Positive Effects From Negative Virtual Experiences: How Virtual Reality Can Be Used Effectively in Marketing

Kirk Kristofferson, Arizona State University, USA
Michelle Daniels, Arizona State University, USA
Andrea Morales, Arizona State University, USA

While advertisers, content designers and hardware producers have begun pushing virtual reality technology to consumers, no research has examined consequences of using this medium for marketing. This research examines perceptual factors and processes that drive consumer immersion in virtual reality and the downstream marketing consequences.

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EXTENDED ABSTRACT
Virtual reality (VR) technology is coming, and consumers are projected to spend over $5 billion in 2016 (Grubb 2016). Producers such as Samsung and Google are pushing VR hardware to consumers for extremely low cost, and content designers can now create and distribute VR content to consumers by streaming directly to smartphones (Pierce 2015). Brands and marketers have also leaped in head first under the assumption that the technology’s increased immersion or transportation will engage consumers and increase sales (Escales 2004a, 2004b, 2007). However, no research has examined how the VR transportation actually occurs, or how marketing might be able to use it most effectively. This research seeks to take the first step in understanding the impact of this emerging technology by investigating the psychological processes that lead consumers to experience increased transportation in VR environments, and the downstream marketing consequences that this can have.

We make the novel prediction that increased transportation in VR over traditional two-dimensional (2D) media is driven by heightened orienting responses associated with emotion experienced through the VR environment; more specifically, the point of reference change from observer to actor (Hung and Mukhopadhyay 2012). Moreover, we predict that increased transportation resulting from orienting reactions will increase consumer intentions to engage in and support the same experience in the real world compared to a parallel 2D experience. Importantly, we demonstrate that the positive downstream consequences of VR can be driven by both positive and negative emotional content. In all studies, we contrast a VR medium with a 360-degree 2D medium. Thus, both formats are novel, cutting-edge tactics currently being explored by marketers, yet never tested theoretically for effectiveness.

Study 1 demonstrates that VR can lead to higher orienting reactions than 2D using a fear response. Participants (n=101) watched an aerial tour of Icelandic landscapes in VR or 2D. Shortly into the experience, the helicopter flew over a cliff exposing a rushing river below. The experimenters instructed participants to look down and step forward, giving the perception of stepping into the river below. Orienting fear responses (e.g., hesitation) were coded and as predicted, participants in VR (vs. 2D) exhibited significantly higher fear responses (p < .0001).

Study 2 shows support for our full framework using a different emotional response (protective). Participants (n=124) viewed a video in either VR or 2D created to elicit a protective orienting response. When the video started, a man walked towards the camera to start a conversation. He nonchalantly turned away, then turned back and punched the camera. The camera snapped backwards then returned to its original position to mimic an individual taking a punch to the head. Upon completion, participants completed measures to assess how transported they felt in the environment. As predicted, VR (vs. 2D) participants exhibited higher protective responses (e.g., flinch, duck, p < .01) and reported higher transportation (p < .01). Supporting our framework, the indirect effect was significant.

Study 3 demonstrates our conceptual process using orienting responses associated with a positive emotion and extends our investigation to the downstream marketing potential. Undergraduates (n=123) participated in this study for $5. Participants watched a video in VR or 2D about a real non-profit endangered species conservation organization. The video showed a baby rhino drinking her morning bottle and elicited a happiness response. In the video, participants perceived to be standing beside the rhino in her pen with the curator. Upon completion, participants completed transportation measures. At the end of the study, they were given the chance to donate their $5 payment to the organization. As predicted, VR participants exhibited a significantly higher positive emotional response (p < .001) and reported significantly higher transportation (p < .001). Repeating study 2, the indirect effect was significant. Next, we found that VR participants were significantly more likely to donate their payment (p < .01), and that this higher support was driven by perceived transportation in VR. To test whether our proposed process led to the higher donation behavior, we performed a serial mediation analysis to test the indirect effect of media type on organizational support through emotional response and transportation. The serial indirect effect was significant at the 90% level, suggesting that it is in fact the stronger emotional responses consumers experience in VR that leads to the increased transportation, which then leads to higher subsequent support behavior.

Study 4 provides further process evidence through moderation using a negative orienting response (fear) and an experiential product. Because our theorizing proposes that it is the orienting responses driving transportation and persuasion, anything that weakens the degree to which consumers experience emotional reactions in VR should mitigate the observed increased presence. In Study 4, we operationalize this by using participants’ fear of heights as a moderating factor. Participants (n=102) watched a video we created to elicit a fear response. The video took place on the edge at the steep mountain peak of Camelback Mountain. Participants were instructed to look down and take step off the cliff; afterwards they completed transportation measures, indicated their fear of heights, and finally their desire to hike Camelback in the near future. Results revealed that VR elicited significantly higher orienting fear responses than 2D among participants with moderate to high fear of heights, but not among individuals with no fear of heights. The results on transportation were identical, showing support for our claim that orienting reactions are necessary to elicit transportation in VR. Finally, increased transportation predicted a higher desire to seek out the featured real-world experience.

We provide the first investigation of the impact VR can have in marketing. We demonstrate that it is the heightened orienting responses experienced in VR that lead to increased transportation in VR versus 2D media. We show this process results from both positive and negative emotional content, and that increased transportation does not occur when the orienting response is not realized. Finally, we demonstrate that the increased presence in VR leads to increased support for the promoting organization and a higher desire for the real life experience.

REFERENCES


