



JCR MANUSCRIPT REVIEW HISTORY 004-1 (REVIEWS)

Editor's Decision Letter

Thank you for submitting "The Influence of Ceiling Height: The Effect of Priming on the Type of Processing People Use" to JCR for publication consideration. The manuscript has been read by four reviewers, an associate editor, and me. The reviewers made arguments on the merits of the paper, and the associate editor evaluated the arguments, prioritized them, and made a recommendation. Their reports are attached to this letter. The purpose of this letter is to give you my decision.

This is a very creative paper, and although the reviewers raise a number of concerns related to just how tightly you have tied down the process, I don't think that the work is in fatal trouble on that score. The issue that is exercising my mind is the one that reviewer A and the associate editor raise, whether this is work that belongs in a consumer research journal or in a journal concerned with information processing more generally. My decision, to get that out of the way, is to invite a revision, but I want to be clear (and I hope persuasive) on just what a revision would have to accomplish to be a good fit with JCR. This is a high-profile topic and it may have the potential to contribute to the evolving character of JCR, but I really am not sure. So the revision is what editors call risky, although I think in this case you may be better placed than I am to say whether there is risk or not, and consequently to decide whether you want to go for JCR or go to a general psychology journal.

I see the paper somewhat as reviewer B sees it, as an argument with more interesting and less interesting stages, but there may be a subtle difference between our views so I'll spell mine out. I see that you have (1) a cue of great relevance to consumer research (the ceiling height of the room in which consumers make judgments). You conjecture that this cue primes (2) concepts of freedom or confinement, and these concepts then prompt (3) relational or item-specific processing of judgment-relevant information, which in turn influences (4) consumer judgments of product sophistication.

The (1) to (4) link is the most obviously consumption-relevant, but a paper that pursued that contribution without much fresh insight into the intermediate process would be a very applied paper, and to make a sufficient contribution it would probably have to have a lot more variation in the operationalization of the cue, which would mean a substantial amount of new data collection. You'd have to deal empirically with reviewer B's concern that volume and ceiling height are confounded, the question of the linearity of the effect

with height of ceiling, the associate editor's distinction between the ceiling height and the lantern height, and so on, and I don't think that this is the set of studies that you are particularly interested in undertaking.

The (1) to (2) link is the one challenged most in the reviews, particularly by reviewer C. You offer evidence against (1) affecting mood, but other concepts and associations might be primed.

You appear to see the contribution as the (2) to (3) link. You acknowledge that the (1) to (2) link is the subject of much research and I agree: demonstrating this link would make a relatively marginal contribution. But note that B and the associate editor say that the (2) to (3) link is also previously demonstrated. So you need to address their questioning of the contribution of the (2) to (3) link.

But I think you also need to show, and arguably for JCR it is even more important to do so, why it is of specific interest to consumer research if a heightening of the accessibility of particular concepts leads to a shift in the kind of processing that consumers apply to information used to make judgments. Isn't judgment about products just a special case of human judgment in this theorizing? Isn't the (2) to (3) link independent of whether (3) links to a consumption-specific judgment or (for example) an interpersonal judgment? If so surely this paper belongs in a general psychology journal, not a consumer research journal? It seems to me that consumer research is research in which the consumption context plays a part in the theorizing, and I don't see that this is the case in this theorizing. I'm not sure this is a problem that can be resolved by the first approach that reviewer A suggests. The general understanding of the function of store atmospherics is not sufficiently illuminated by these relatively particular empirical results. Reviewer A's second suggestion, to use typical consumption DVs, is good, but it would require at least one more study and even so I don't think it would meet the test of having the consumption context implicated in the theorizing. To say that something about the consumption context is implicated in the theorizing means, I think, that it plays a part in generating the effect, not simply that changes in consumption variables are the effect, particularly if those consumption variables could easily be replaced by general psychological variables without loss of fit.

In this light, let us review the associate editor's two suggestions for paths forward, which I think are two sensible alternatives. The first is certainly a feasible option. It would be a major revision, involving new data collection, but I would send the revision to the same reviewing team, so you have a good sense of the standards the revision would have to meet. The second is also an option: cut back to two studies and give an argument about relevance to consumer research that would depend not so much on the results of those two studies but on conjecture and extrapolation. It's less work, and the outcome is more predictable, but you may not like it.

In summary, I am inviting a revision, and leaving it to you to decide which option you pursue. Thank you for sending us this interesting paper, and please don't hesitate to get back to me if anything in the letter or the reports is ambiguous.

Sincerely,



John Deighton

AE comments for the author(s)

This paper explores the influence of ceiling height on whether people use relational versus item-specific processing. They find that when ceiling height is made salient it results in feelings of confinement or freedom and that these feelings lead to changes in style of processing. The four reviewers all felt the manuscript was clearly written and the results relatively clear. They varied on how positively they were disposed to the manuscript overall. I have summarized some of their major concerns below.

Motivation The reviewers did not feel that the manuscript as currently written seemed to address an issue of strong relevance to consumer research. I agree with this perspective, but believe that this can be addressed by rewriting the introduction and general discussion sections. Reviewer A offers suggestions along these lines.

Contribution Reviewer B summarizes your work in a useful manner as following this basic structure: Ceiling height (CH) → concepts → processing style/mode. Reviewer B argues, and I agree, that the second link is something that has been demonstrated previously. Thus, the novel theoretical piece of your work is the relationship between CH and feelings of confinement or freedom, and in the mediating effect of the latter on the CH-processing style relationship. If you agree this is the case, then as Reviewer B points out, it places a heavier burden on demonstrating that your results are clearly attributable to ceiling height (more on this in the next point). This also suggests a potential shift in the focus of the manuscript. For example, study 4, in which you prime freedom/confinement directly, doesn't contribute directly to our understanding of the first link above.

Clarifying ceiling height as the key driver. The reviewers raise several potential confounds that question whether it is truly ceiling height that is activating feelings of freedom, etc. Reviewer B points out that your manipulation of ceiling height is confounded with volume in the room. While I'm reluctant to introduce my own potential counter-explanation (yet another reviewer) I can't help but suggest you consider whether it might be the height of the lanterns that triggers the sense of confinement. That is, when lanterns are hung from an 8' ceiling their low point is 7' (just guessing as you don't describe them fully) and this is what people respond to, not the fact the ceiling is 8' high. So would you get the effects you observe when the ceiling height is 10' but the lanterns are hung so their low point is 7' (just an extra long cord). Even if this were to be the case, it would still be interesting, but would just mean that the term ceiling height might not be a great one to use. Reviewer B also expresses concerns about why salience is required for ceiling height to have an effect. The height of the lantern explanation would I believe explain why. If it does not then the fact one has to draw attention to the ceiling height before it primes anything may call to question how important the issue might be in practice.

Details The reviewers have asked for quite a number of clarifications on stimuli, analyses etc. While these may make the manuscript slightly less easy to read please do your best to respond to each, at a minimum in the responses.

Potential directions? There are at least two foreseeable paths forward that you might consider. The first is to attempt to address the issues above directly through the collection of additional data. In this path the contributions of studies 3 & 4 would have to be seriously examined in terms of whether they contribute centrally to demonstrating the first link in the comments above. The second path might be to consider a much shorter version of the paper (very likely only including studies 1 and 2 with no new data) that simply demonstrates the basic priming effect of ceiling height, and argues why it is important to consumer researchers.

Best of luck with your research.

Reviewer A
Comments for the author(s)

This research proposes the novel idea that ceiling height, when salient, will influence the type of processing people use. Specifically, this proposes that salient high ceilings will prime concepts of freedom, which will lead people to engage in more relational processing. Salient low ceilings, on the other hand, will prime concepts of confinement, which will lead to item-specific processing. The manuscript then goes on to report the results of four well-designed studies that build a case for these ideas. Each of the studies builds on the previous studies to add a brick to the author(s)' argument.

While I enjoyed reading the first two studies, when I got to the end of these, I thought of an alternative explanation that I thought would explain all of the results. However, after the third study, the author(s) delineated the same alternative explanation and then proceeded to effectively rule it out in the fourth study! This research includes multiple measures in each study, often with opposite predicted effects on different measures. The multiple measures, different directionality, and the multiple studies present a compelling case for the theoretical concepts proposed in this research. By this I mean, by the careful combinations of multiple measures and multiple studies, this succeeds in supporting the proposed theoretical notions and ruling out alternative explanations.

I would like to suggest some things that I hope may help to strengthen this research.

I am a bit concerned about this as consumer (as opposed to "merely" human) psychology. I think that the fit with JCR can be improved by providing greater conceptualization and support for how this applies to and, more importantly, what this means in the consumer domain. This can be accomplished in two different ways. First, the front end should be re-written to present this more completely in terms of consumer behavior. For example, the idea of ceiling height could be developed in terms of store atmospherics and their importance for understanding consumer behavior. Second, the current research presents (in two studies) one application to the consumer domain. Specifically, this shows effects of ceiling height and type of processing on evaluations of products. However, the particular evaluation is a bit difficult to apply to typical consumer situations. As I understand it, respondents see two products that were created to be a bit

odd in that a few aspects were made to be somewhat incongruent with the whole by virtue of being cruder. Then, the research predicts and shows differences in evaluations of “sophistication” based on ceiling height and type of processing. While this provides support for the overall conceptualization, it is somewhat difficult to understand what this means for consumer behavior. This research (and its fit with JCR) would be strengthened by providing more direct insight into consumer behavior by predicting and showing differences in more directly-related concepts. For example, it would be really great to develop a situation where you could predict differences in overall product evaluation, preference, or choice.

Additional thoughts

Could you please provide some description of the Chinese lanterns (e.g., size). It appears that when the body state index is taken, it is always taken first. Please clarify and provide some discussion. Is it necessary to focus people’s attention on their body state or on the concepts of freedom and confinement in order to get the effects? Please provide additional elaboration on the role of awareness. This research makes it clear that the ceiling height must be salient; is it likewise the case that consumers must be aware of and consider the ceiling height?

p. 15 Word choice of “facilitators” is a bit confusing. Provide more detail on how the 10 sports items were selected.

p. 16 Please provide examples of the product stimuli.

p. 16 The sentence beginning “Using flyers for recruitment...” is awkward.

p. 18 Describe who coded (who were the coders/judges?). Why is the age of sport participants subjective? Are the results the same if this is included as objective rather than subjective?

p. 29 Please clarify whether the puzzle task was matched to the condition (Ss only saw one).

This is very interesting research; good luck as you continue.

Reviewer B

Comments for the author(s)

Broad Comments

The goal of the paper is to examine if ceiling height (CH) primes different concepts which, in turn, influences how people process information about the environment. The basic thesis is that higher ceiling height primes thoughts about freedom, which in turn, causes people to process the objects in the environment in terms of how they relate to each other, whereas, lower ceiling height primes thoughts about confinement that makes people focus on individual objects, and encourages better recall of product attributes.

I think, for the most part, the paper is well written. I initially did not think much of the main independent variable, CH. However, upon further thought, I think it is an interesting factor, perhaps in a retail environment setting. The studies, in the first reading, come across as compelling, but some issues crop up when I thought some more. Here are some issues for the authors to consider.

Structure of the Paper and Assumptions

The structure of the paper seems to be as follows: CH → Priming of Specific Concepts → dependent variables. In this, the second arrow is not new, as the authors themselves acknowledge. So, the contribution has to come from the first arrow, and as a derivative, the sequencing of the arrows, i.e., mediation.

My question is can the effect of CH on specific primes be assessed independent of the levels of CH used in the study. This can be answered in the affirmative only if there is an underlying linear relationship between the two constructs in question. This is my first area of concern. Let me elaborate.

Linearity Assumptions in Priming of Specific Concepts. When we go from really small ceilings to moderate to large to humongous ceilings, and to the special case of no ceiling at all, an open-air mall, for instance, what differences would the authors expect in terms of the specific concepts that are primed. I am not sure if the effect of an 8ft to 10ft ceiling difference would monotonically translate to a 10ft versus 12ft in terms of the specific concept, i.e., monotonically increasing perceptions of freedom and decreasing perceptions of confinement.

If this linearity assumption cannot be met, and I doubt if it can be, then, claims about the first arrow is limited to the experimentally chosen levels of CH and specific primes the authors chose to investigate. The paper then becomes the effect of 8 versus 10ft ceilings on the concepts that are primed, and the consequences thereof.

The Role of Salience seems to Undermine Priming Effect

If making the CH salient is needed for the effects to manifest, then, CH, on its own is evidently not priming the concepts in its natural state. In other words, I would have expected a different pattern for H2. If CH is a natural prime, then, in the no salience condition, you would find that HCH triggers freedom and LCH triggers confinement, and that in the salient condition, this effect might be exaggerated. To me, the requirement of a salience manipulation suggests that the effect of CH is at best a conditional prime, which is not what the authors are suggesting throughout the paper (except, of course H2, as stated in the paper). The authors may want to clarify this. Perhaps, I am not reading them correctly.

Confound Checks

Simply put, what else did CH influence? The authors provide some information about mood checks in the general discussion, and in a study with 64 participants, they find a p-value of $>.13$ for negative mood. Now, while it is not statistically significant, what is the role of the sample size, and what was the directionality of this? Given that it is a confound check, even a p-value of $>.13$ should concern the authors.

By reducing the CH, one also reduces the total volume. Will increasing the floor size correspondingly do anything different? I know that this is somewhat extreme, but a true comparison would be the equivalent of a shoe-box standing on its smallest foot-print (maximum CH) versus sitting normally on its largest foot-print.

Role of Other Factors

Would the nature, number of objects, density of the objects matter? For instance, a cathedral with high ceilings and the CH in a Wal-Mart may both be higher than that of a typical room in the house, but might activate very different primes.

Other Important Dependent Variables

How does CH affect thoughts about the self? I was particularly intrigued by your thoughts about how does entering a cathedral influences the kind of thoughts. Recently I had the experience of seeing Grand Canyon for the first time in my life. Based on my

own experience, I do think that a vast expanse does trigger thoughts that seem different from the ordinary. I wonder whether the authors would consider thinking about what else can expanse do? Thoughts about existence? Who we are? Where we are from etc? Astronauts who see the Earth from the space do frequently make references to thoughts of this nature.

Minor issue

The authors might want to provide standard deviations in parentheses and to indicate significant treatment means in their tables.

In summary, this paper, in effect want to make a case for the meanings associated with CH in a laboratory context using manipulated values of CH. I am concerned that these effects might be idiosyncratic to the manipulated levels of CH, and not as general as the authors seem to suggest.

Reviewer C

Comments for the author(s)

This is a very interesting paper. Overall, I find many positives – creative idea, good writing and thoughtful experiments. I am particularly impressed by the theorizing that is developed around the notion of type of elaboration and relating ceiling height to type of elaboration. This is a truly novel insight. And the results are quite solid that ceiling height does influence type of elaboration, although they can be bolstered some more. What is less certain is the mechanism that mediates this effect. I elaborate on this, and a few other issues, below.

1. Although the theorizing does acknowledge alternate explanations of the results (such as the possible effect of mood/emotion) and the experiments do attempt to rule them out, one additional alternate mechanism is overlooked. It could be that all the manipulations influence regulatory focus, which is what mediates the effect of ceiling height on type of elaboration. For instance, research has shown that regulatory focus is influenced by independence/interdependence, such that independent minded people show greater promotion orientation, and interdependent minded people show more prevention orientation (see work by Aaker and Lee in JCR and JPSP). In addition, the experience-description manipulation (study 4) seems to invoke two distinct positive emotional mind-sets – freedom and nurturance, which could be respectively primes of promotion and prevention orientation. In fact, some recent papers have induced different emotions to manipulate regulatory focus (Bosman and Baumgartner forthcoming JCR December 2005; a working paper by Agrawal, Menon and Aaker). Consequently, I believe the present data does not rule out the possibility that the underlying mechanism is regulatory focus, not simply freedom/confinement.
2. One specific alternate hypothesis that is addressed pertains to mood. However, it is important to note that there is ample evidence that positive mood does prime greater relational processing (e.g., Roehm and Sternthal in JCR 2001). If you accept that the experience-description manipulation manipulated regulatory focus, it suggests that an additional contribution of the paper could be to show

- that not all positive moods prompt relational elaboration, but only promotion focused positive emotions do so.
3. I would like to see an additional study that includes two independent variables, which induce each of the two types of elaboration. Then the joint effect of relational + item-specific elaboration can be investigated; specifically, the prediction of Hunt and Einstein on free recall, and of Malaviya et al. on evaluations, could be tested. For instance, if the ceiling height variable were combined with the experience-description manipulation, we would observe greater recall and more favorable evaluations when both types of elaboration are induced. In general, in addition to the ceiling variable, including a second variable that also manipulated type of processing (preferably a variable that has been used in the past as a reliable manipulation of type of elaboration), would provide additional evidence for the proposed theorizing.

Some minor points:

1. It seems the flow of the paper would be improved if the sequence of experiments 2 and 3 were switched.
2. I would like to know what were the six categories used as stimuli in study 3
3. I would also like to know the filler questions used in this study.
4. When interaction effects are reported in the analysis, sometimes it seems that there are also some main effects present (for example in study 1). Are all the results been reported, or only those that are relevant to the theorizing? At least during the review process I would like to see all the significant results being reported.

Reviewer D

Comments for the author(s)

The paper tests the hypothesis that variations in ceiling height prime concepts related to freedom vs. confinement, which in turn influence the type of cognitive processing (abstract vs. concrete) people employ. The research hypothesis is original and the studies are well done, thus my overall impression is positive and I believe that this paper would make a nice contribution to JCR.

I also had some specific comments:

1. Throughout the ms the authors refer to the effects of high vs. low ceiling but, based on their manipulation (on p. 9), it seems that one of the ceilings had standard height whereas the other one was remade to appear lower. Thus, alternatively, one can think of this research as addressing the effects of low ceiling (as opposed to control, standard height). For instance, wouldn't it be more precise to suggest that low ceilings inhibit abstract processing (as opposed to control) rather than high ceilings encourage this type of processing?
2. A possible alternative (yet another?) interpretation for the proposed mechanism would refer to the perceived pleasantness/comfort of the rooms. This alternative account would not explain the results of Study 4, where both rooms were described as equally comfortable, but it can possibly account for the results of Studies 1-3, if uncomfortable rooms indeed induce concrete processing. Note that this interpretation can't be ruled out by the mood data reported in Study 4, since uncomfortable rooms shouldn't necessary

influence one's mood. I further believe that this interpretation would nevertheless render this research novel and interesting, but it should be considered.

3. The concept of "sophistication" wasn't clear to me. It seems that the authors measured general evaluation of the products rather than their degree of sophistication. I was also unclear about the origin of this hypothesis. Why abstract processing should lead to enhanced liking of consumer products?

Minor comments:

1. In the RT analysis (p. 11): What are the units? Msec? Did the authors log transform individual RTs (a common practice)?

2. In Study 2, did processing style mediate products evaluation? Otherwise, it's possible that uncomfortable rooms lead to more negative product evaluations regardless of processing style.

3. It would be useful to highlight significance in the tables.