fact, the non-professional group seems to have experienced significantly better understanding than the professional group, $p=0.005$ (t-test).

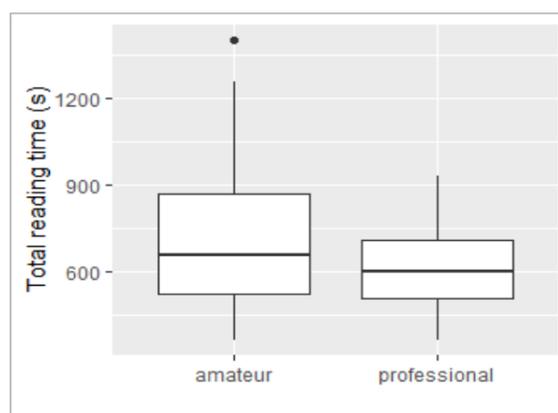


Fig. 2: Total RT of professionals and non-professionals

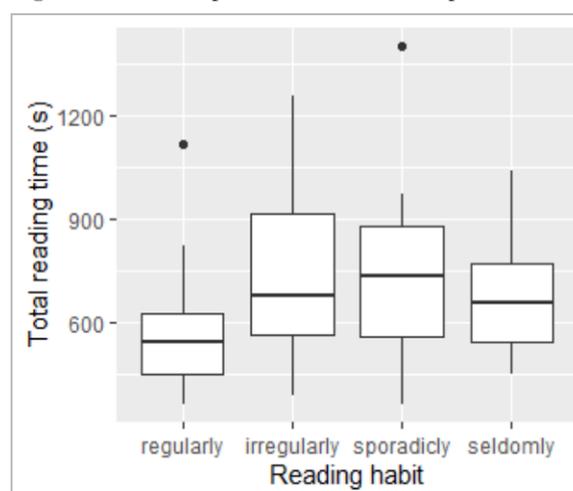


Fig. 3: Total RT by reading habit

There was no significant difference between the self-assessed reading habits of the participants regarding total RT, $p=0.175$, as calculated with a Kruskal-Wallis-Test (KWT). The groups also did not significantly differ with regard to the number of times the participants reported themselves MW, $p=0.528$, the types of MW that were reported, $p=0.481$, or the level of focus during MW, $p=0.893$ (Fisher). An ANOVA did not indicate a significant difference between the groups concerning their overall MW behaviour as measured by the MWQ, $F(3,66) = 1.315$, $p=0.277$. There was also no difference in MEWSG, $p=0.934$, or attention as measured by the PRFU, $p=0.722$ (KWT) and perceived easiness, $F(3,66) = 2.485$, $p=0.068$ (ANOVA).

4.3 MW Prediction

We used linear regressions to investigate whether the observed MW behaviour can be predicted by our other measures. First, we examined the MW scale results. While the MEWSG-score did not significantly predict the amount of MW during the study, $F(1,58)=3.237$, $p=0.077$, the MWQ-score positively predicts the

amount of MW, $F(1,58)=5.567$, $p=0.022$. The MWQ-score explains 9% percent of the dispersion of MW, which corresponds to a medium effect (Cohen 1992).

Neither neuroticism, $F(1,58)=0.253$, $p=0.617$, nor openness, $F(1,58)=2.739$, $p=0.103$, were found to be predictive of MW.

Within the PRFU measures only the attention-subscale was a positive predictor of MW, $F(1,58)=6.589$, $p=0.013$, and could explain 9% of MW, which corresponds to a medium effect (*ibid.*). Liking, $F(1,58)=1.134$, $p=0.291$, as well as the perceived easiness of understanding, $F(1,58)=1.086$, $p=0.302$, had no significant effect.

4.4 MW Type Prediction

Text specific MW. The number of times participants stated they were MW about the text could not be predicted by the MWQ, $F(1,58)=0.003$, $p=0.954$, or the MEWSG, $F(1,58)=0.351$, $p=0.556$, as well as openness, $F(1,58)=0.001$, $p=0.966$, or neuroticism, $F(1,58)=0.847$, $p=0.361$. Also none of the PRFU subscales could be observed as predictors: attention, $F(1,58)=0.528$, $p=0.471$; liking, $F(1,58)=0.016$, $p=0.898$; perceived easiness, $F(1,58)=1.466$, $p=0.231$.

Text inspired MW. MWQ, $F(1,58)=2.459$, $p=0.122$, and MEWSG, $F(1,58)=0.034$, $p=0.853$, were no significant predictors for text inspired MW. This also applies for neuroticism, $F(1,58)=0.568$, $p=0.454$, openness, $F(1,58)=2.643$, $p=0.109$, and the PRFU measures attention, $F(1,58)=0.51$, $p=0.478$, liking, $F(1,58)=0.859$, $p=0.358$, and perceived easiness, $F(1,58)=0.084$, $p=0.773$.

Text unrelated MW. There was no statistically significant relation between the MWQ, $F(1,58)=0.152$, $p=0.698$, or MEWSG, $F(1,58)=0.241$, $p=0.625$, and text unrelated MW. Neuroticism, $F(1,58)=0.158$, $p=0.693$, and openness, $F(1,58)=0.034$, $p=0.854$, also did not predict this type of MW, as did the PRFU scores in liking, $F(1,58)=1.125$ and perceived easiness, $F(1,58)=1.603$, $p=0.211$. However, attention as measured by the PRFU positively predicted text unrelated MW, $F(1,58)=5.693$, $p=0.02$, explaining 7% of the dispersion, which corresponds to a medium effect (Cohen 1992).

4.5 Distance and Text Relation

A multiple regression was used to predict the self-perceived distance from the text participants had during their reading process while MW. The model explained a significant amount of variance in distance, $F(2,128)=64.14$, $p<0.001$, $R^2=0.197$, $R^2_{adj.}=0.184$. Assuming text unrelated MW as constant, text-related MW corresponded to a decrease in distance by 1.018 points, $B=-1.018$, $p<0.001$, while text-specific MW corresponded to a decrease in distance by 1.321 points, $B=-1.321$, $p<0.001$.

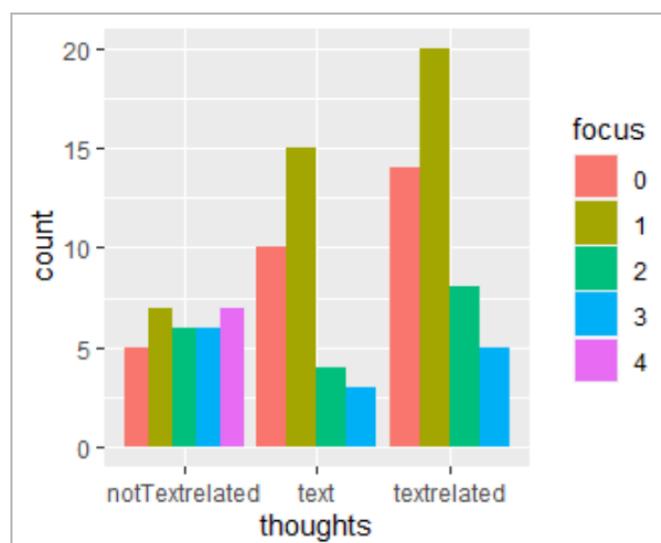


Fig. 4: Histogram of stated focus while MW by type of MW. 0: full awareness, 4: completely unaware of text and reading process

4.5 Thought Content

There were 115 instances of MW reported that were also described in content by the participants. Of these 33 were categorised as not text-related, 33 as text-specific and 51 as text-inspired. One major category in the contents of MW was the reflection on themes mentioned in the text (18), followed by other text-related thoughts or thoughts about the text itself like the protagonist (16), of which 4 concerned her gender identity, and thoughts about the structure or the understanding of the text (13). Other strong categories were opinionated (11) and autobiographical thoughts relating to the text (9). In text-unrelated thoughts, todos (13) as well as external distractions (7) appeared most prominently.¹²

14 of the MW instances came from professionals. While this sample is too small to report meaningful differences, it is noticeable that their experience is traceable in their text related thoughts, trying to recognize the Epoch or author, as well as assessing the mode of narrating and style. In contrast, participants' reading habits showed no influence on their reports.

As expected, probes in passages that challenge predictions or even revise them seem to leave readers curious or even frustrated about the text and the narration: "I try to understand the big picture of the text, but I feel more and more confused and this slowly evokes disinterest" (no. 10), "What exactly is this about?" (no. 5) or "I wondered if I had misunderstood something because the text seemed somewhat incoherent or erratic to me" (no. 21).

Probes within the category of focalization showed thoughts about the narrative situation, as in: "What is wrong with the protagonist that they seem to have memory gaps and jump wildly back and forth between thoughts?" (no. 31), but most text related thoughts were concerned with the text content. The embodied

trigger passages in text relation were dominated by thoughts about the protagonist as well as themes of the text. Especially P12 seemed to invoke opinions on the behaviour of the protagonist and her background: “About the protagonist of the story and that she just has a very depressive / negative perception” (no. 67), “These are not healthy coping strategies for whatever happened in the past” (no. 69). Probes on second-order MW indicated a trend to reflections on the content of the protagonist’s MW, often in self reference: “Sexuality as a part of the self and a socially shameful topic” (no. 92), “My first relationship and how it ended” (no. 99). Additionally, as in the other categories, the protagonist played a major role in the readers’ thoughts: “Wonder if the protagonist is unsympathetic or not, She interprets quite a lot into an exchange that is socially predetermined and interprets sex purely from her own perspective” (no. 110), “thought about the gender of the protagonist” (no. 87).

Furthermore, we saw several instances of participants connecting the story to past reading experiences. Lastly, while most of the probes semantically referencing the text were concerned with the content of the trigger passage, some of them referred to previous text content. This was especially noticeable in probe 4, which is located directly after probe 3, but there were also instances lying further apart.

5. Discussion

5.1 Discussion of Quantitative Results

The analysis revealed that probing had no effect on participants’ frequency of MW, liking of the text as well as overall attention. It thus did not affect participants’ ability to engage with the text (H3). This is in line with previous studies indicating thought probes do not affect ongoing task performance (Wiemers / Redick 2019). We could not identify any relation of Big-5 personality items to the frequency of MW. This calls into question the results of previous studies indicating relationships between openness, neuroticism, and MW (Ibaceta / Madrid 2021; Robison et al. 2017).

Furthermore, the results show that the perceived easiness of understanding as measured by the PRFU scale differed significantly between those readers that indicated to be reading “professionally” and those that did not. This does not only cross-validate the PRFU scale (Schreier et al. 1999) but also highlights the validity of the questions regarding participants’ professionalism of reading and the easiness of the present text. While previous studies have indicated that reading experience may affect MW (Unsworth / McMillan 2013), we could not statistically validate this effect which may be due to the uneven distribution between the two groups (10 experienced, 60 non-experienced).

Next, the results of the current study may unveil a difference in scale effectiveness between the MWQ (e.g. Mrazek et al. 2013; Trigueros et al. 2019) and

MESWG (e.g. Mowlem et al. 2019a) scales in relation to MW during reading tasks: While scores on the MESWG scale could not predict participants' MW frequency, the MWQ scores accounted for 9% of the variability in MW outcomes corresponding to a medium effect (Cohen 1992). Two explanations for these findings are possible: First, while the MESWG scale comprises 12 items, the MWQ scale is a 5-item scale. Although on the level of content the two scales only differ slightly (the MESWG's focuses on the term *thought* ('Gedanken') whereas the MWQ only implicitly enquires into the distracting nature of thoughts and focuses on the ability to focus instead), this difference in breadth may support the hypothesis that the MWQ scale falsely picks up on trends that the additional questions in the MESWG scale eliminate. However, the MWQ scale items are more specifically aimed at reading behaviour and connected activities, such as the focus during lectures or work tasks. Contrarily, the MESWG items seem to pertain to a general sense of clarity in focus asking participants to rate "foggy," "jumping" or "speedy" thoughts which all pertain to sub-phenomena of attention deficit rather than MW propensity (Nakovics et al. 2021; Mowlem et al. 2019b; Mowlem et al. 2019a). It may therefore be argued that the MESWG does not analyse the propensity to mind wander but the ability to focus.

Our results point towards a differentiation between productive MW as text interpretation and vertical integration and unproductive MW as decoupling from the text and inattentiveness. While attention, focus, and MW are interlinked (Sullivan / Davis 2020; Smallwood 2015), they may differ with regards to their productivity in processing and interpreting the stimuli at hand. Our results suggest that MW does not only account for inattentiveness but on a secondary level, also for heightened attentiveness as that enables a deeper understanding of a text. This is highlighted in our findings in participants' perceived distance to the text. We understand perceived distance as a measure for the level of focus on the text corresponding to the level of attention people pay to its content (e.g. Commodari / Guarnera 2005; Irving 2016). Our results indicate that participants engaging in text-unrelated thoughts experience greater distance to the text and thus exhibit less focus while participants whose MW is related to the text exhibit more.

This distinction is underlined by the ineffectiveness of the MEWSG scale in our current study. This may be explained by the way in which MW was framed since the MEWSG may pick up more easily on a deficit in attention than on 'productive' MW. The current study frames MW as 'content-laden', inquiring into participants' MW behaviour based on the implication of a telos for the drifting thoughts. This was especially caused by the fact that the study design relied on probing with an option of a degree of MW as well as the possibility to indicate the content of peoples' MW. Thereby, simple inattentiveness was not emphasised in the framing of the study, which may cause the inability of the MESWG to predict the indicated MW frequency. Our analysis also indicates that attention as measured by the PRFU (Schreier et al. 1999) positively predicts (general and

text unrelated) MW accounting for a medium proportion of the variability observed (Cohen 1992).

5.2 Discussion of Qualitative Results

In the analysis of our qualitative results, we could observe almost all thought categories identified by Faber and D’Mello (2018) and match their frequencies. In text-unrelated categories, we also found that the majority of thoughts concern future plans or prospection, which also supports the results of Kopp et al. (2015), who found that participants who were asked to make a “to do” list before reading and thus were more concerned about future plans, reported significantly more instances of MW.

A relevant finding relates to what Faber and D’Mello call “task-related inferences” (2018, 2). Participants commented on the purpose or length of the experiment and indicated a rather joyless reading experience: “How much longer? I don’t want to read any more” (no. 51). This points to the common problem of creating an ecologically valid reading situation in experimental settings. Topic interest has been found to have an influence on MW (Soemer / Schiefele 2019) and while we considered the overall liking of the text, it remains questionable if data of readers who would have quit reading in a natural setting can be used for the investigation of normal reading behaviour. Although only one thought concerned the expectation of the time of the next probing, this calls H2 into question since we do not know whether this type of MW occurred more frequently outside of probing. This also applies to the practice of self-paced reading: “when I read short stories I often flip back to link the new information to the old” (no. 15), “I had to remember which sentence came before. Because I’m not used to not being able to jump back and some of the phrases need a bit of thinking” (no. 29). This evidence of disturbed reading behaviour challenges the findings of Chung-Fat-Yim et al. (2016) supporting the ecological validity of this paradigm. Moreover, it demonstrates the importance of palpable epistemic active inference in solving prediction errors.

Most reader responses were related to understanding the structure of the text or prediction errors, e.g.: “I wondered if I had misunderstood something because the text seemed somewhat incoherent or erratic to me” (no. 21). Statements such as these account for thoughts that are triggered by the stimulus and do point to a kind of meta-awareness rather than suggesting active understanding of the respective sentences. This is also indicated by readers’ strong preoccupation with what is not said in the narrative, as shown by the remarks about the gender identity of the protagonist or about the overall meaning of the text: “Identify connections and derive the story from them” (no. 22). This also supports Fabry and Kukkonen’s (2019) hypothesis of MW being triggered by prediction errors and containing traces of virtual epistemic active inference, when

readers actively try to find a solution to the prediction errors they encounter in the engagement with the text.

In addition, while most of the reported thoughts were concerned with the topics addressed and were either reflections or recollections, the second most frequent remarks were thoughts about the protagonist. Readers' reactions to the protagonist ranged from distancing themselves from her behaviour or opinions: "I'm annoyed by the statement that people put on make-up for others" (no. 84) hypothesising about her story: "whether the protagonist has been through a break-up" (no. 66) or trying to empathise with her: "So we are starting to get to the bottom of why the person is so negative and self-loathing" (no. 102). This supports findings that link MW while reading fictional texts to theory of mind and empathy (Altmann et al. 2014).

Our discovery that many remarks point to connections readers draw between the story and their personal memories or opinions support Kuzmičova and Balint's (2019) suggestion that the readers' self-schema has an important impact on their reading experience. This goes as far as detaching them from the task, represented by assessing the story's content in regard to their own lives: "I was trying to remember if my buns were ever cold on a plane" (no. 38), "That I made an effort so you don't have to make an effort anymore. could be a slightly cruel but possibly enlightening sentence for my girlfriend. I then went on to evaluate that" (no. 82). In addition, assuming that love and relationships relate to common experiences all readers share, we found several reports of MW involving past or present relationships of readers.

We also saw participants make connections between the text at hand and their previous reading experiences. These appeared as reminders: "German class and the books we had to analyse back then. The text reminds me a lot of that" (no. 8), "The Little Prince. There was a passage in the text that reminded me of the conversation between the fox and the prince – You are responsible for me" (no. 114) but also in connection to understanding: "-Who could be the author of the text? -What year might the text be from? It reminds me of a novel from the Weimar Republic" (no. 81). These excerpts point to a perceived need to navigate the probability design of a text using intertextual connections (Kukkonen 2020) as well as the encultured nature of the reading process (Fabry / Kukkonen 2019).

As our findings also indicate, apart from rethinking the text as a whole, sometimes there is a considerable distance between readers' text-related thoughts and their potential semantic triggers. This shows the need for further investigation into the location of on- and offsets of MW as Fabry and Kukkonen (2019) suggested.

6. Conclusion

The study combined narratology and data analysis to investigate the relationship between MW and reading fiction. We found that the contents of text-related MW can thematically and structurally be linked to the text at hand. While we could validate the important role self-reference plays in MW, we also found prediction errors to be triggers of MW concerned with text comprehension. We also found that MW has different functions – where most instances of MW are “productive”, i.e. text-related. This hints towards an interpretative function of MW in reading literary texts where readers fill gaps in the narrative, work out its structure and position themselves in relation to it.

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Appendix

A

trigger passage (P)	text as presented during the experiment (Kennedy 2020)
Prediction Errors	
2	“Wäre ich, um das noch einmal ins Spiel zu bringen, ein anderer Mensch mit anderen Vorlieben und Abneigungen gewesen, und nicht ich selbst, dann wäre das, was in diesem Fall einzigartig für mich war, womöglich ein alter Hut und Gewohnheit gewesen” (70)
4	“Das schwebte schon in meinem Kopf herum – Gedanken, die ich hegte – aber auch andere Dinge waren präsent, hoben sich unterm Denken ab, wie Knie unter einer Bettdecke. Die Knie haben etwas zu bedeuten, aber man muss sich nicht damit befassen, jedenfalls nicht gleich.” (71)
5	“Ich war in einer Art großem Gemischtwarenladen – Für Sie selbst? – einem Supermarkt – die Zeiten ändern sich, warum also heimlich tun – einem Supermarkt voller Sex.” (72)
Focalization	
1	“Ich schweife ab. In Gedanken.” (69)
10	“Und Wut ist immer das zweite Gefühl, zuerst war immer ein anderes da. Ich wünschte, das hätte ich nie gelernt. Angst und Schmerz sind die häufigsten Vorläufer. Ich würde die Zeichen lieber nicht bemerken, die zeigen, dass ich verletzt oder verängstigt war.” (75)

11	“Nur dass auch sie Fremde waren, die sich einmischen, und davon habe ich genug. Ich bin es müde. Ich bin so müde. Mildernder Umstand” (77).
Embodiment	
7	“Ich versuchte ein Lächeln, das informiert und entspannt zu wirken beabsichtigte. Die Verkäuferin trug ein Namensschild, das sie als Mandy bezeichnete, auch wenn ich das nicht für wahrscheinlich halten konnte. Ich passte mein Lächeln an, erweiterte seine Bedeutungsebenen.” (72)
12	“Und darum halte ich diesen absurden Laden – diese absurde Geschichte über einen absurden Laden und absurde fremde Leute – darum halte ich sie so fest. Ich halte sie fest, bis ich davon zu schwitzen anfangen und glauben kann, dass ich etwas in den Armen, an den Armen habe. Ich klammere, bis ich wieder an die schöne und absichtliche Berührung glauben kann.” (77)

B

no.	trigger passage (P)	focus	thoughts	thoughtContent
Prediction Error				
1	2	2	notTextrelated	ich sollte noch meine mails checken
2	2	2	notTextrelated	Was ist der eigentliche Zweck dieser Umfrage?
3	2	3	notTextrelated	Ich muss noch Altglas wegbringen und es ist wirklich sehr windig draußen.
4	2	1	text	Erzählperspektive, Stil des Textes
5	2	NA	text	Worum geht es da genau?
6	2	1	text	Ich konnte dem text nicht mehr ganz folgen, habe an Läden gedacht
7	2	0	textrelated	Modeverständnis, Schnee??
8	2	1	textrelated	An den Deutschunterricht und die Bücher, die wir damals analysieren mussten. Der Text erinnert mich sehr daran.
9	2	0	textrelated	Kleider kaufen
10	4	0	text	Ich versuche das große Ganze des Textes zu verstehen, fühle mich aber immer verwirrt und das ruft langsam Desinteresse hervor
11	4	3	text	Ich habe keine Ahnung was bei der Person vor sich geht. Komische Semantik.
12	4	0	text	In einem vorherigen Satz stand Knie glaub ohne Artikel, das hat mich etwas verwirrt
13	4	NA	textrelated	Über die Person selbst, wie ist sie?
14	4	0	textrelated	Gedanken über die Meinungen und das Innenleben der handelnden Person

15	4	1	textrelated	dass ich beim Lesen von Kurzgeschichten oft nochmal zurückblättere, um die neuen Informationen mit den alten zu verknüpfen
16	4	0	textrelated	Lipgloss, eigenes Einkaufen und die Prozesse dabei, aber auch feministische Themen wie z.B. dass man sich auch für sich selbst herrichtet und nicht für andere
17	4	3	textrelated	Aussehen
18	5	3	notTextrelated	Über ein vergangenes Buch, das ich gelesen habe
19	5	0	text	über den Text
20	5	0	text	Sextoys im Supermarkt
21	5	1	text	Ich habe mich gefragt ob ich irgendetwas falsch verstehe da der Text auf mich etwas zusammenhanglos wirkt bzw. sprunghaft
22	5	1	text	Zusammenhänge und Vorstellung der Person
23	5	1	text	Habe nach dem Zusammenhang des Geschriebenen gesucht
24	5	1	textrelated	Ich habe mir gedacht: Kein normaler Mensch denkt im echten Leben so nach wie dieser Erzähler. Er klingt so, als wäre er extrem unsicher und von allem überfordert.
25	5	1	textrelated	Ich habe an einen Textteil aus dieser Übung gedacht, in dem eine Person Kleidung wegen der bunten Farben, schlechten Nähte, etc. bemängelt
Focalization				
26	1	4	notTextrelated	Restlichen Tag
27	1	0	notTextrelated	meine Augen haben gejuckt
28	1	0	notTextrelated	ich habe Schritte vor meinem Zimmer gehört die mich abgelenkt haben
29	1	1	text	Ich musste mich erinnern, welcher Satz davor kam. Weil ich es nicht gewohnt bin nicht mehr zurückspringen zu können und manche Formulierungen etwas Denkarbeit benötigen
30	1	3	text	habe daran gedacht, dass ich mich nicht daran erinnere worum es eigentlich ging
31	1	1	textrelated	Was ist mit der handelnden Person los, dass sie scheinbar Erinnerungslücken hat und wild zwischen Gedanken hin und herspringt?
32	1	1	textrelated	Klaustrophobie
33	1	1	textrelated	Ich habe mir über kalte Brötchen Gedanken gemacht, aber auch über die ungewöhnliche Schreibweise.
34	1	1	textrelated	Flugzeugessen
35	1	1	textrelated	bei Innenstadt musste ich an die Innenstadt einer Ortschaft in meiner Nähe denken

36	1	0	textrelated	Die Weise, wie die Person sich ausdrückt ist mir auf den Keks gegangen. So sehr, dass ich in Gedanken mich darüber erstmal auslassen musste.
37	1	2	textrelated	Hotel
38	1	1	textrelated	Ich habe versucht mich zu erinnern, ob meine Brötchen im Flugzeug jemals kalt waren.
39	10	4	notTextrelated	Ich habe abgeschaltet, da die Verwirrtheit und das Desinteresse gewachsen ist und habe über Textunabhängige Dinge nachgedacht
40	10	1	notTextrelated	Trinken
41	10	4	notTextrelated	Dissertation
42	10	0	notTextrelated	Handy hat grad ein Geräusch gemacht (eine Nachricht wahrscheinlich)
43	10	0	text	Zeichen die Wut und Verärgerung zu erkennen
44	10	0	textrelated	Wie viel kann man über Kondome mit Geschmack philosophieren? Allgemeine Gedanken zum Thema Kondome und Oralsex
45	10	1	textrelated	Gewaltfreie Kommunikation der Gefühle
46	10	0	textrelated	BDSM, Analplug, Analfaust
47	10	2	textrelated	Angst und Schmerz als Vorläufer von Wut.
48	11	1	notTextrelated	Wann ist der Text fertig?
49	11	2	notTextrelated	leckerer salat ist neben mir aufgetaucht
50	11	0	text	Was ist der Erzähler für eine Art von Mensch? Ich würde gerne mehr über sie erfahren
51	11	3	text	Wie lang noch? Ich will nicht mehr lesen. Sex? Worum geht es in diesem Text? Müde. Ja, ich bin auch müde. Ich bin sehr müde. Ich habe keine Lust mehr diesem Text zu lesen.
52	11	0	textrelated	Schnee, Schlitten, Dristess
53	11	1	textrelated	Ich muss unbedingt mal zusammen mit Freunden einen Sexshop besuchen, dass scheint eine lustige Erfahrung zu sein.
Embodiment				
54	7	0	notTextrelated	wann diese Umfrage endlich vorbei ist
55	7	1	text	mir ist aufgefallen das die Hauptperson eine Frau ist, darüber hab ich nachgedacht
56	7	1	textrelated	Ich musste überlegen ob die Person eine Frau oder ein Mann ist (also der Protagonist)
57	7	2	textrelated	Ich habe an einen Sexshop gedacht und mich gefragt ob nicht vorhin noch die Rede von einem Bekleidungs-geschäft war
58	7	1	textrelated	Ich kenne eine Person, die Mandy heißt
59	7	0	textrelated	Sexshop, Einkauf Sexspielzeug

60	7	1	textrelated	Mein Mann
61	7	0	textrelated	Sexspielzeug
62	7	0	textrelated	Ist die Person eine Frau?
63	12	1	notTextrelated	-wann kommt wohl die nächste Unterbrechung?
64	12	NA	notTextrelated	Nachricht am Handy bekommen
65	12	2	notTextrelated	Nebengeräusche wahrgenommen (Vogelgezwitscher), darauf verfestigt
66	12	0	text	ob die Protagonistinn eine Trennung hinter sich hat
67	12	1	text	Über die Protagonistin der Geschichte und dass diese gerade eine sehr depressiv / negative Wahrnehmung hat
68	12	2	textrelated	Ich wundere mich über den Zustand der Protagonistin. Ich kann ihre Ohnmacht vor der Gesellschaft zwar nachvollziehen, aber bin leicht von ihrer Schlussfolgerung genervt. Sie übernimmt keine EIGenverantwortung. Sie hat sich selbst in den Laden bewegt und ist dann über die Verkäufer:innen genervt und bezeichnet diese als absurd. Wenn sie in Ruhe gelassen oder nichts kaufen möchte, müsste sie das kommunizieren, was sie nicht tut und die Verantwortung bei den anderen sieht.
69	12	2	textrelated	Das sind keine gesunden coping Strategien, für was auch immer passiert ist in der Vergangenheit.
70	12	3	textrelated	gemütliche Zeiten
71	12	4	NA	zu lang
Second Order MW				
72	3	1	notTextrelated	Ich habe mich kurz gefragt, ob die die Katzen bereits gefüttert habe.
73	3	2	notTextrelated	Wie viel Uhr es ist, weil ich gleich noch verabredet bin
74	3	2	notTextrelated	Ich habe an meine Abschlussarbeit gedacht
75	3	3	notTextrelated	Nächstes Treffen mit Freunden
76	3	3	notTextrelated	Kaffee und Studentenfutter
77	3	1	text	Was war denn jetzt der Fehler der Protagonistin?
78	3	0	text	Wie kommt Protagonist:in zu eigenen Gedankensprüngen, wo befindet er:sie sich gerade?
79	3	2	text	Zusammenhänge zu erkennen und Geshichte daraus ableiten
80	3	0	text	Ich habe mich gefragt in welchem Land die Person ist.
81	3	0	textrelated	-wer könnte der Autor des Textes sein? -aus welchem Jahr stammt der Text wohl? Er erinnert mich an einen Roman aus der Weimarer Republik -was ist denn jetzt geschehen? Ein schrecklicher Unfall vielleicht.

82	3	0	textrelated	Dass Ich habe mir Mühe gegeben, damit du dir keine Mühe mehr machen musst. ein leicht grausamer, aber möglicherweise erleuchtender Satz für meine Freundin sein könnte. Das habe ich dann noch evaluiert.
83	3	2	textrelated	Mein letzter Einkauf
84	3	1	textrelated	Ich ärgere mich über die Aussage, dass man sich für andere schminkt.
85	3	2	textrelated	make up
86	6	1	notTextrelated	Textnachricht
87	6	1	text	nachgedacht über das Geschlecht des Protagonisten
88	6	0	text	Erkenntnis das Protagonistin weiblich geändert ist
89	6	0	text	Belustigung über die Unsinnigkeit der Frage Für Sie selbst?
90	6	0	text	an die Situation
91	6	1	text	ist das anstrengend so fast zusammenhangslose Texte zu lesen. Worum geht ´s gerade? Irgendwas mit Sex und Homosexualität. Sexspielzeug. Ich hab eins.
92	6	1	textrelated	Sexualität als Teil des Selbst und gesellschaftlich schandbehaftetes Thema
93	8	1	notTextrelated	Ob mein Tee fertig ist
94	8	1	notTextrelated	Supermarkt
95	8	4	notTextrelated	Hände und Kaffee
96	8	1	text	Über die Bedeutung der Worte
97	8	2	text	ob ich den text wirklich verstehen
98	8	2	text	Habe drüber nachgedacht, ob die Erzählerin nicht gerade selbst massiv abschweift
99	8	2	textrelated	Meine erste Beziehung und wie diese endete..
100	8	3	textrelated	Mir tut Mandy Leid, dass sie sich mit so einer Person herumschlagen muss.
101	8	1	textrelated	ekelhaften Sexshop in meiner Umgebung :D riesige schwarze Silikonfaust :D
102	8	1	textrelated	So langsam kommen wir auf den Grund warum die Person so negativ und Selbstverachtung ist.
103	9	3	notTextrelated	solangsam einsetzende Müdigkeit
104	9	4	notTextrelated	Gedanklich die Einkaufsliste für morgen gemacht
105	9	0	notTextrelated	Hunger
106	9	4	notTextrelated	Feierabend
107	9	4	notTextrelated	Mittagessen
108	9	3	notTextrelated	to-do´s

109	9	1	text	ich hab versucht, die meinung zu verstehen
110	9	1	textrelated	Frage mich, ob die Protagonistin unempathisch ist oder nicht, Sie interpretiert ziemlich viel in einen Austausch, der sozial Vorgegeben ist hinein und interpretiert Sex rein aus ihrer eigenen Perspektive.
111	9	0	textrelated	abweichende Sexualität, Asexualität
112	9	1	textrelated	Vergleich der eigenen Beziehung
113	9	3	textrelated	An eine sexuelle Fantasie
114	9	3	textrelated	Der kleine Prinz. In dem Text gab es eine Textpassage, die mich an das Gespräch zwischen dem Fuchs und den Prinz erinnerte - Du bist für mich Verantwortlich
115	9	1	textrelated	Vergangene Beziehung

Tina Ternes B.A.

Johannes Gutenberg-Universität Mainz

E-mail: tternes@students.uni-mainz.de

Florian Kleinau B.Sc.

Global Centre for Advanced Studies (GCAS)

E-mail: florian.kleinau@gcas.ie

URL: <https://gcas.ie/ma-researchers-in-philosophy>

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¹ See Appendix A for the versions of the trigger passages as seen in the experiment.

² “Die passende Präambel zu meiner Geschichte ist also ein Gewirr aus vermiedenen Einkäufen und gehobener Laune” (Kennedy 2020, 69).

³ “Aber ich war weder in einem fremden Land noch litt ich unter ungewöhnlichen Umständen. Der Quatsch stimmt nicht” (Kennedy 2020, 69).

⁴ “Ich war müde. Ein Einflussfaktor” (Kennedy 2020, 69).

⁵ “Von Lipgloss fühle ich mich eingeengt. [...] Und Wimperntusche ist wie durch einen Lattenzaun zu linsen” (Kennedy 2020, 71).

⁶ “wüste [...] Versuche, Befriedigung zu verschaffen” (Kennedy 2020, 74).

⁷ “Selbst in der Erregung [...] des Augenblicks ist es nur [...] Zärtlichkeit” (Kennedy 2020, 75).

⁸ “Gegenstände [...], die keine Kleiderhaken waren, die keiner arthritischen Hand beim Öffnen schwieriger Deckelgläser halfen” (Kennedy 2020, 74).

⁹ “Und du klammerst dich an denjenigen, der dich beraubt hat, und der klammert zurück” (Kennedy 2020, 74).

¹⁰ “Für Sie selbst?” (Kennedy 2020, 72)

¹¹ Data analysis was done using R (R Core Team 2021); Processing: dplyr (Wickham et al. 2021), tidyr (Wickham 2021); Visualisation: ggplot2 (Wickham et al. 2016); Statistics: rstatix (Kassambara 2021), car (Fox and Weisberg 2019).

¹² All results in German can be found in Appendix B.