Capturing the Ways We Read: 
Introducing the Reading Habits Questionnaire

Introduction

Reading habit measures are often included as intervening variables in research designs investigating reading experiences. It is assumed that people's reading habits mediate effects of reading specific texts on the immediate experience and the eventual outcomes of reading. The term reading habits, however, can refer to a variety of different concepts.

Reading habits vary as a function of reading motives (e.g., reading for curiosity, reading for educational success), reading efficacy (e.g., word recognition, linguistic fluency), background knowledge (e.g., conceptual knowledge of a text's topic or genre), and sociocultural influences (e.g., reading expectations, bilingual competence). However, once established, reading habits may motivate subsequent reading by providing the background that supports reading pleasure, interest, or engagement. On the one hand, fluent generalization of habitually rehearsed concepts may support reading pleasure (e.g., familiarity with approaches to fictional character development may increase narrative comprehension and reading pleasure). On the other hand, disfluent reconstruction of infrequently rehearsed concepts may support reading interest (e.g., poorly understood approaches to fictional character development may increase reading interest) (Whitfield 2009; Winkielman et al. 2006). More plausibly, the balance between fluent generalization and disfluent reconstruction may facilitate the blend of interest and pleasure that is experienced as engagement with an aesthetic object (Graf and Landwehr 2015).

So far, there is no systematic research available on how reading habits influence different types of reading experiences and on how they co-occur or interact with certain personality traits. Or if there is research available it involves only one type of reading habit (repeated 'exposure') and its relationship to a certain trait or behavior (cf. Black et al. 2018, on the effects of genre exposure on moral judgments; Stern et al. 2018, on the effects of genre exposure on beliefs about interpersonal relationships). In these examples, reading habits were at the core of their research questions; however, in most empirical literary studies, reading habits are usually considered a covariate in the overall design. As there is no 'universally' used reading habit measure in the field of empirical literary studies, the results of different studies are hard to compare. And thus, we are no closer to finding out how reading habits – and which of them – influence the reading experience and the effects of reading.

The aim of this paper is to report development of a measure of reading frequency across a range of text genres. Its multivariate structure allows for the identification of groups of readers with contrasting profiles of genre familiarity, the usefulness of which to the field of empirical literary studies we aim to demonstrate in this paper.
Reading Habits

Reading Frequency

Even though reading frequency is something that is measured quite often in empirical literary studies, there is no 'gold standard' instrument available for this purpose. The underlying question in every reading frequency measure is the same: how much do you read? However, the question format varies enormously, from minutes per day (Schutte and Malouff 2004) to hours per week (Dixon et al. 1993), times per year (Kuijpers et al. 2019), or a more general estimate from never to always (Scales and Rhee 2001). It is difficult to assess what the best question format might be, as there is something to say in favor of each one.

The disadvantage of all these types of measures is that they do not tell us anything about what is being read – or how it is being read. In other words, these measures cannot tell us what exactly is habitually rehearsed. Usually broad distinctions are made between fiction and non-fiction reading, literary and non-literary reading, or reading for pleasure and reading for business/school. However, more fine-grained distinctions (between genres, for example) are rarely made. As we do not know what is more important in terms of reading experience and effects of reading – the frequency with which people read or the subject matter that they read – it may be useful to combine a reading frequency measure with relevant genre distinctions.

Print Exposure

A person's previous print exposure is usually captured by presenting a list of author names (real and fake) and asking participants to indicate with which authors they are familiar (Mar et al. 2006; Mar and Rain 2015; Stanovich and West 1989). The original Author Recognition Test (ART) was developed by Stanovich and West (1989) to account for "individual differences in exposure to print," without the confounding influence of socially desirable answering (1989, 402). Because the list of author names includes false names and the participants are made aware that indicating recognition of a false name will subtract points from their total scores, it is argued that this will discourage overestimation of previous exposure to print. Recent research, however, has found that socially desirable answering in the field of research on creativity and the arts is "probably less of a problem than researchers fear" (McKibben and Silvia 2017, 57). McKibben and Silvia investigated the relationships between socially desirable answering (i.e., through responses on the Balanced Inventory of Desirable Responding, Paulhus 1984; Paulhus and Reid 1991) and several major creativity scales and scales for assessing arts knowledge, including the Aesthetic Fluency Scale (Smith and Smith 2006) with added literature questions. Responding on such social desirability scales is plausibly correlated with how people respond to the ART. However, McKibben and Silvia found essentially no relationship between socially desirable responding and people's responses to all of the scales used in their study. What is more, even though the ART was developed with the explicit purpose of discouraging socially desirable answering, whether the instrument
succeeds in doing so is another matter. Overall, when the ART is used in empirical literary studies in its various adaptations, scores are very low. This could be due to the particular samples chosen for study (i.e., first-year psychology students rather than literature students, or students rather than more experienced readers), but it could also be due to the warning in the instructions not to select any false author names: participants may doubt themselves and choose not to select names they recognize but do not clearly remember reading.

Moreover, it is unclear what exactly is being measured with the ART. As Black et al. (2018) argue, author recognition tests do not measure actual reading behavior, rather they "serve as a proxy of exposure to literature, assuming that name recognition may arise through reading book reviews or browsing bookstores" (330). However, as Rain and Mar (2014) argue, participants might also be familiar with author names for other reasons than personal experience with books, such as having heard their names in popular media outlets or being exposed to them in classes they did not choose to take (2014, 104-105). Obviously, this would "introduce noise into the measurement of […] print exposure and obscure possible relations" (104).

And so, even though it is not technically a measure of how much people have read, Acheson et al. (2008) nonetheless claim that it is a measure of "the amount of texts people read," Kidd and Castano (2013) claim it captures life time exposure to literature, and Rain and Mar (2014) state that it measures reading behavior. What exactly is print exposure, then, and how does it relate to reading frequency? In a study on rereading and appreciation of literary texts, Kuijpers and Hakemulder (2018) used both the Dutch version of the ART (Koopman 2015) and a simple reading frequency measure ("How many hours per week do you read fiction for your own pleasure?"), enabling analyses using either one of them as a covariate. They found that the two measures positively correlated with each other, but only moderately so ($r = .26, p = .01$), indicating that the two measures are related, but do not capture the same thing. The linear mixed models in which the two measures were included yielded very different results, depending on which of the two measures was included as a fixed effect (for an overview of the full results, see Kuijpers and Hakemulder 2018). In another study, Rain and Mar (2014) specifically set out to validate print exposure checklists such as the ART. They compared the predictive validity of their adapted ART with a simple six-item reading habits questionnaire (e.g., "I like to read fiction," "I read fiction," "I like to read non-fiction," "I prefer to read fiction over non-fiction"). They found that participants' responses to the reading habits questionnaire were better able to predict their book shopping behavior than their responses to the ART (2014, 100). The authors argue that participants might have been primed to respond in a socially desirable way in case of the ART. As recent studies have shown, however, the effect of socially desirable responding on reading habit measures remains an empirical question requiring more extensive evaluation. These results, alternatively, may indicate that the self-report reading habits questionnaire captured actual reading behavior more effectively than the indirect index of print exposure that the ART offers.
Even though the ART’s ability to capture reading behavior is only based on an assumption that knowing author names is related to how much a person reads, it is a widely used measure and it often leads researchers to claim that more reading leads to higher empathic skills (Kidd and Castano 2013; Panero et al. 2016), greater social ability (Mar et al. 2006), and greater verbal abilities (Acheson et al. 2008; Mar and Rain 2015). Evidently, there is a need for more critical reflection on the measures we use and the conclusions we draw from them.

Genre Preferences

One area in which the ART has been adapted is the expansion of the author checklist by some researchers to include different genres. This approach allows for an investigation of what people are reading and whether they are more familiar with one genre than another. Fong et al. (2013, 371) adapted the ART to include enough author names for each of four different genres, allowing a print exposure score to be calculated per genre. Using this version of the ART they were able to show that reading romance texts showed positive correlations with interpersonal sensitivity, whereas reading science fiction/fantasy did not.

Similarly, Black et al. (2018) developed the Genre Familiarity Test (GFT), which is based on the same assumptions as the ART. However, given their interest in the relationships between people's exposure to fiction and their moral judgments (Black et al. 2018), especially their beliefs about relationships (Stern et al. 2018), they mostly include genres that present things and events as they could be, rather than how they are (Black et al. 2018, 330). That is why the GFT includes seven genres and divides science fiction and fantasy into distinct categories.

Both of these scales use a small number of genres, and, because these scales do not ask about how often people read, their use risks confounding author name familiarity with actual reading frequency. Also, recent research on online social reading platforms like Goodreads and Wattpad shows that the range of genres people currently are reading far exceeds four to seven categories (cf. Rebora and Pianzola 2018), and this variety should be reflected in the instruments used to measure reading habits. This is of particular importance when using convenience samples of undergraduate students; young adult readers are exposed to – and actually read – fiction in a plethora of genres.

Reading Habits and Openness to Experience

Previously developed reading skills enable the emergence of particular reading habits, but reading habits also enable further development of reading skills. This pattern of reciprocal causation is evident throughout development (see Mol and Bus 2011, for a review). During preschool years, children's parentally supervised exposure to fictional narratives increases technical reading skills (e.g., word spelling, word reading ability), while having such skills also supports pleasure/interest in further reading (or being read to). During school years 5 to 12, educational exposure to narrative fiction and expository texts increases reading comprehension (e.g., knowledge extension,
inference skills), while reading comprehension also supports pleasure/interest in further (voluntary) reading. Among young adults, voluntary exposure to fiction (e.g., short stories, poetry) and non-fiction (e.g., political essays, magazine articles) facilitates complex forms of comprehension (e.g., expressive language, argument organization), while these complex forms of comprehension also support pleasure/interest in further reading.

Among the factors involved in such reciprocal causation, recent research has addressed trait (personality) differences in openness to experience. Among young adults, trait conscientiousness has repeatedly been shown to predict academic performance, probably because conscientiousness supports goal setting and self-regulation (Poropat 2009). However, trait openness to experience also has been shown to predict academic performance, probably because openness to experience supports focused but flexible cognitive exploration (DeYoung 2015). More concretely, within domains affected by general reading skills, openness to experience predicts (1) SAT verbal scores (Noftle and Robins 2007); (2) global reading achievement (Beaujean et al. 2011); and (3) reading fluency (Krach et al. 2016). In the domain of literary reading (which is focal here), openness to experience predicts (1) familiarity with fiction genres (Fong et al. 2013); (2) preference for culture-related reading material (e.g., 'classical literature;' Schutte and Malouff, 2004); (3) preference for literary texts (Kraaykamp and van Eijck 2005; Swami et al. 2012); and (4) the rated importance of literary reading (Wild et al. 1995). Together these results indicate that trait openness to experience supports habitual reading, especially habitual reading of literary fiction that involves multi-layered plots and stylistic nuance (e.g., metaphors, irony).

One goal of the present study is to examine the contribution of trait openness to experience to young adults' habitual selection of particular text genres (e.g., novels, poetry, thrillers, essays).

The Present Research and Objectives

In the present study we set out to develop a self-report reading habits measure that captures reading frequency across a broad spectrum of genres. One of our main concerns was with the variety of genres that should be represented on this scale. First, we wanted to include a range of fiction as well as non-fiction genres, enabling relatively comprehensive coverage of people's reading habits. Within the range of fiction genres, we wanted to be sensitive to fine-grained categories. For example, the Fantasy genre that is represented on several different ART scales, can be further divided into science fiction, narratives that involve ghosts, myths, and fables, as well as children's literature. We also divided the literary fiction genre into different types, namely poetry, short stories, and novels. We ended up with 21 different genres, presented in table 1.

In addition to developing and testing this new reading habits questionnaire, the goals of the present study were to (2) test different prompts on the new reading habits questionnaire (i.e., "how often do you read" versus "how much do you enjoy reading"
versus "how much do you get absorbed when reading"); (3) demonstrate how this measure could be used to identify groups of readers of interest to the further study of literature reception; and (4) examine more closely the relationships between trait openness to experience and reading habits (i.e., the contribution of trait openness to experience to young adults' habitual selection of various fiction genres [e.g., novels, short stories, poetry, romances, thrillers]). Our design enables comparison of readers who habitually read fiction (e.g., novels) with those who read non-fiction (e.g., essays), as well as of readers who habitually read literature (e.g., poetry) with those who read popular fiction (e.g., thrillers). Furthermore, it enables comparison of empirically derived groups of readers who tend to select particular combinations of such text genres (e.g., literature, fantasy, and non-fiction). Openness to experience may predict which genres – or which genre combinations – are habitually selected.

Methods

Participants

264 introductory psychology students (196 females, 66 males, 2 undeclared; mean age 19.0 years, range 16 to 39) completed an online study. Self-reported ethnicity was East Asian (28%), South Asian (16%), European (13%), Euro-North American (26%), and Other (17%). For 66% of participants, English was the first language. Most participants (83%) either were taking or had just taken a first-year English course, whereas some (17%) had taken other literature courses. Participants were eligible if they reported during an online mass testing session (at the beginning of term) that they had at least one memorable experience of reading poetry, short stories, or novels during the preceding year. Eligible participants could sign up for a second online session (without knowing the basis for their eligibility) and receive partial course credit for their participation.

Procedure

When participants went to the online research website, they were told that the study was about "meaningful reading experiences," that the study would require 1.5 to 2 hours to complete, and that their responses would be anonymized and remain confidential. Participants were first asked to (1) identify the text (a poem, short story, or novel) that provided their most memorable reading experience during the preceding year; (2) recall, as richly and as completely as possible, what made that reading experience memorable; and (3) answer a few simple questions about why they originally read that text and whether they had re-read it.

Then participants completed two questionnaires designed to assess their level of absorption while reading this memorable text (the Story World Absorption Scale; Kuijpers et al. 2014; the Absorption-like States Questionnaire; Kuiken and Douglas 2017), and a third that assessed the outcomes of their reading experience (an expanded version of the Experiencing Questionnaire; Kuiken et al. 2012). Finally, participants completed (1) the newly developed Reading Habits Questionnaire; (2)
two measures of trait openness to experience (the Tellegen Absorption Scale [Tellegen and Atkinson 1974], the Openness/Intellect components of the Big Five Aspect Scales [DeYoung et al. 2007]), and (3) a short form of the Marlowe-Crowne Social Desirability Scale (Reynolds 1982).

Measures

Reading Habits Questionnaire (RHQ)

The RHQ was modeled on similar instruments described by Scales and Rhee (2001) and Schutte and Malouff (2004). Participants were asked to rate how often they read each of 21 text genres (from 0 = "never during the past year" to 6 = "almost every day during the past year"), including fiction (e.g., short stories), non-fiction (e.g., political essays), and popular media (e.g., magazines). The full set of text genres can be found in table 1. Then they were asked whether they enjoyed reading each of these 21 text genres on a scale from 0 = "not at all" to 6 = "extremely" and when they read these text types, how absorbed they usually felt on a scale from 0 = "not at all" to 6 = "extremely." The three prompts were presented right beneath one another to make clear that these were three different questions.

<table>
<thead>
<tr>
<th>Fiction</th>
<th>Non-Fiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature (Poetry)</td>
<td>Newspapers</td>
</tr>
<tr>
<td>Literature (Novels)</td>
<td>Magazines</td>
</tr>
<tr>
<td>Literature (Short Stories)</td>
<td>Personal email</td>
</tr>
<tr>
<td>Historical Fiction (involving actual figures and events)</td>
<td>Social media (e.g., Facebook, Twitter)</td>
</tr>
<tr>
<td>Romance (involving love, interpersonal relationships)</td>
<td>Reports, manuals (e.g., recipes, technical instructions)</td>
</tr>
<tr>
<td>Thriller (involving madness, horror, disaster)</td>
<td>Science essays, articles, or books (non-fiction)</td>
</tr>
<tr>
<td>Thriller (involving criminal activities, detective work)</td>
<td>History essays, articles, or books (non-fiction)</td>
</tr>
<tr>
<td>Fantasy (Science Fiction)</td>
<td>Political essays, articles, or books (non-fiction)</td>
</tr>
<tr>
<td>Fantasy (involving ghosts, monsters, magical events)</td>
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<tr>
<td>Fantasy (e.g., myths, fables, legends)</td>
<td></td>
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<tr>
<td>Fantasy (e.g., children's literature, fairy tales)</td>
<td></td>
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<tr>
<td>Comics (e.g., comic strips, graphic novels)</td>
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<tr>
<td>Comedy (e.g., humor, satire)</td>
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Table 1: Text genres included in the Reading Habits Questionnaire

Tellegen Absorption Scale (TAS)

The 34 items from the TAS (Tellegen and Atkinson 1974) are rated on a 5-point scale (from 0 = "not at all true of me" to 4 = "extremely true of me"). In this study, we are using the factor structure as suggested by analyses in Douglas et al. (in preparation): (1) Self-organizing Attention ($\alpha=.82$) captures the capacity (or incapacity) for
attentional control; (2) Sensorimotor Involvement ($\alpha=.83$) measures an embodied and visual way of approaching experiences; and (3) Self-altering Imagination ($\alpha=.90$) captures the capacity for imagining an altered sense of self or an altered sense of experience. The internal consistency of the total TAS score was excellent ($\alpha=.90$).

Openness to Experience (BFAS; Big Five Aspects Scale)

For a measure of openness to experience ($\alpha=.84$), we used the Big Five Aspects Scales (BFAS) Openness to Experience dimension, which can be divided into a 10-item BFAS Intellect ($\alpha=.76$) and 10-item BFAS Openness ($\alpha=.76$) scale (DeYoung et al. 2007). Each statement was rated on a 5-point scale (from 0 = "not at all true of me" to 4 = "extremely true of me"). Sample Intellect items are "I formulate ideas clearly" and "I like to solve complex problems;" sample Openness items are "I need a creative outlet" and "I believe in the importance of art."

Social Desirability Scale (SDS)

A short form of the Marlowe-Crowne Social Desirability Scale (Form C; Reynolds 1982) was administered to assess the influence of socially-desirable responding. Participants were asked to mark each of 13 statements about themselves as either "true" or "false" (e.g., "No matter who I'm talking to, I'm always a good listener").

Results

Reading Habit Factors

Principal Components Analysis of the Reading Habits Questionnaire ratings (Oblimin; Kaiser Normalization; eigen values > 1; no double loadings) indicated six factors when using the "How often do you read the following text types" prompt:

1. Literary Fiction: literature (poetry) (.67); romance (involving love, interpersonal relationships) (.60); literature (novels) (.52); literature (short stories) (.44).
2. Fantasy Fiction: fantasy (involving ghosts, monsters, magical events) (.77); fantasy (e.g., myths, fables, legends) (.77); fantasy (science fiction) (.72).
3. Thriller Fiction: thrillers (involving madness, horror, disaster) (.84); thrillers (involving criminal activities, detective work) (.79).
4. Comic Fiction: comics (e.g., comic strips, graphic novels) (.77); comedy (e.g., humor, satire) (.57); fantasy (e.g., children's literature, fairy tales) (.57).
5. Cultural Non-fiction: political essays, articles, or books (.82); history essays, articles, or books (.80); historical fiction (involving actual figures and events) (.65); science essays, articles, or books (.61); newspapers (.55).
6. Popular Media: personal email (.61); social media (e.g., Facebook, Twitter) (.59); reports, manuals (e.g., recipes, technical instructions) (.53); magazines (.44).

None of the preceding factor scores correlated significantly with a measure of socially desirable responding (Reynolds 1982). (Overall the six-factor structure remained stable across all three answering prompts.)

Reading Habit Profiles

Rather than presuming uniform patterns of co-occurrence among the ratings of reading frequency, cluster analysis was used to identify qualitatively different profiles of reading habits. Hierarchical cluster analysis (Ward's method; Squared Euclidian Distances) of reading frequencies for each of the 21 RHQ genres revealed six distinct clusters. The summary of these reading profiles presented in table 2 takes advantage of the clear six-factor structure derived from these 21 ratings (Literary Fiction, Fantasy Fiction, Thriller Fiction, Comic Fiction, Cultural Non-fiction, and Popular Media). With a few added details, these are the cluster summaries:

Cluster 1: Selective Literary Readers, with high levels of commitment to reading literary fiction (but not poetry) and moderately high levels of commitment to reading thrillers.

Cluster 2: Non-readers, with low levels of commitment to reading the entire spectrum of fiction genres (and cultural non-fiction).

Cluster 3: Selective Fantasy Readers, with moderately high levels of commitment to reading fantasy fiction (but not thrillers).

Cluster 4: Cultural Non-fiction Readers, with high levels of commitment to reading cultural non-fiction (but not fiction).

Cluster 5: Inclusive and Avid Literary Readers, with high levels of commitment to reading all types of literary fiction (especially poetry and including comedy), as well as one type of thriller (involving criminal activities, detective work).

Cluster 6: Inclusive and Avid Fantasy Readers, with high levels of commitment to reading all types of fantasy and all types of thrillers.

The preceding 6-cluster pattern suggested two groups of literary readers (Clusters 1 and 5) and two groups of fantasy readers (Clusters 3 and 6). Also, this pattern suggested that Non-readers (Cluster 2) and Cultural Non-fiction Readers (Cluster 4) are potentially useful comparison groups.
Table 2: Reading Habits: Variations in reading profiles, as indicated by factor scores of rated reading frequency for each of 21 genres. Note. \(^a\) Largest or not different from the largest (LSD < .10); \(^b\) Less than the largest but at least .4 SD above the overall average rating; \(^c\) Smallest or not different from the smallest (LSD < .10)

Effects of Trait Openness to Experience on Reading Habits

One goal of the present study was to examine the contribution of openness to experience to young adults' habitual selection of particular text genres (or genre combinations). If (trait) openness to experience supports the pleasure/interest of (state) open reflection during memorable reading, it may also support the habitual selection of text genres that distinctively afford such reflection.

Fiction vs. Non-Fiction Readers

As shown in table 3, planned comparisons between the clusters indicated that readers who frequently (habitually) read fiction (Clusters 1, 3, 5 and 6) differed from Non-readers (Cluster 2) in BFAS Openness to Experience. With BFAS Openness to Experience as a dependent variable, a planned comparison between Fiction Readers and Non-readers was significant, \(F(1, 241) = 7.73, p = .006\). However, this difference obscured an asymmetry between BFAS Openness and BFAS Intellect. With BFAS Openness as a dependent variable, the comparison between Fiction Readers and Non-readers was significant, \(F(1, 241) = 5.20, p = .023\), but the comparison between Cultural Non-fiction readers (Cluster 4) and Non-readers was not. In contrast, with BFAS Intellect as a dependent variable, the comparison between Fiction Readers and Non-readers was significant, \(F(1, 241) = 5.21, p = .023\), but so also was the comparison between Cultural Non-fiction Readers and Non-readers, \(F(1, 241) = 3.91, p = .049\). Thus, BFAS Intellect predicted habitual reading of both fiction and non-fiction, while BFAS Openness predicted only habitual reading of fiction.

Results for the TAS confirmed that habitually reading fiction is supported by trait openness to experience. In an initial one-way ANOVA with TAS Total as the dependent variable, Fiction Readers (Clusters 1, 3, 5, and 6) differed from Non-readers (Cluster 2), \(F(1, 241) = 12.46, p < .001\). Even so, this difference obscured an asymmetry between TAS Self-altering Imagination and TAS Self-organizing Attention. Specifically, with TAS Self-altering Imagination as the dependent variable,
the comparison between Fiction Readers and Non-readers was significant, \(F(1, 241) = 11.30, p = .001\), but the comparison between Non-readers and Cultural Non-fiction Readers was not. By contrast, with TAS Self-organizing Attention as the dependent variable, the planned comparison between Fiction Readers and Non-readers was significant, \(F(1, 241) = 9.37, p = .002\), but so was the planned comparison between Cultural Non-fiction Readers (Cluster 4) and Non-readers (Cluster 2), \(F(1, 241) = 4.39, p = .037\). In sum, TAS Self-altering Imagination (like BFAS Openness) was elevated among habitual readers of fiction; TAS Self-organizing Attention (like BFAS Intellect) was elevated among habitual readers of fiction and non-fiction.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
<th>Cluster 5</th>
<th>Cluster 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>50</td>
<td>50</td>
<td>38</td>
<td>37</td>
<td>28</td>
<td>44</td>
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<tr>
<td>BFAS Total</td>
<td>2.73</td>
<td>2.46</td>
<td>2.68</td>
<td>2.67</td>
<td>2.69</td>
<td>2.67</td>
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<tr>
<td>Openness</td>
<td>2.54</td>
<td>2.33</td>
<td>2.55</td>
<td>2.59</td>
<td>2.59</td>
<td>2.53</td>
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<tr>
<td>Intellect</td>
<td>2.90</td>
<td>2.58</td>
<td>2.80</td>
<td>2.75</td>
<td>2.78</td>
<td>2.81</td>
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<tr>
<td>TAS Total</td>
<td>1.87(^a)</td>
<td>1.51(^b)</td>
<td>1.74(^a)</td>
<td>1.83(^b)</td>
<td>2.22(^a)</td>
<td>1.94(^a)</td>
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<td>Self-altering Imagination</td>
<td>1.95(^c)</td>
<td>1.57(^c)</td>
<td>1.72(^a)</td>
<td>1.95(^c)</td>
<td>2.19(^b)</td>
<td>2.01(^a)</td>
</tr>
<tr>
<td>Sensorimotor Involvement</td>
<td>2.08(^d)</td>
<td>1.74(^d)</td>
<td>1.96(^b)</td>
<td>2.05(^d)</td>
<td>2.34(^d)</td>
<td>2.14(^d)</td>
</tr>
<tr>
<td>Self-altering Imagination</td>
<td>1.63(^e)</td>
<td>1.28(^e)</td>
<td>1.46(^c)</td>
<td>1.57(^a)</td>
<td>2.08(^b)</td>
<td>1.69(^b)</td>
</tr>
</tbody>
</table>

Table 3: Variations in openness to experience (both BFAS components, all three TAS components) as a function of Reading Habits. \(^a\) Different from Cluster 2 \((p < .05)\), \(^b\) not different from Cluster 2 \((p < .05)\)

Avid and Inclusive Literary Fiction Readers

TAS Self-altering Imagination scores were especially high among those who habitually read a broad spectrum of literary fiction. That is, Frequent and Avid Literary Readers (Cluster 5) not only had higher scores on Self-altering Imagination than did Non-readers (Cluster 2), but also higher scores than Cultural Non-fiction Readers, Selective Fantasy Readers, Inclusive and Avid Fantasy Readers, and even Selective Literary Readers (all \(p < .05\)). As might be expected from these results, when all factor scores for reading fiction (literature, fantasy, thriller, comedy) and cultural non-fiction were regressed on TAS Self-altering Imagination, Literary Fiction (but neither Fantasy Fiction nor Thriller Fiction) independently predicted this component of the TAS \((\beta = .13, p = .035)\).

General Discussion

The current study presents the development of a new reading habits measure that emphasizes actual reading frequency, rather than preference or mere exposure. In an
online survey study, introductory psychology students were asked to recount their most memorable reading experience during the preceding year and fill out questionnaires on reading experience. Exploratory factor analysis of the reading habits measure suggested six broad genre distinctions (i.e., Literary Fiction, Fantasy Fiction, Thriller Fiction, Comic Fiction, Cultural Non-Fiction, and Popular Media), whereas cluster analysis indicated six contrasting profiles of reader engagement (i.e., groups of readers who habitually choose to read a certain combination of genres). None of the factor scores correlated significantly with a measure of socially desirable responding.

One advantage of the Reading Habits Questionnaire over measures that capture either preference or exposure (directly or indirectly) is that it enables separate assessment of reported reading frequency (the frequency prompt), reported reading pleasure (the enjoyment prompt) and reported reading engagement (the absorption prompt). In the present report, we only showed results of factor and cluster analyses on reported reading frequency. The RHQ, however, also allows for analyses that combine responses on these three prompts. Such analyses could be used, for example, to isolate unenjoyable but frequent genre exposure, such as when people read poetry because they are required to for educational purposes. Also, the interactive combination of the frequency prompt and the absorption prompt (e.g., their cross-product) may indicate how often someone reads a selected genre in an engaged manner. Even so, just using the frequency prompt, as in the present study, already provides a more comprehensive impression of a person's reading habits than using an author recognition test or a simple reading frequency scale, especially because of the range of genres included in the RHQ (21 in total).

Additional benefits of using the RHQ over author recognition tests are its translatability and thus its suitability for cross-cultural comparison studies. One of the main problems with the ART is that it cannot be used in other language areas, even if the sample speaks English, as they might not be familiar with most of the author names on the list outside of their own language. Since its inception, versions of the ART have been developed in several different language areas, besides the Canadian-American area where it was originally developed. However, because the list of authors can never be the same (or even similar) and each language area may involve a distinctive reader population (e.g., more diverse, more often multilingual, access to a more diverse range of genres), the ART could not readily be used in cross-cultural studies of reading habits.

Results using the RHQ also indicate the utility of multi-dimensional assessment of reading habits. On the one hand, its factor structure with the frequency prompt echoes common (and broad) genre distinctions (Literary Fiction, Fantasy Fiction, Thriller Fiction, Comic Fiction, Cultural Non-fiction, and Popular Media). On the other hand, cluster analysis identified groups of readers who habitually choose combinations of these genres. For example, Selective Literary Readers read literary fiction (but not poetry) and thriller fiction; Inclusive and Avid Literary Readers read all types of fiction (especially poetry) but only one type of thriller (detective stories).
Openness and Reading Habits

Comparison of groups with contrasting reading profiles indicated that these groups of readers also differed in trait openness to experience.

First, generic openness to experience (BFAS Openness to Experience) was elevated among habitual readers of fiction and among habitual readers of cultural non-fiction. Thus, generic openness to experience reflects sustained but receptive attention either during sensuous-aesthetic engagement with fiction (i.e., openness) or during rational-intellectual engagement with non-fiction (i.e., intellect) (DeYoung 2015). Second, openness specifically (BFAS Openness) was elevated among habitual readers of fiction but not among habitual readers of cultural non-fiction. This reinforces the notion that sustained but flexible attention during sensuous-aesthetic engagement characterizes habitual readers of fiction but perhaps not habitual readers of non-fiction. The elevated scores on TAS Self-organizing Attention among habitual readers of fiction converged with the elevated scores on BFAS Openness among habitual readers of fiction. Third, self-altering imagination (TAS Self-altering Imagination) was elevated among avid and inclusive readers of literary fiction (who also read poetry) but not among selective readers of literary fiction who also read thrillers.

These results directly show the utility and versatility of the Reading Habit Questionnaire. Investigators can use it to look at the distribution of scores across a range of different fiction and non-fiction genres, zoom in on common genre distinctions, or identify groups of readers who habitually choose to read certain combinations of text genres. For example, it becomes possible to compare the personality traits of avid (literary) readers and non-readers or to compare the kinds of experiences they commonly report when reading certain types of texts (e.g., enjoyment, absorption, frustration).

Outlook

The present research provides an alternative approach to measuring reading habits. We are planning follow-up studies in which we compare the RHQ to methodologically different measures of the 'same' construct (e.g., the ART and other self-report reading frequency measures). Also, we plan to examine further whether reading frequency is independent of socially desirable responding and (relatively) independent of generic linguistic competence (e.g., reading speed, vocabulary development). Most importantly, we plan to investigate whether the RHQ predicts reading experience, including absorption and flow, but also more finely tuned aspects of literary reading (e.g., response to stylistic variations, focalization, or metaphor comprehension). These follow-up studies will involve more diverse samples to ensure the measure's versatility and utility in a variety of different situations.
Works Cited


Kuijpers, Moniek M., Shawn Douglas, and Don Kuiken. "Personality Traits and Reading Habits that Predict Absorbed Narrative Fiction Reading." *Psychology..."


