This is a very nice manuscript in which the authors explore how power perceptions influence anthropomorphism of inanimate objects and thus risk perceptions. The review team is uniformly enthusiastic about the paper, finding the topic to be interesting and novel, the manuscript itself to be clear and compelling and the empirical work to be solid. Together, the reviewers offer a number of suggestions/comments to improve the paper, which I will summarize below.

1. What is the role of control in your theory? Reviewer B isn’t sure what value the role of control/illusion of control provides to your paper questions whether or not it is really necessary for your theory. Reviewer C also asks for clarification about the role of control in study 2. This is partly, I think, a general lack of clarity about the role of control in your theorizing and partly due to the fact that you don’t really lay out your hypotheses in study 2 clearly before you dive into your empirical results. Reviewer A offers some potential
solutions to the former problem, suggesting that some measures of control beliefs would add clarity to your proposed role for control, relative to power. At present, they are difficult to dis-entangle. Your literature review talks about their symbiotic relationship, but since you only manipulate and measure one construct (power), the conceptual role of control is a little muddier. In addition, Reviewer C asks whether your effects would work with power manipulations that don’t so readily evoke perceptions of control. It’s possible that you could simply drop the control construct from your theorizing, but given its importance in the power literature, you may wish to retain it. And if so, I think that at a minimum you should try to offer conceptual clarity in your theory, and even better, offer some measures, as Reviewer A suggests and/or alternative manipulations of power as Reviewer C suggests. With respect to the writing in study 2, I think that a discussion about what you expect to find and why could be included, perhaps on page 15. (You can make room for this by moving the details about your manipulations to an appendix, as suggested by Reviewer B). Such a discussion might also include an overview of why you are looking at the relative trust that participants put in a brand partner (sunscreen) in this case. This is, as Reviewer B suggests, quite different from what you examine in the other two studies. I also wondered about the implications for perceived efficacy of the sunscreen, as well as perceived self-efficacy, which I think is consistent with what Reviewer C suggests in the fourth paragraph of his/her review). If I feel low in power do I feel as if I lack self-efficacy to prevent the problem, which might make me avoid action altogether? Does it make me, however, at the same time perhaps have faith in the efficacy of objects designed to help me? This study in particular is reminiscent of many studies of the health protection model work, and it seems that power and control are related to the constructs often measured in those studies. Some discussion of this might be worthwhile.

2. Reviewer A asks for additional insight into why the anthropomorphism seems to activate the social belief system and suggests a cognitive story. I don’t see this as critical for your current paper, but this does open up a nice area for future research and could be added to your General Discussion. That said, I do find the GD to be rather long at the moment.

3. The review team finds the power manipulation checks to be uninspired. I agree and would suggest dropping them. Inclusion of a control manipulation check might be a better choice.

4. There are some concerns regarding the significance of various effects throughout the manuscript. Much of this is driven by some concern that you may lack power, given small sample sizes. Sometimes your control variables seem to come close to significance, and Reviewer B suggests that the small cell sizes may be responsible. At present it’s difficult to determine the degree to which this might be problematic because you don’t provide full statistical reporting. Reviewer B also wonders if you used mood (and potentially other control variables) as covariates in your analyses? A more substantial issue is the lack of significance among the low power participants in study 3 (page 27). Your summary of this study suggests that you did find a significant difference and you should be careful of overstating your evidence. You may also wish to consider adding participants to overcome any power effects.
Reviewer A

Comments to the Authors:

The manuscript examines people’s reactions to potentially harmful (non-human) entities when these threats are anthropomorphized, and when the person under threat either does or does not feel empowered. The authors suggest that when people are confronted with an anthropomorphized threat, rather than a threat that is not characterized as human-like, they are more likely to apply their social belief system to the situation. Therefore, according to the authors theorizing, greater empowerment should engender less fear of a threat—but only if the threat is anthropomorphized. The data from three studies are generally consistent with these propositions.

I like the paper: Nice ideas and data. It was interesting to read, and should be able make a nice contribution, with some additional work. The biggest issue I have with the manuscript is that the role of control beliefs in your effects is not addressed in the studies, though this construct seems very important to the conceptualizing. This and some other issues are discussed below.

Control

Your primary proposition, according to my understanding, is that social empowerment leads to a sense of control over others, which in turn leads to a sense of illusory control over non-human entities—but only when these entities have human features. The human features cause the social belief system to come online, and to guide the interactions with the entity. Likewise, people who feel low social power feel little control over others and, consequently, feel little control over these anthropomorphized entities. Thus, an important supposition of your story is that beliefs about control drive your effects. In particular, your explanation asserts that empowered (de-empowered) people feel more (less) control over non-social entities or processes, as long as these entities or processes are anthropomorphized. But you have no measures of control in the studies you have presented. I realize that your data shows that measures of risk mediate your effects, but the data do not show that illusory control shifts across conditions are responsible for these changes in risk perceptions.

I believe that you could shore up the empirical work by running some additional studies showing that illusory control beliefs and expectations are at work in driving your effects. Note that I am not suggesting that you measure social control—it is clear that your social empowerment manipulation will shift feelings of control over others. I would like to see evidence, though, that these shifts in feelings of social control are translating into shifts in control beliefs beyond the social world (i.e., illusory control). It might be useful to measure people’s general sense of mastery or dominance over the events or situations with which they have been presented.

You can add some clarity to the front end regarding the role of control as well. The discussion of power and control (pages 6-7) currently appears to roll them into a single construct.

Activation/Accessibility
Currently, you don’t go into much detail regarding the mechanisms that cause a person who is presented with an anthropomorphized stimulus to begin to draw on their social belief system for interpreting their interactions with it (page 5, last paragraph). You should consider using a cognitive story to make your conceptualization more meaty. Here are some thoughts that might get you started: A cognitive account could suggest that when a person encounters an inanimate stimulus which has been imbued with human features, implicit theories relevant to social interactions are activated in memory. That is, exposure to human features could automatically bring to a person’s mind knowledge relevant for person-to-person interactions. Knowledge accessibility principles would support this notion (Higgins, 1996; Wyer, 2004). Comprising these implicit theories are social schemas and scripts, which make relevant a person’s current feelings of social power. This explanation would predict that including even very subtle human features on and object could cause people to use social principles for guiding their interactions it.

Indeed, your study 1 uses a rather subtle manipulation to instil anthropomorphization: The three bars at the top of the machine vaguely form a face (page 39). So, I believe that an activation account fits with your data. This is an impressive aspect of the study, I believe. In fact, if you add to the paper the activation mechanism I describe, you could mention in the study 1 intro that you are using only subtle human characteristics in your “anthropomorphized” condition, which is an appropriate test of the “activation” account.

Here is another idea: It would strengthen the paper to show that social schemas become more accessible after people are exposed to anthropomorphized entities. Perhaps you could include a “manipulation check” that asks participants to solve some dilemma, where they can apply social rules or not do so.

Risk

It would be helpful to provide a definition of risk, given that this is one of the most important constructs in the paper. The term “risk” gets tossed around quite, so it would be beneficial to be precise and clear. In your measures of risk (studies 1 and 2), you have included items related to the magnitude of a threat (e.g., “life-threatening,” page 18, last paragraph; size of prize, page 10, last paragraph) and likelihood of occurrence (likelihood of getting skin cancer, page 18, last paragraph; likelihood of a win, page 10, last paragraph). This is fine, but the reader should have a clearer picture of your conceptualization of risk.

Studies

• In study 1, participants “were asked to turn on the computer screen in front of them and to look at the picture for a while” (page 8, 3rd line from the end). It would be nice to include some sort of cover story to explain this request.

• In studies 2 and 3, the power manipulation check seems uninspired. If I understand this correctly, participants were asked “When did you feel powerful…” or “When did you feel powerless…” (page 9). Then, immediately after writing about such an experience, they are asked how powerful they felt in the experience they just wrote about. This seems more like a
A more substantial problem with study 2: If I understand the method correctly, participants completed the anthropomorphism manipulation checks before completing the key dependent variable, sunscreen evaluation (page 18-19). I understand that you have done it this way because the tasks are ostensibly separate studies—but this strikes me as a design flaw. The problem is that the MC questions ask participants to think about how human-like the stimulus, skin cancer, is. And doing so, at the least, will give your manipulation a big boost. It is best to cut this study, given this problem, and develop a cleaner methodology.

For study 2, I don’t see inter-item correlations for either of the key DVs, skin cancer risk or sunscreen evaluation.

Minor Items

- page 18, line 12: “p < .1” – use two significant digits, as elsewhere.
- Page 14, line 4: “…the effect of interaction on” – add “the”
- Page 21, 2nd line from end: “…observed as significant difference…” – typo

Reviewer B

Comments to the Authors:

The authors demonstrate that anthropomorphism increases risk perception for people with low power, whereas it decreases risk perception for people with high power. They also demonstrate a reverse causality, namely that risk perception can affect the tendency to anthropomorphize (again depending on power level). I very much enjoyed reading this paper. I only have minor comments/suggestions.

Theoretical Issue

The authors seem to limit their contribution to situations in which anthropomorphized entities bear risk, where the effect of anthropomorphism seems to be more nuanced than what is generally believed (page 27). However, in my opinion, the effect could be more general than this. Why would social power not also moderate the effect of anthropomorphism on other dependent measures such as liking, for instance? The authors’ assumption that “anthropomorphizing a product causes consumers to apply social expectations and beliefs they would not normally apply to an inanimate entity” (page 5) seems to imply that whenever a variable that is crucial in social interactions (such as power) is being manipulated, this variable should moderate the effect of anthropomorphism, no matter what is being measured.

It might be that the authors believe that the moderating influence of power is limited to situations of risk because they clearly link power to the concept of illusion of control (page 6), which is
important mostly in risk perception. However, I wonder how crucial the concept of illusion of control really is here. Personally, I believe that the story could be simplified by dropping this illusion of control idea from the paper. I don’t really see what it contributes. Could one not simply argue that power increases control over the interaction agent (i.e., the machine or the disease), and thus only indirectly over the outcome of the interaction (which is different from the notion of illusion of control I believe, where the influence is supposed to be on the outcome directly)? If you think about it this way, it is easier to see that power could indeed have a moderating influence in a broad range of situations (e.g., could people not like a machine better because they have a sense of control over it?), and not only in risky situations.

Empirical Issues

*Study 1*

p. 9: Could the authors provide some more information on the power manipulation? Did participants have to write down their story for instance? How long did this task last approximately?

p. 11: The authors found no effect of the manipulations on the control variables. However the statistics they provide seem to suggest that they observed some marginally significant effects. The lack of significance might have been due to small cell sizes rather than anything else. Could the authors provide more information on this?

p. 13: The authors report no difference between the powerful and the powerless in the low anthropomorphism condition. However, there seems to be a marginally significant trend that goes in the opposite direction of what one would expect (the lack of significance could again be due to the small cell sizes). How much of a problem is this?

*Study 2*

p. 16: When describing the method, it would be insightful to tell the reader upfront that the study again used a 2*2 design.

p. 16: I believe that the power manipulation check does not really contribute anything, and might as well be dropped from the paper (the same is true for study 3). Participants were asked to indicate to what extent the experience they described was one in which they felt powerful. But this is exactly what they were asked to do – they had to write about something that made them feel powerful or powerless. So the authors might merely have measured a demand effect here. It might have been better to ask participants how powerful or powerless they felt at the moment of the study (after they had written down their story).

p. 16: Perhaps the description of the skin cancer should be included as an appendix rather than in the main body of the paper

p. 20: The authors observed that powerful participants evaluated the sunscreen only marginally significantly more favorably after they read the less humanized version about the skin cancer (p
In the low anthropomorphism condition, the authors again observed a marginally significant difference between high and low power (p = .13). The authors report quite a few marginally significant effects throughout the paper (cf. supra). It might be worthwhile considering adding some participants to the experimental cells. Now there always seem to be about only 15 per cell, which really is not very much. This is a general remark I have.

Study 3

p. 25: Why was the game programmed the way it was? Why was there not only one trial for instance? Could the authors perhaps provide some more information about this? Also, I wonder what the gift was that the participants received. Did participants know this? And did they really receive it? If so, when?

p. 25: Figure 7 seems to be redundant

p. 25: I wonder why arousal was not measured as a control variable in this study (while it was in the other two studies). It seems crucial here (the number of wins could significantly influence participants arousal levels).

p. 26: A check on participants’ mood showed that they felt better after winning than losing. Did the authors include mood as a covariate in their main analyses? If so, what happened?

p. 26-27: I wonder whether it is a problem that there was no difference between winning or losing in the low power groups. I also wonder what happens if the authors compare high power and low power participants in both win and lose conditions. They do not report on this.

Reviewer C

Comments to the Authors:

This paper shows that people experiencing power take greater risk with anthropomorphized objects. It merges two large and “hot” literatures to show an effect that, while completely sensible in retrospect, is somewhat surprising. It fuses two areas of research to show an interesting effect that was not obvious from the outset.

There were lots of things to like about the paper. It was well written, and the studies seemed well conducted. The logic of the paper was sound. I appreciated the great deal of methodological detail the authors provided. Last, the paper shows a rather substantial effect with sometimes quite subtle manipulations. That the effects came out with such a minor design change of the slot machine, for example, is, for lack of a better word, neat. All of these things led me to form a favorable impression of the paper.

A drawback of this paper, as I see it, is that it does not seem to gain a lot of theoretical ground. The paper shows an interesting implication of power for a novel domain, but arguably does not do a great deal to advance our understanding of either anthropomorphism or power. Rather, it shows something surprising that happens when two areas are combined. On the plus side, the
paper does qualify the idea that anthropomorphized products are universally preferred. Whether the paper needs to contribute more to a process understanding of either or both these areas to clear the bar for JCR is a judgment call. I do think that study 3 provides an intriguing step in this direction, and to me it was the most interesting study of the bunch.

I wondered if the authors could comment on the basis for the hypotheses in experiment 2. It seemed to me that one could quite easily predict the opposite pattern. That is, if one believes that one is powerless to control skin cancer, then one might not be interested in products to do so (because what good are they anyway?). If one believes that one can take action to control skin cancer, than products facilitating that action should be valued more. It seems often the case that people who believe they can control outcomes (e.g., their weight) will take steps (e.g., exercising) to do so, whereas those who believe they have no control will have little interest.

Study 2 differs in important ways from study 1 in that in study 1 the perceived control could be exerted directly over the (anthropomorphized) object, whereas in study 2, one has an object (sunscreen) that assists one in exerting control.

I also wondered if the results would generalize to another manipulation of power. A common manipulation of power is simply priming people with power-related words (e.g., powerful vs. powerless). The reason I raise this is that in all three studies, people write about others being controllable or controlling right before the dependent variables. Although this is perhaps the most popular manipulation of power, the view of others as controllable or controlling is potentially separable from the experience of power (which is typically defined as control over valued resources). One could imagine these effects as being due entirely to perceptions of others as controllable or controlling and not at all due to feeling oneself as powerful, and that the effects would not emerge if this view of others was not primed prior to the judgments. I am not a power researcher, and so perhaps these things are not as separable as they seem, but if for no other reason than establishing the robustness of the effect, it might be useful to extend the results with another manipulation.

These concerns are probably nitpicky. Overall, I found the paper to be pretty solid, and the big question in my mind concerned the theoretical contribution.