Eliciting Behavior From Interactive Narratives: Isolating the Role of Agency in Connecting With and Modeling Characters

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A key component differentiating interactive storytelling from non-interactive media is agency, or control over character choices. A series of experiments show that providing agency over a character increased the user-character connection, which then increased engagement in a character-consistent charitable act. Findings were observed in technologically simple online narratives that controlled for navigation/controller differences, graphics, sounds, lengthy play, and avatar customization. Effects emerged even though users did not practice these acts by making their character behave charitably. Findings were robust across happy and unfortunate endings and across first-, second-, and third-person narrative perspectives. Findings suggest promise for developing inexpensive "storygames" to encourage supportive behaviors.

"Imagine what it would be like if you weren't able to make your own decisions.... Where will your life take you?" This quote is from online interactive narrative, *Give Girls Power* (http://givegirlspower.savethechildren.org.uk/), a choose-your-own-adventure story produced by Save the Children. Users click through text that presents the life of a woman with limited control over her career, marriage, and childbirth. Taking the role of this woman, users make choices at various stages of the story and see where these choices lead the storyline. At the end, users can choose to "Fix This" and sign a petition asking world leaders to support women's empowerment.

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The use of this type of narrative for online advocacy is not isolated to Save the Children. The United Nations High Commissioner for Refugees (UNHCR) invested in the development of a similar interactive story (*Against All Odds*, http://www.play againstallodds.ca/) to educate people about the hardships facing refugees and en-courage involvement in refugee assistance. Assuming innovative projects such as *Give Girls Power* and *Against All Odds* meet with success, other organizations will likely attempt similar endeavors to encourage people to engage in pro-social behaviors.

On a related front, the digital educational gaming market is healthy and growing. Game-based learning revenues were upwards of $816 million in Asia and the Middle East, $286 million in the US, and $94 million in Europe (Ambient Insight, 2012). Likewise, research is showing learning effectiveness for many of these types of ''storygames'' (see Lin & Lin, 2014).

Empirical research testing the effectiveness of interactive story presentations in producing desired advocacy outcomes is in its infancy. Fortunately, lessons learned from studying educational- and entertainment-oriented video games can be applied in identifying the core technological mechanisms that might make a storygame successful in yielding desired behaviors. The present investigation demonstrates how storygame storytelling can engender real charitable action as a function of character control.

In this investigation, three experiments show how affording agency over character choices encourages character-like charitable activity even in the absence of visual graphics, sound, joysticks, tactile feedback, avatars, or even happy endings for the character. Thus, this study focuses on the interactive nature of storygames irrespective of other facets of the narrative. Interactivity in media has been con-ceptualized in a variety of ways, from content characteristics to users' perceptions of their experience with the content (see Sundar, Kalyanaraman & Brown, 2003). At the core of many of these conceptualizations is the element of user control, or agency, over the content or content presentation (see McMillan & Hwang, 2002 and Sundar et al., 2003 for reviews). We argue that the act of having agency over a character encourages the performance of character-consistent behavior *because* agency connects the user uniquely to the character's journey. To this end, we assess whether the user actually performs a character-consistent charitable action rather than measuring behavioral intent.

Agency in Online Narratives and the User-Character Connection

Broadly, agency is the ability to exert control over an outcome (Bakewell, 2010; Choshen-Hillel & Yaniv, 2011; Giddens, 1984). Agency in media content man-ifests itself as the exertion of control over content choice, content arrangement, and content seeking (e.g., Ariely, 2000; Franke, Schreier, & Kaiser, 2010; Peng, 2008; Sundar, 2008; Sundar & Marathe, 2010). Within the context of a narrative,

agency becomes control over a character. Users control the character's choices in the narrative, driving the manner in which the narrative unfolds and defining the narrative experience. Thus, users have control over some or all of the character's behavior and development; the user is directly connected with how the character evolves (see Klimmt & Hartmann, 2006). The first hypothesis in this investigation tests this proposition that providing agency over a character's choices in a narrative will generate feelings of connectedness with the character.

H_{1a}: Compared to having no agency, having agency within a narrative will increase the connection participants feel with the main character in the narrative.

Evidence is strong for the linkage between users' connection with a character and manifest modeling of that character (see Bandura, 2002). According to Bandura (2002), media characters might exemplify attitudes and behaviors we find attractive to adopt or imitate. Characters that appear particularly relevant, pleasing, similar, or attractive to us tend to captivate our attention and are thus more likely to become models we emulate. Related to the present investigation, studies of interactive media content abound, showing strong evidence that media characters can be powerful models for their audiences. However, this research focuses exclusively on video games, noting that the more we feel we are like or actually *are* the character, the more likely we are to model that character (e.g., Bowman, Schultheiss, & Schumann, 2012; Fischer, Kastenmüller, & Greitemeyer, 2010; Gentile & Anderson, 2003; Konijn, Bijvank, & Bushman, 2007; Lachlan, Smith, & Tamborini, 2005; Song, Peng, & Lee, 2011; Williams, 2011; Yee, Bailenson, & Ducheneaut, 2009). As a result, we predict the following:

H_{1b}: The user-character connection will positively predict enactment of a character-consistent charitable behavior.

This notion of character similarity or character identification (c.f., Cohen, 2001; 2006; Klimmt, Hefner, & Vorderer, 2009) is both intriguing and important for understanding modeling of characters in entertainment media. However, these studies do not adequately (nor do they attempt to) isolate the specific role of agency to test its effectiveness in encouraging character-consistent behaviors. Rather, this body of research is necessarily complicated by the quality of the narrative and character development, the richness of the game's visual and audio environments, the nature of the controls (e.g., handheld controllers, motion-based controllers) used to play the game, the time spent playing the character, and the ability to customize the character (avatar) within the game. It is, as yet, unclear how much each of these complicating factors contributes to feelings of similarity or identification. Therefore, it is difficult to specify exactly how the unique parts of interactive media contribute to character perceptions *beyond* what non-interactive content, such as films, television, or print-based stories can accomplish.

Recent attempts to isolate the effects of user control show promise in corroborating the proposals tested in the present investigation; these studies show that people who engage in a timed amount of actual video game play feel more connected with the main character, than to people who merely view someone else's segment of game play (Lin, 2013; Peng, 2008; Peng, Lee, & Heeter, 2010). Although these previous studies cannot offer comparability in participants' physical engagement with the story (the player clicks buttons but the spectator does not), the findings of these studies do suggest a need to examine whether appreciable differences in responses to narratives might exist simply because of being able to control the character.

Studies of educational video games targeting skills ranging from reading to mathematics offer additional evidence that agency might, at least indirectly empower users to enact behaviors/skills performed by game characters (Lu, Lou, & Cheng-Han, 2013; Hobart, 2012; Meluso, Zheng, Spires, & Lester, 2012; Ritzhaupt, Higgins, & Allred, 2011; Trepte & Reinecke, 2011). These studies examine agency over a character as a physical manifestation of self-efficacy (Bandura, 1986; 2002) within that narrative, in that the user-controlled character experience creates a vicarious prior experience for the user. If a user feels empowered to drive a character's choices, this user might also become empowered to engage in behaviors similar to what the character has performed, given the character just performed these behaviors while under the user's control (Bandura, 1997; 2001; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001).

With very few exceptions (e.g., Brusso & Orvis, 2013), these educational studies do not address whether the efficacy was enhanced because the content was presented as a video game, or if efficacy was enhanced simply because users directly practiced the measured behaviors (or skills) as a part of their game play. Therefore, these studies also do not provide any direct or indirect test of how agency, specifically, in an interactive narrative might lead to character-consistent behaviors. As adding agency as a structural component to a narrative is a relatively simple addition to stories that already exist in an online format, we feel it is important to examine whether offering agency over a character's choices, at minimum, will increase the likelihood that users will engage in a simple behavior desired by the narrative creator.

Given the preceding literature, we suggest that the relationship between agency and behavior modeling will be mediated by user-character connection.

H_{1c}: The user-character connection will mediate the effect of agency on character-consistent behavior.

Isolating the Role of Agency in Evaluating Behavior Effects

The goal of the present investigation is to isolate the effects of agency over a simple online narrative and test, first, whether agency strengthens the user-character con-

nection and, second, whether this connection predicts engagement in a character-consistent behavior. Inspired by the recent storygame efforts employed by non-profit organizations, such as Save the Children, this investigation focuses on simple narratives devoid of video or audio. Thus, the stimuli and agency manifestations are easy-to-program, inexpensive-to-develop interactive online text-based stories. Half of the participants click through the story, choosing how the main character responds to events that unfold throughout the narrative. The other participants click through the story without making choices on the character's behalf. Additionally, the character-consistent behavior in question is of a charitable nature. Participants are first exposed to minor, plot-irrelevant acts of giving that the character performs within the narrative. At the end of the narrative, participants choose whether to end their participation or stay and be redirected offsite to a real "click for charity" Web site to encourage sponsors to donate to a charity of the participant's choice. This behavior only involves a couple of clicks of a mouse and a few minutes of the participant's time.

Important, this investigation isolates agency from other story elements in several ways. Participants engage in the same amount of physical clicking action to proceed through their story, regardless of their story version. Although choices within the agency conditions are presumed to change the trajectory of the storyline, participants do not actually change the story content. Rather, all choices lead to the same journey, which has a beginning, middle, and end.

In addition, participants are not able to choose whether to have the character engage in giving acts, such as tossing a coin into the guitar case of a homeless musician. Thus, participants do not practice these giving behaviors virtually, nor can they opt to *not* give within the story. As a result, enacting the later behavior is not confounded by practice, but rather the prior experience of giving within the narrative is more likely a function of controlling the character overall. Prior studies using video game play have not afforded this separation between character agency and in-game practice of behavior to be modeled (see Gentile et al., 2009 for review). Also, because all stories feature charitable character acts, any differences in outcomes cannot be due to mere exposure to these acts (see Roskos-Ewoldsen, Roskos-Ewoldsen, & Dillman Carpentier, 2008 about media priming and repeated exposure).

The relationships among agency, user-character connection, and behavior engagement are tested with a small variety of stories that provide a happy or unhappy ending for the character and are written from either a first-person, second-person, or third-person grammatical perspective. These considerations are necessary to test for robustness of effects. Furthermore, testing these relationships with stories of varying endings addresses the idea that behavioral modeling is more likely to occur when people witness the behavior being rewarded with a positive outcome, versus being punished with a negative outcome (Bandura, 1986, 2002). Therefore, it is possible that happy endings might encourage charitable behavior, even though the story's positive outcome does not directly relate to the charitable acts. This possibility corresponds with lessons learned within prosocial behavior research, in

that helpfulness often occurs in the wake of a positive experience (e.g., George, 1991; Isen & Levin, 1972). There is no evidentiary consensus that a happy or unfortunate ending for a character would necessarily influence perceptions of user control, although one might argue that users might want to distance themselves from responsibility over an unfortunate ending.

Finally, narrative perspective is incorporated into the experimental designs to test the robustness of agency effects on the user-character connection. Some studies have found that writing a story in the first-person perspective engenders stronger feelings of close psychological distance (e.g., Seih, Lin, Huang, Peng, & Huang, 2008) and empathy with the character (e.g., Straiton, 2008), compared with the same story written in the third-person perspective. However, this proposition is not supported by the strong evidence for behavioral modeling with non-interactive media (see Bandura, 2002). Little is known about the second-person perspective. The present investigation nonetheless tests for narrative perspective effects on user-character connections, directly taking into account any variance associated with presenting the narrative as ''I,'' ''You,'' or ''He/She.''

RQ_1: Will narrative perspective affect the user-character connection?

Experiment 1

Overview

One hundred twenty-one U.S. adults between the ages of 19 and 25 were re-cruited from a U.S. college campus and randomly assigned to one condition of an agency (no, yes) X narrative perspective (first-, second-, third-person) fully crossed factorial design. Based on the condition, participants experienced an online nar-rative that followed a character's successful pursuit of an acting career—a story with a happy ending. After finishing the narrative, participants completed an on-line questionnaire that included measures of their connection with the character and demographics. Finally, participants were given the choice to either end their participation immediately or extend their participation and eventually be redirected to a ''click-for-charity'' Web site. Participants who agreed to continue their session were redirected to *ClicktoGive.com* after re-confirming their choice to continue the session. At the end of their session, participants were debriefed and dismissed.

Stimuli

The online narratives were broken into six segments. In the no-agency condition, participants clicked a total of five times to access each of the six successive story segments. In the agency condition, participants made one of two choices to continue to each of the six segments, totaling five choice points. Narrative perspective was

considered by writing the stories in first-person (''I''), second-person (''You''), or third-person (''He/She'') grammar. Character biological sex was matched to the participant's sex for the third-person versions.

For all conditions, the first story segment introduces the character as just having graduated from high school and having made the decision leave home to pursue an acting career. In the no-agency condition, participants clicked to continue to the next segment. In the agency condition, participants chose to either fly to New York or Hollywood.

The second segment finds the character waiting in line at the airport. While at the airport, the character notices an overwhelmed father, two young sons in tow, having difficulty paying for his extra luggage. The character helps the father quickly and without the father noticing. The character eventually finds a free attendant to get a boarding pass.

Participants in the agency condition chose whether the character buys a one-way or a round-trip ticket. Other participants clicked to continue to the third segment. The third segment features an exchange between the character and the ticket attendant. Agency-condition participants chose to book a stop-over or non-stop flight to advance to the fourth segment, which describes the character's maxed-out credit card, movement through the airport security line, and collapse into the coach seat on the airplane.

Participants in the agency condition chose whether to sleep or to rehearse audition material. The fifth segment finds the character arriving at the airport, rushing out to a city bus, and tossing a dollar to a homeless kid playing a guitar along the way. Agency-condition participants chose whether to sign up with the first acting agency they see or find a café and start searching the classifieds.

The sixth segment fast-forwards to 2 weeks later and indicates that the character has just received a call-back from a casting director. The character is elated and walks home in triumph, flicking a quarter into another guitar case as the character passes by. In none of the conditions does the participant experience a direct positive or negative consequence as a result of the charitable behaviors enacted.

Measures

User-Character Connection.

The 17-item character attachment scale by Lewis, Weber, & Bowman (2008) was adapted for use in this study. This scale consists of four subscales of identification/friendship, suspension of disbelief, control, and responsibility for the character. Scale items were modified for this study, taking out words like ''video game'' and replacing them with ''story.'' Response choices ranged from 1 = *strongly disagree* to 6 = *strongly agree*.

Items of identification/friendship were reliable, $\alpha = .80$. However, items pertaining to suspension of disbelief were not reliable, nor were items regarding control or responsibility, $\alpha = .77$, .61, and .61, respectively. Due to the reliability issues with

three of the four subscales, suspension-of-disbelief items were reverse-coded and a reliability analysis was conducted with all items in the scale, as these subscales are argued to be facets of general character attachment (Lewis et al., 2008). Suspension-of-disbelief items had low item-total correlations and were excluded. The remaining items were averaged into a reliable, overall user-character connection measure, $\alpha = .85$, $M = 3.30$, $SD = .82$.

Character-Consistent Behavior.

Participants in all conditions were given the option to finish their participation (=0) or to extend their session and be redirected to an online location where they could click to have sponsors give to charity (=1). Participants were told:

> You now have the option of ending this survey now or continuing to the next section where the end of the final task includes a link where you can click to have a sponsor donate to one of six charities you choose (''Click to Give''). You will not be asked to give money. However, completing the procedure in this next section **will** take more of your time today.

This type of ''click for charity'' action is a common online prosocial behavior sought by charity organizations and volunteer groups interested in engaging the public in community welfare (Sproull, 2011). The action constitutes a low-effort/feel-good act requiring little more than the participant's time. Despite the little effort needed to engage in this act, 61 of the 121 participants (50.4%) in this session decided to continue and click for charity.

Results

An agency (none, agency) X narrative perspective (first-, second-, third-person) univariate ANOVA tested for effects on the overall user-character connection measure. Only a main effect of agency was found, $F(1, 98) = 4.07$, $p = .046$, $\eta^2 = .039$. Agency conditions led to greater connectedness, compared to no-agency conditions, $M_{agency} = 3.47$, $SD = .78$; $M_{none} = 3.13$, $SD = .84$.

A preliminary chi-square with perspective and click-to-give behaviors yielded no appreciable variation. Perspective was thus dropped from the remaining analyses.

The INDIRECT macro for SPSS (Preacher & Hayes, 2008) was used to evaluate if narrative agency worked through the user-character connection to influence character-like behavior. Agency (0 = none, 1 = agency) was entered as the independent variable. The overall user-character connection measure was entered as the mediator. Behavior was entered as a dichotomous dependent variable; thus, the analysis was treated in terms of logistic regression.

The indirect effect of agency on click-to-give behavior was not significant. Agency strengthened the user-character connection, $p = .037$. However, the user-character connection did not predict behavior, $p = .668$. Rather, agency had a direct effect on behavior, $p = .011$. See Table 1 for regression coefficients and odds ratios.

Table 1
Indirect Effects of Agency on Behavior Modeling via User-Character Connectedness

Predictors	Regression Coefficients
Experiment 1	
Agency → User-character connection	$B = .34^*$, $SE\ B = .16$
User-character connection → Behavior	$B = -.11$, $SE\ B = .25$, $e^B = .897$
Agency direct effect	$B = 1.07^*$, $SE\ B = .42$, $e^B = 2.90$
Agency indirect effect	$B = -.04$, $SE\ B = .09$, $e^B = .96$, $CI_{95} = -.29$ to $.12$
Experiment 2	
Agency → User-character connection	$B = .41^*$, $SE\ B = .12$
User-character connection → Behavior	$B = .65^*$, $SE\ B = .31$, $e^B = 1.92$
Agency direct effect	$B = .66^\#$, $SE\ B = .40$, $e^B = 1.93$
Agency indirect effect	$B = .27^*$, $SE\ B = .16$, $e^B = 1.31$, $CI_{95} = .04$ to $.74$
Experiments 3 and 4 Combined	
Agency → User-character connection	$B = .38^*$, $SE\ B = .11$
User-character connection → Behavior	$B = .71^*$, $SE\ B = .22$, $e^B = 2.04$
Agency direct effect	$B = .26$, $SE\ B = .30$, $e^B = 1.30$
Agency indirect effect (negative ending)	$B = .22^*$, $SE\ B = .12$, $e^B = 1.25$, $CI_{95} = .04$ to $.51$
Agency indirect effect (positive ending)	$B = .32^*$, $SE\ B = .16$, $e^B = 1.38$, $CI_{95} = .08$ to $.75$

Note. Experiment 1 and 2 values are the result of a mediation analysis. Experiments 3 and 4 values are from a moderated mediation analysis (story ending did not moderate the relationship between agency and the user-character connection). Number of bootstrapping samples = 1000.
$^*p < .05$. $^\#p < .10$.

Experiment 2

Overview

A second sample of 149 participants ranging in age from 19 to 22 was used to see if findings in Experiment 1 could be replicated. The same design and procedure was repeated using the acting story. However, this time the sixth story segment showed

the character with no call-back, no acting prospects, funds depleted, and leaving for home, defeated.

There is no direct evidence that participants will detach from a "losing" character. Yet, sports fans who see their team win tend to affiliate themselves with their team, for example using "we" to describe the victory (see Raney, 2006 for review). In contrast, fans tend to distance themselves from their team when the team loses, for instance using "they" to refer to their losing team (Raney, 2006). These observations suggest it is possible that participants will not want to connect with a character that experiences a negative outcome, regardless of whether agency is provided. Experiment 2, therefore, tested whether effects could be repeated when the character meets an unfortunate ending.

Measures

User-Character Connection.

The same items used in the first study were employed here (see Lewis et al., 2008). The response scale ranged from 1 = *strongly disagree* to 6 = *strongly agree*. Reliabilities of the subscales were all below convention, α *range* = .42 (=control) to .77 (=suspension of disbelief). Items were then analyzed as an overall measure of character attachment. Suspension of disbelief items were eliminated as a result of this analysis; item-total correlations were low for these items compared to the identification/friendship, control, and responsibility items. Rather, identification/friendship, control, and responsibility items combined to create a reliable score of overall user-character connection, α = .80, M = 3.59, SD = .68.

Character-Consistent Behavior.

As with the previous study, participants were given the opportunity to finish their participation (=0) or to extend their session and eventually click to give to charity (=1). In this study, 93 of the 149 participants (64.2%) continued their session.

Results

A preliminary agency X narrative perspective ANOVA on overall user-character connection yielded significant main effects of agency and perspective on the measure. Agency had the anticipated effect on connection, $F(1, 118)$ = 12.12, p = .001, η^2 = .088; M_{agency} = 3.80, SD = .68; M_{none} = 3.39, SD = .63. Regarding perspective, a significant difference existed, in that the first-person story yielded less connection than the second-person story, based on a Bonferroni post-hoc pairwise comparison, $F(2, 118)$ = 3.26, p = .042, η^2 = .048; M_{first} = 3.40, SD = .65; M_{second} = 3.93, SD = .78; $t(82)$ = −2.54, p = .037. The third-person perspective did not differ from the other two, M_{third} = 3.63, SD = .64. No interaction emerged between agency and perspective.

A chi-square analysis was performed to see if perspective influenced click-to-give behaviors. Findings were insignificant. Perspective was dropped from further analysis.

In the analysis using the overall user-character connection measure as the mediator, the indirect effect was statistically significant, $p < .05$. Agency enhanced the user-character connection, $p < .001$. The user-character connection enhanced click-to-give behavior, $p = .033$. The direct effect of agency on behavior was marginally significant, $p = .098$. See Table 1 for regression coefficients and odds ratios.

Experiments 3 and 4

Overview

Because agency had a direct effect in Experiment 1, yet an indirect effect in Experiment 2, we conducted additional research to see if the findings in Experiments 1 and 2 could be replicated. In Experiment 1, the protagonist succeeded in breaking into acting in Hollywood/New York. Perhaps the user-character connection did not predict character-consistent behaviors in that study because participants recognized this character's outcome to be highly unlikely. This character's fantastical journey toward success might have rendered the character's other behaviors as unrealistic. In contrast, it is likely for a person trying to break into acting to suffer setbacks, as was illustrated in the Experiment 2 story.

Therefore, a more realistic narrative was tested, which contextualized the character within a school setting and described realistic outcomes for the character. The analysis employed an agency (no, yes) X narrative perspective (first-, second-, third-person) X story outcome (negative, positive) design. The samples reading happy and unfortunate endings were originally collected separately; 149 college-aged adults (range = 19 to 22 years) were first sampled to replicate the mediation effect from Experiment 2, and then 111 participants (range = 19 to 22 years) were recruited immediately thereafter in order to challenge the findings of Experiment 1. A minor violation in random assignment results from the combination of these two samples, namely that negative ending conditions were populated first before positive ending conditions. However, this violation likely does not affect the results, as the samples were drawn within 7 days of each other from the same participant pool, such that no participant was sampled twice. The gain in combining the samples for analysis is the ability to directly compare story outcomes.

Stimuli

This new online narrative began with a college student getting ready to leave campus for summer vacation when a friend calls and reminds the student about a final exam the student forgot was taking place the next morning. In the agency

condition, participants chose whether to head to school or e-mail the professor to ask about taking the exam from home. In the no-agency condition, participants clicked to continue to the next segment.

The student next helps a person with a flat tire, arrives at his/her destination, checks for e-mail messages and finds a note from a summer internship recruiter who wants a resumé. Agency condition participants chose whether to work on the resumé first or study first. The next segment finds the character heading to a coffee shop, as there are too many distractions at his/her present location. On the way, the student tosses a dollar to a homeless teen playing a guitar. The student gets in line to order something from the barista. Agency condition participants chose whether to load up on caffeine or get the "usual" and avoid panic.

In the next segment, the student is weary and still at the computer in the coffee shop. Agency condition participants chose whether to pull an all-nighter or get some rest. The final segment differed depending on whether the story outcome condition was positive or negative. In the negative ending, the college student struggles through the exam and fails it, and the summer internship recruiter does not send a response. In the positive ending, the student passes the exam and later gets a phone message from the recruiter. Regardless of the story outcome, as the student returns to the coffee shop, he/she flicks a quarter into the homeless teen's guitar case.

Measures

For consistency, the same measures used in the first two experiments were used here. The same reliability issues emerged for the subscales of the established character attachment scale, α range = .55 (=control) to .77 (=suspension of disbelief). However, as with the previous experiments, the identification/friendship, control, and responsibility items could be combined into a reliable overall user-character connection measure, $\alpha = .81$, $M = 3.32$, $SD = .76$. Suspension of disbelief items were eliminated due to low item-total correlations, compared to the other items in the overall scale.

Combining the two samples in one analysis, 157 of the 260 participants (60.4%) decided to continue their session and visit the charity Web site.

Results

An agency X perspective X story ending ANOVA on user-character connection scores yielded only a significant main effect of agency in the proposed direction, $F(1, 184) = 11.36$, $p = .001$, $\eta^2 = .055$; $M_{agency} = 3.51$, $SD = .68$; $M_{none} = 3.13$, $SD = .80$. No other effects were found. Chi-square analyses indicated no relationship between perspective and behavior. Perspective was dropped from further consideration.

Using the PROCESS macro for SPSS (Hayes, 2013), a moderated mediation analysis was conducted with agency as the independent variable, user-character connection as the mediator, story-ending (negative, positive) moderating the agency-character connection relationship, and click behavior as the dependent measure. The mediation analysis showed a significant indirect effect of agency on behavior for both story endings, $ps < .05$. Agency predicted the user-character connection, $p < .001$. The user-character connection predicted behavior, $p = .001$. The direct effect of agency on behavior was not significant, $p = .393$. Story ending yielded no appreciable variance as a main effect or as part of an interaction term. See Table 1 for coefficients and odds ratios.

Discussion

In response to evidence that video games encourage users to engage in behaviors consistent with the main character's actions in the narrative, this investigation examined the basic effects that providing control over a character's choices has in yielding character-consistent behavior. Three experiments confirmed that user control, or agency, can strengthen the connection a user has with the character. This connection then becomes the mechanism that facilitates the engagement of behaviors consistent with the character's own behaviors. Studies in video game research have conceptualized this character connection in various ways, for example perceived similarity, character identification, or parasocial interaction (see Klimmt et al., 2009 for review). The present investigation considered character connection broadly as a holistic connectedness that combined perceptions of affiliation with and responsibility for the character.

By testing the presence and absence of agency within short text-based narratives, these experiments illustrate that agency can yield behavior enactment in the absence of immersive audiovisual environments, lengthy amounts of time spent with the character, complex storytelling tactics, character (avatar) customization, or other more technologically complex elements found in video games, including the myriad of other customizable features many video games offer users. Findings of these experiments were consistent regardless of whether the story was written in first-, second-, or third-person grammatical perspectives, and with one exception, the findings were consistent whether the character met with a happy or unfortunate ending.

This one exception, from the happy-ending story in Experiment 1, demonstrated a direct rather than indirect link between agency and behavior engagement. In this one study, providing agency did not enhance the connection users felt with the character, and this connection played no role in explaining behaviors. This finding might be explained by the rather unrealistic storyline of a high school graduate breaking into Hollywood after a few short weeks of trying. The lack of realism might have been enough to disengage readers of this story, such that they were simply unable to connect with this unbelievably lucky character. Given the presence

of the mediated effect of agency on behavior in the subsequent replications, we speculate that these findings are, in fact, due to the nature of the story; we now need to evaluate how the plausibility of the story might disrupt the user-character connection.

An alternate explanation for the direct effect in Experiment 1 is that simply providing agency over the character enhanced feelings of self-efficacy for performing character-consistent behaviors, as is often seen in educational video game studies (e.g., Lu et al., 2013; Meluso et al., 2012). The present investigation did not directly assess feelings of efficacy over the various character behaviors featured in the narrative. Perhaps self-efficacy is an additional mediator between agency and the user-character connection, the presence of which might depend on the plausibility of the narrative. As the causal link between agency and the user-character connection is speculative, self-efficacy might be a third, confounding variable at work here.

Important, the notion of agency can be considered one aspect of customization, where users individualize their content (Kalyanaraman & Sundar, 2006; Wheeler, DeMarree, & Petty, 2008; Wheeler, Petty, & Bizer, 2005). Various means of customizing the functionality, appearance, and characters in content facilitate feelings of control and enjoyment (Briñol & Petty, 2006; Celsi & Olson, 1988; Kalyanaraman & Sundar, 2006; Kamali & Loker, 2002; Noar, Crosby, Benac, & Troutman, 2011). Similarly, allowing users to make meaningful decisions engenders feelings of autonomy, which satisfy intrinsic needs and facilitate positive attitudes toward content (Deci & Ryan, 2000; Ryan, Rigby, & Przybylski, 2006). Thus, the positive attitudes brought about through customization and autonomy may explain the charitable behaviors. Further investigation parsing these effects would be beneficial, for example seeing if charity clicks increase even if the character performs no charitable behaviors.

The role of agency in storygames needs additional tests to verify its usefulness with other types of behavior adoption, narratives, and audiences. Revisiting how the user-character connection is assessed is included in this need. We are puzzled by the reliabilities of the character attachment subscales (Lewis et al., 2008) when applied to our samples. The original scale was validated within the context of role-playing video games using a sample partly recruited from online gaming forums. We did not recruit participants from gaming communities, nor did we employ a video game context. Perhaps these differences explain our need to treat the character attachment items, minus the items assessing suspension of disbelief for the story, as a holistic measure of character connectedness. Fortunately, identification/friendship, control, and responsibility items did combine reliably into an overall measure.

Despite these challenges, we feel strongly that adding agency to online narratives holds promise in helping organizations develop new, *easily attainable* solutions for engaging audiences in small acts of support. Given that the goal of this research was to explain how storygames might effectively encourage prosocial behavior, this investigation demonstrated the usefulness of agency, however simplistic in its implementation, in calling audiences to act. Important, adding agency likely *enhances* the power of narratives to generate subsequent behaviors; it does not

supersede narratives. A narrative likely needs to portray the character performing the behavior with enough emphasis for the audience to be minimally aware of the behavior (see Bandura, 2002; Roskos-Ewoldsen et al., 2008). Portraying these behaviors in a positive light should also enhance modeling (Bandura, 2002). But as these experiments show, adding an element of agency might significantly improve upon the narrative's effectiveness—a tactic that can be employed with relative ease and little cost. In total, these experiments generated over 300 clicks for charity. We hope this work adds to the conversation about what sets interactive storytelling apart from other forms of media content, and how control explains other facets of the user experience.

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