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The Extended Transportation-Imagery Model:

A Meta-Analysis of the Antecedents and Consequences of Consumers' Narrative Transportation

Tom van Laer
Ko de Ruyter
Luca M. Visconti
Martin Wetzels

Agenda:

1. A story about stories…
2. Narrative transportation
3. Extending the TIM
4. Meta-analytic procedure
5. Results
6. Learning from the story

A Story about Stories

Relevance of stories

"*There is not, there has never been anywhere, any people without narrative; all classes, all human groups, have their stories (…). Like life itself, it is there, international, transhistorical, transcultural.*" (Roland Barthes 1975, 237)

"The one who tells the story rules the world." (Hopi proverb)

- On a collective level, stories permeate the history of mankind (Boyd 2009; Moore 2012) as early wall graffiti testifies (David and Wilson 2002; Smith 2007).

- On an individual level, stories represent one of the first—if not the first—form of cultural transmission after birth.

A Story about Stories

Interpreting stories

Narratology, or the study of stories, implies a holistic appreciation of stories by means of an "examination of the content, structure, and context" (Stern, Thompson, and Arnould 1998, 199):

- Structural analysis (Barthes 1975) consists of inspecting the "basic rules of narrative accounting" (Gergen and Gergen 1988, 30), which make stories much more than a sequence of propositions (Adaval, Isbell, and Wyer 2007; Adaval and Wyer 1998; Pennington and Hastie 1988) .
- Post-structural analysis directs attention to the cultural, historical, and social context in which the story unfolds and that make it possible and interpretable (Holt 1997; Shankar et al. 2001; Thompson 1997).

A Story about Stories

Stories in consumer research

Stories have attracted much scholarly attention of consumer researchers. We identify two disciplinary approaches of consumer research to stories:

- Stories as consumable goods, whenever scholars' attention is directed to stories-as-consumed. Among others, edutainment (Moyer-Gusé 2008), social media with stories at centre stage (van Laer and de Ruyter 2010), reality television shows (Hall 2009) and interactive video games (Baranowski et al. 2008) have been covered.

- Stories as a persuasive lever, whenever scholars' attention focuses on stories' capacity of activating affective and cognitive changes in story-receivers—that is, consumers of the story—that may eventually affect their beliefs, attitudes, intentions, and behaviours (Gerrig 1993; Green 2008).

A Story about Stories

Stories in our research

Our research focuses on:

- Narrative transportation occurring whenever the consumer experiences a feeling of entering a world evoked by the narrative and is thus 'lost in the story' (Nell 1988). This particular state of suspension of disbelief and deep involvement is possible when certain contextual and personal preconditions are met, as Green and Brock (2002) postulate for the Transportation-Imagery Model.

- The dyad storyteller – story-receiver, where the storyteller acts as the producer of the story and the story-receiver as its interpreter and consumer.

A Story about Stories

Gap and research objectives

Extant narrative transportation literature remains fragmented, in terms of both its conceptual breadth and its empirical findings (Green et al. 2004a; Moyer-Gusé 2008; Nabi and Krcmar 2004; Slater 2002a).

1. Develop a model that integrates the antecedents and consequences of narrative transportation.

2. Empirically assess the model with a quantitative meta-analysis of extant research.

3. Uncover issues that deserve further attention and provide directions for further research.

Narrative Transportation

Key constructs: Ingredients of the potion

The conceptual building blocks of our work are four:

1. Story
2. Narrative
3. Narrative transportation
4. Narrative persuasion

Narrative Transportation

Key constructs: Ingredients of the potion

Former works use the concepts of story and narrative interchangeably (Chase 1995; Grayson 1997; Shankar et al. 2001). Yet, on closer inspection of Thompson's (1997, 438) hermeneutic analysis of consumer stories we read that a narrative is derived from a process of attribution of meaning to and interpretation of a story.

1. Story is the **story-as-told**, that is, a storyteller's account of an event or a sequence of events leading to a transition from an initial state to a later or end state (Bennett and Royle 2004). It always implies: (a) a plot (narrative movement + narrative framing; Thompson 1997); (b) some characters; (c) a climax; and, (d) an outcome.

2. Narrative is the **story-as-received**, that is, the story-receiver's consumption of the story through which (s)he does not just read the story but makes it readable in the first place according to her/his prior knowledge, attention, personality, demographics, and significant others (Fishbein and Yzer 2003).

Narrative Transportation

Key constructs: Ingredients of the potion

Narrative transportation and narrative persuasion constitute respectively the focus and relevance of the model we provide:

3. Narrative transportation is the extent to which (1) a consumer *empathizes* with the story characters (Slater and Rouner 2002) and (2) the story plot activates her/his imagination (Green and Brock 2002), which leads her/him to experience *suspended reality* during story reception.

4. Narrative persuasion is the effect of narrative transportation, which manifests itself in story-receivers' affective and cognitive responses, beliefs, attitudes, and intentions from being swept away by a story and transported into a narrative world that modifies their perception of their world of origin (Phillips and McQuarrie 2010).

Extending the TIM

Why an extension is needed and how we proceed

This research offers an extension of the Transportation-Imagery Model (Green and Brock 2002):

- Extending the TIM: the original model does not cover the full set of variables our literature review reveals; some of which appeared after its publication.

- How we extend the TIM:

  1. We separate antecedents of narrative transportation from its consequences.

  2. On the antecedent level, we further distinguish between antecedents on the storytellers' and the story-receiver's side.

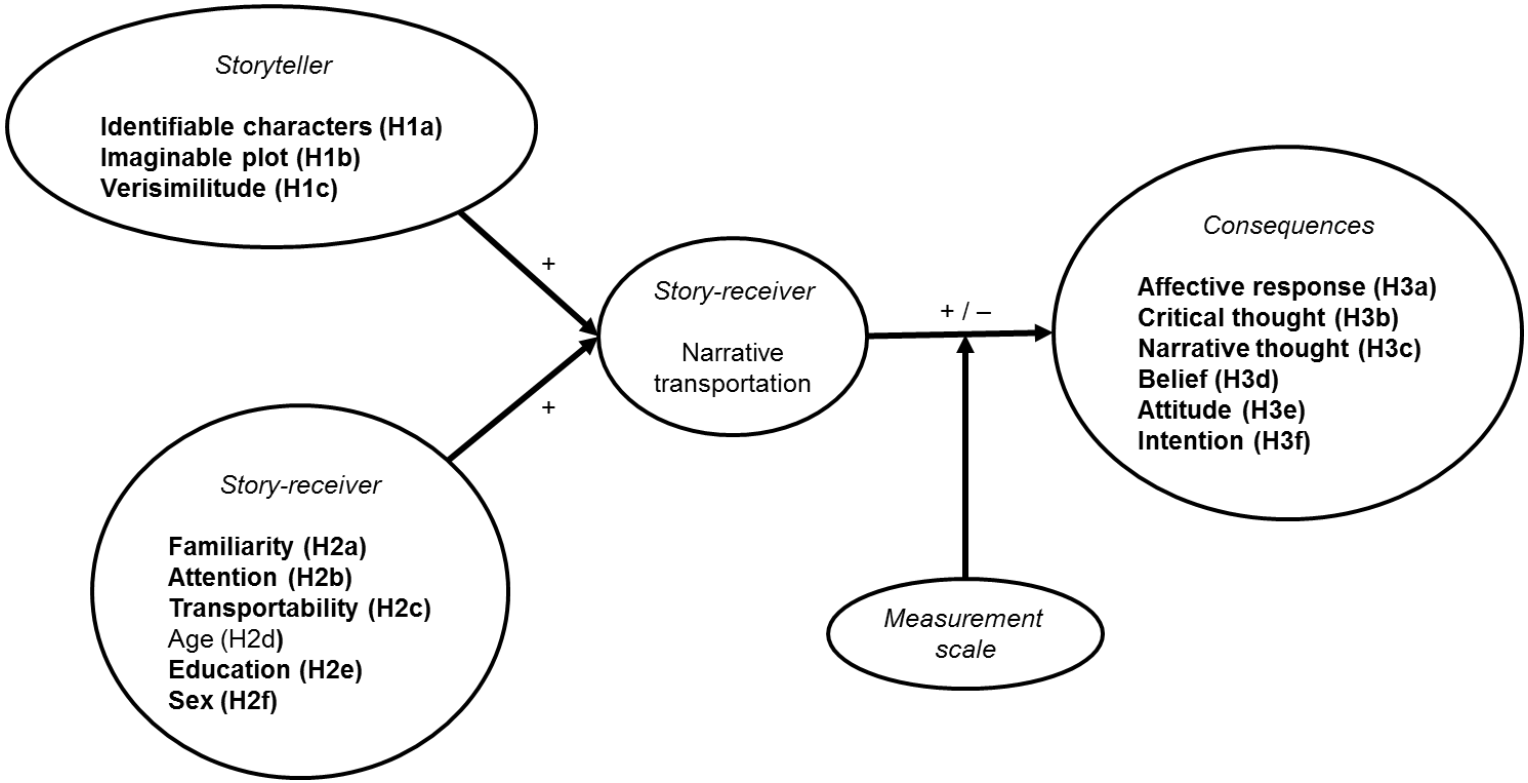
  3. We check for a moderation effect of measurement scale.

  4. We do not include medium among the antecedents of narrative transportation since extant studies are scant and thus can't provide meaningful insight (Valentine, Pigott, and Rothstein 2010).

Extending the TIM

An overview of the model

Antecedents | Narrative transportation | Consequences



Extending the TIM

A) Storyteller's antecedents

1. Identifiable characters

Definition: Identifiable characters as invented personas the story-receiver clearly pinpoints from the storyteller's use of context-derived assumptions (Küntay 2002; Stern 1994).
Impact: When story-receivers interpret the story according to the characters bias (Hoffner, Levine, and Toohey 2008), they will become more transported (Dal Cin et al. 2007; Slater et al. 2003).

2. Imaginable plot

Definition: The extent to which the temporal sequence of events that happen to the characters in a described setting can be mentally evoked (Escalas 1998).
Impact: A story plot influences narrative transportation to the extent that it provokes mental imagery (Escalas 2004a; Green and Brock 2000).

3. Verisimilitude

Definition: The likelihood that story events may actually happen (Bal et al. 2011; Bruner 1986).
Impact: A higher level of verisimilitude increases story-receivers' suspended reality (Busselle and Bilandzic 2008) and narrative transportation (Green 2004).

Extending the TIM

A) Storyteller's antecedents

Hypothesis 1

The more stories have

(a) characters with whom story-receivers can identify
(b) a plot that story-receivers can imagine, and
(c) verisimilitude,

the more narrative transportation increases.

Extending the TIM

B) Story-receiver's antecedents

1. Familiarity

Definition: Prior knowledge about or experience with the story topic or genre (Green 2004).
Impact: Familiarity should increase narrative transportation due to intrinsic interest or easier imagination (Green 2004; Morvian, Movius, and Cody 2009).

2. Attention

Definition: The story-receiver's degree of focused concentration on the story (Berlyne 1960).
Impact: When story-receivers are motivated to pay attention to a story, they experience greater transportation as a result (Polichak and Gerrig 2002).

3. Transportability

Definition: A story-receiver's chronic propensity to be transported, independent of any particular story or genre (Dal Cin, Zanna, and Fong 2004).
Impact: Transportability induces narrative transportation beyond familiarity effects (Dal Cin et al 2007; Dunlop, Wakefield, and Kashima 2008).

4. Demographics

Age: Younger story-receivers may criticize less and thus transport more (Dieckman and Murnen 2004).
Education: Higher education may facilitate inference-making and thus transportation (Mar et al. 2006).
Sex: Women read more (Mar et al. 2006), are more empathetic than men (Argo et al. 2008; Davis 1983), and are thus more transportable.

Extending the TIM

B) Story-receiver's antecedents

Hypothesis 2

The more story-receivers

(a) are familiar with a story topic,
(b) pay attention to a story,
(c) possess transportability,
(d) are young,
(e) are educated, and
(f) are female,

the more narrative transportation increases.

Extending the TIM

C) Consequences

1. Affective responses

Definition: Emotional responses reflecting expressions of feelings (Albarracín et al. 2005).

Impact: Transported consumers are more likely to develop stronger affective responses due to superior perceived realism of the story (Escalas 2004a; LaMarre and Landreville 2009).

2. Critical thoughts

Definition: Cognitive responses reflecting expressions of negative thoughts (Green and Brock 2000).

Impact: Narrative transportation may reduce critical thoughts (Slater and Rouner 2002).

3. Narrative thoughts

Definition: Cognitive responses reflecting representations of the story structure (Escalas 2004b)

Impact: Narrative transportation may increase narrative thoughts (Chang 2009).

Extending the TIM

C) Consequences

4. Beliefs

Definition: Descriptive responses consistent with the story plot (Albarracín et al. 2005).
Impact: Transported story-receivers are more likely to adopt story-consistent beliefs due to superior perceived truth of the story (Marsh and Fazio 2006).

5. Attitudes

Definition: Evaluations of beliefs with some degree of (dis)favour (Eagly and Chaiken 1993).
Impact: Transported story-receivers are more likely to have positive attitudes, because of a perception of the story plot as truthful and desirable (Escalas 2004a, 2007; Green and Donahue 2011).

6. Intentions

Definition: Willingness to perform a particular behaviour (Fishbein and Yzer 2003)
Impact: Transported story-receivers tend to be more willing to perform an action (Dunlop, Wakefield, and Kashima 2010; Schlosser 2003).

Extending the TIM

C) Consequences

Hypothesis 3

The more narrative transportation increases,

(a) story-consistent affective responses increase,
(b) critical thoughts decrease,
(c) narrative thoughts increase,
(d) story-consistent beliefs increase,
(e) story-consistent attitudes increase, and
(f) story-consistent intentions increase.

Meta-analytic procedure

Dataset

Preliminary composition of the dataset:

- Languages covered: Dutch, English, French, German, and Italian.
- Timeframe: the 13 years following Green and Brock's (2000) quantitative operationalization.
- Nature of the studies: published and unpublished studies (Bozarth and Roberts 1972).
- Outcome: 9 unpublished and 270 published papers (including book sections) related to narrative transportation.

Meta-analytic procedure

Dataset

Final composition of the dataset:

- Restrictive criterion of inclusion: to appear in our meta-analysis, a study needed to meet our narrative transportation definition.

  Therefore, the study needed to include narrative transportation as a variable measured by the Transportation (Green and Brock 2000, 704), Being Hooked (Escalas et al. 2004), or Mysticism (Hood 1975) scales.

- Final outcome: 76 papers, and 132 effect sizes of narrative transportation.

Results

A) Antecedents

	k	*N*	r_u	CI_{ru}	*r*	CI_r	*ρ*	CI	*z*	FD
Storyteller antecedents										
Identifiable character	16	3134	.18	.00–.34	.17	.09–.26	.20	.10–.28	4.15***	365
Imaginable plot	28	4117	.26	.06–.43	.26	.20–.32	.29	.21–.36	7.39***	2080
Verisimilitude	8	1524	.23	.05–.39	.23	.12–.34	.27	.15–.39	4.34***	207
Story-receiver antecedents										
Familiarity	30	4150	.20	.02–.36	.20	.13–.28	.21	.15–.30	5.65***	994
Attention	22	3383	.27	.07–.44	.28	.18–.38	.29	.20–.39	5.73***	1655
Transportability	17	2562	.27	.11–.42	.27	.21–.34	.30	.23–.36	8.15***	947
Age	34	5691	.00	.00–.00	.00	.00–.00	.00	.00–.00	.01	0
Education	45	5754	.06	-.05–.18	.08	.07–.08	.10	.09–.11	15.67***	80
Sex	45	5846	-.02	-.17–.12	.10	.09–.11	.15	.14–.16	26.44***	312

k = number of effect sizes; *N* = number of participants in the original studies; r_u = unadjusted mean correlation; CI_{ru} = lower and upper limit of the 95% confidence interval around the unadjusted mean correlation; *r* = inverse variance-weighted mean correlation; CI_r = lower and upper limit of the 95% confidence interval around the inverse variance-weighted mean correlation; *ρ* = reliability-adjusted, inverse variance-weighted mean correlation; CI = lower and upper limit of the 95% confidence interval around the reliability-adjusted, inverse variance-weighted mean correlation; *z* = test of null (two-tailed); FD = file drawer *N* giving an indication of publication bias.

*** $p < .001$.

Results

B) Consequences

	k	*N*	r_u	CI_{ru}	*R*	CI_r	*ρ*	CI	*z*	FD
Affective response	13	2047	.52	.38–.63	.54	.40–.65	.57	.47–.65	9.33***	2265
Cognitive response										
Critical thought	7	2373	-.19	-.31–-.06	-.18	-.31–-.05	-.20	-.34–-.05	2.60**	127
Narrative thought	8	1730	.18	.04–.31	.18	.10–.25	.20	.10–.29	4.06***	122
Belief	13	1706	.23	.05–.39	.23	.19–.28	.26	.21–.30	10.82***	362
Attitude	31	4121	.40	.24–.54	.41	.35–.47	.44	.38–.50	12.16***	6627
Intention	9	1129	.28	.10–.44	.29	.20–.38	.31	.21–.41	5.62***	249
Combined	20	3031	.33	.15–.48	.34	.26–.41	.36	.28–.44	8.37***	2028

k = number of effect sizes; *N* = number of participants in the original studies; r_u = unadjusted mean correlation; CI_{ru} = lower and upper limit of the 95% confidence interval around the unadjusted mean correlation; *r* = inverse variance-weighted mean correlation; CI_r = lower and upper limit of the 95% confidence interval around the inverse variance-weighted mean correlation; *ρ* = reliability-adjusted, inverse variance-weighted mean correlation; CI = lower and upper limit of the 95% confidence interval around the reliability-adjusted, inverse variance-weighted mean correlation; *z* = test of null (two-tailed); FD = file drawer *N* giving an indication of publication bias.
** $p < .01$; *** $p < .001$.

Results

C) Measurement scale moderator

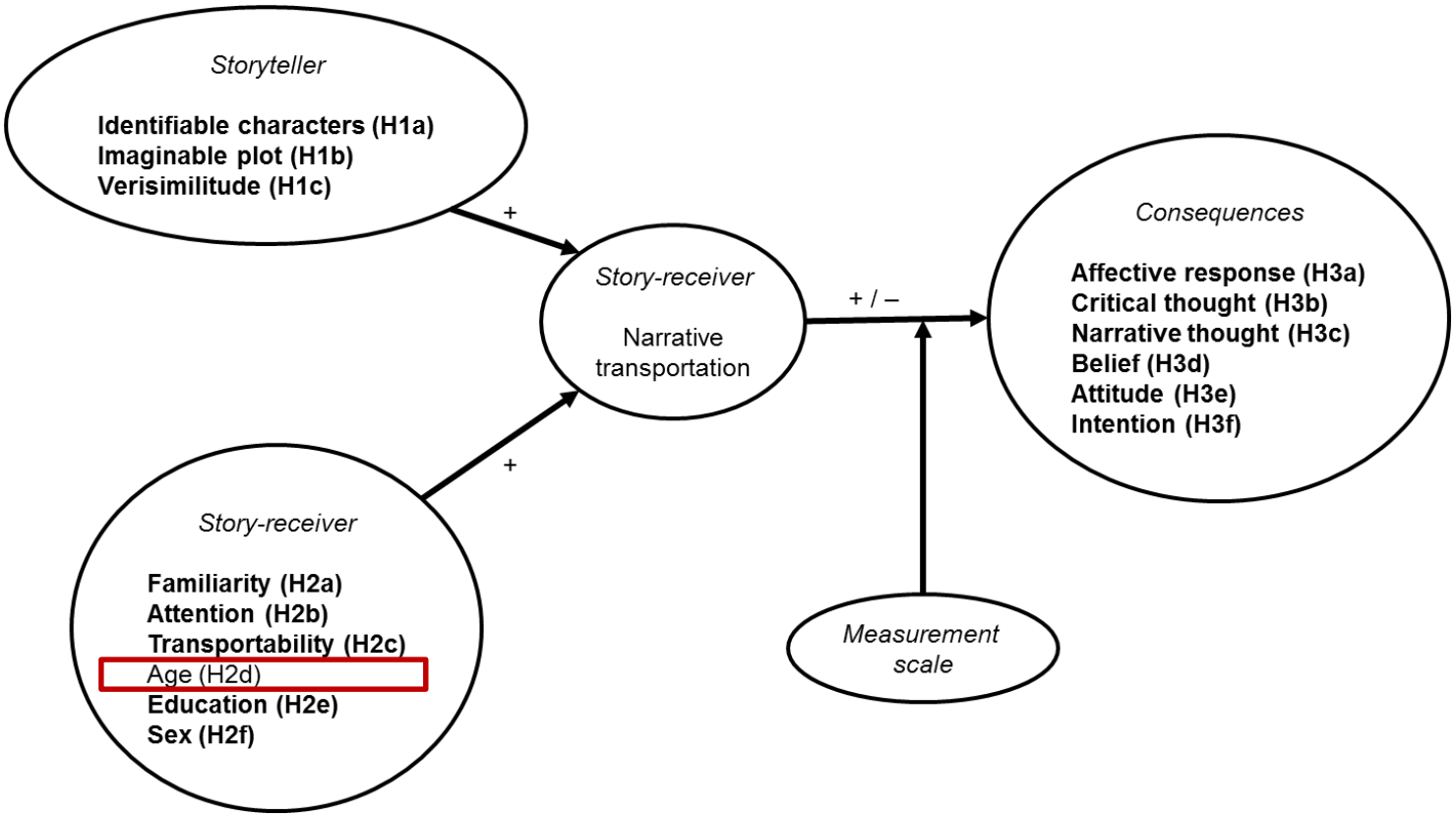
	k	*N*	r_u	CI_{ru}	*r*	CI_r	ρ	CI	*z*	*Q*	df_Q
Transportation scale	127	20,620	.30	.14–.44	.31	.26–.36	.34	.28–.39	11.66***	10.25**	1
Other scale	5	588	.51	.36–.64	.53	.41–.62	.56	.44–.66	7.79***		

k = number of effect sizes; *N* = number of participants in the original studies; r_u = unadjusted mean correlation; CI_{ru} = lower and upper limit of the 95% confidence interval around the unadjusted mean correlation; *r* = inverse variance-weighted mean correlation; CI_r = lower and upper limit of the 95% confidence interval around the inverse variance-weighted mean correlation; ρ = reliability-adjusted, inverse variance-weighted mean correlation; CI = lower and upper limit of the 95% confidence interval around the reliability-adjusted, inverse variance-weighted mean correlation; *z* = test of null (two-tailed); *Q* = test of difference between moderator levels; df_Q = degrees of freedom of the test of difference between moderator levels.
** $p < .01$; *** $p < .001$.

Learning from the story

What matters; what does not

Antecedents | Narrative transportation | Consequences



Learning from the story

Possible explanations for the non-significant age result

- Younger story-receivers may have greater influenceability, whereas older story-receivers may have higher familiarity, story-relevant knowledge, and experience with stories (Mar et al. 2006; Petty and Wegener 1998b).

- 43.44% of the original studies do not report age and 32.79% of the original studies report an average age between 18 and 22, which reduces the validity of the nonsignificant finding for age.

Learning from the story

Possible explanations for notable significant results

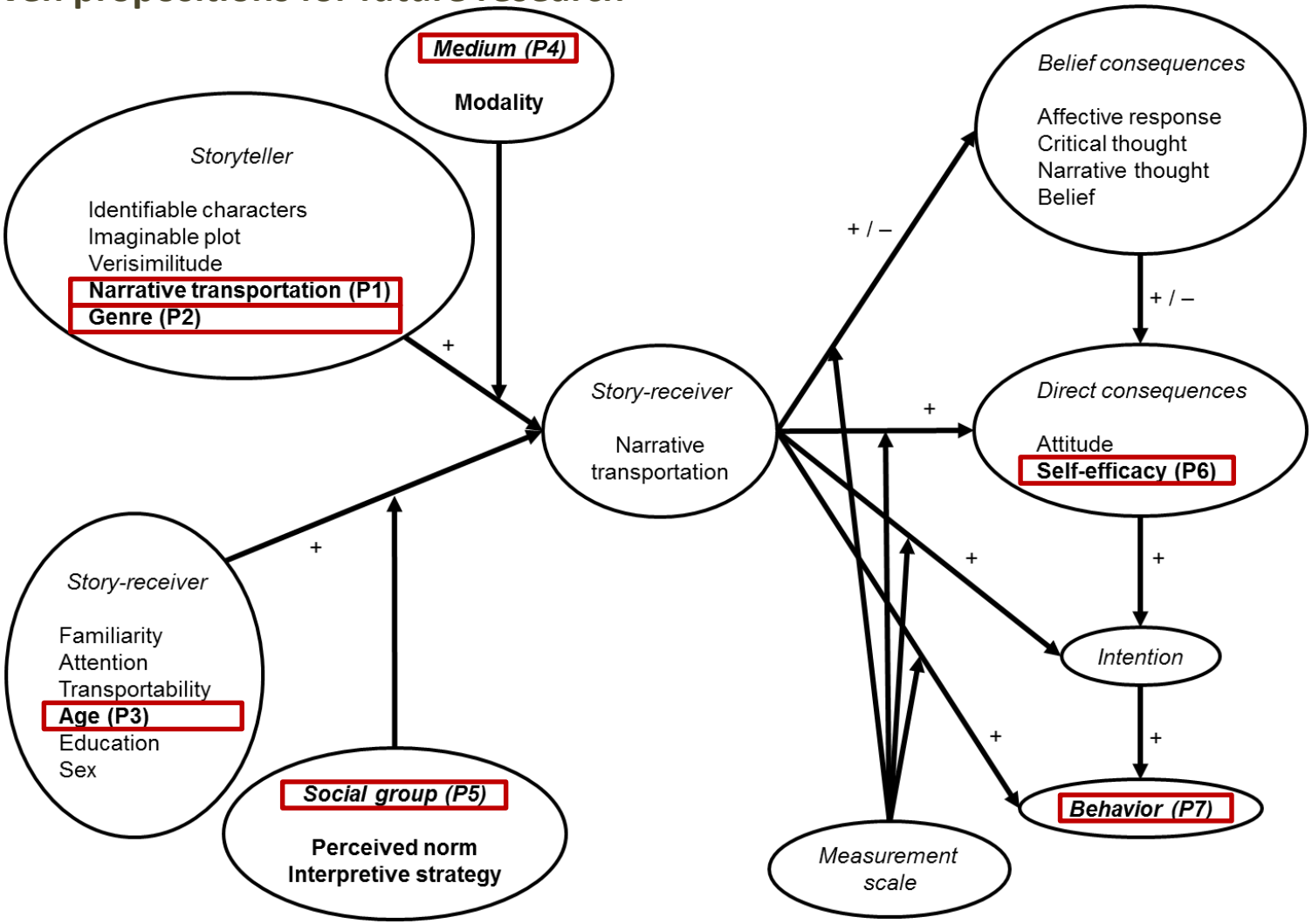
- Transportability: the effect of transportability on narrative transportation is large enough that laypeople can easily perceive the difference between less and more transportable consumers. This results highlights the importance of story-receiver characteristics that change relatively little over time.

- Affective responses: the effect of narrative transportation on affective responses is especially large. This finding confirms the intuition that people consume stories because of a desire to be entertained, to experience suspended reality (i.e., escapism), or to enhance their everyday lives.

- Critical thoughts: the effect of narrative transportation on critical thoughts is less significant than the effect on the other consequence variables. Whether story-receivers will generate critical thoughts or not may depend on the extent to which they are transported and motivated to process the story cognitively.

Learning from the story

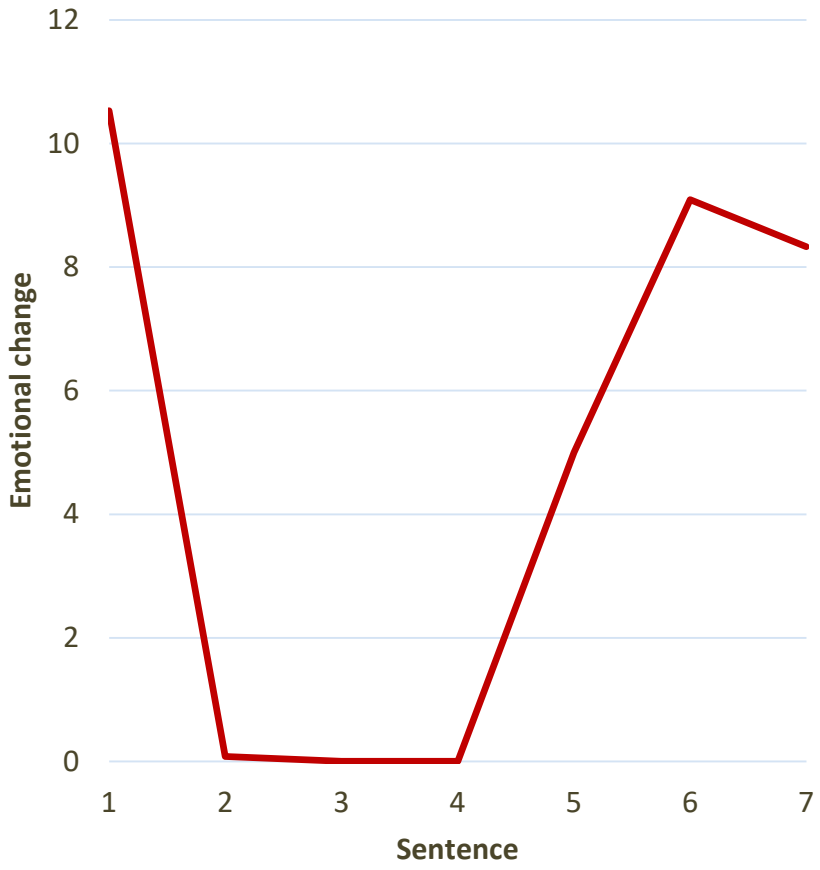
Seven propositions for future research



Learning from the story

A review of Mystery Adventures, a life action roleplaying game, as an example

❖ **Genre**



(WhyWasteTimeWorking, TripAdvisor, 29 May 2011)

This is **definitely** an unusual thing to do in Las Vegas, but can be a **wonderful** change of pace.

If you are into CSI and **like** solving mysteries, this is for you.

If you'd rather just kick back, this might be a bit much.

Max seemed **nervous** at first with lots of 'uhhh's and ummmms, but **warmed** up quickly.

The mystery started out slow..which might be natural, but picked up pace and **excitement** as the night went on.

And it did go on...from 7pm to **well** past 10pm.

Very **exciting** and worth the effort we put into it.