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BRIEF REPORT

When Boys Wear Pink: A Gendered Color Cue Violation Evokes Risk Taking

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A primary way to signal gender differences starting in infancy is via a clothing color cue (pink is for girls, not boys). We examined whether a violation of this seemingly innocuous gendered prescription would lead to differential decision making regarding infants' health and well being. In Experiment 1, participants were given an adaptation of the Asian Disease Problem (Tversky & Kahneman, 1981) describing a flu outbreak expected to affect male infants, who were dressed in pink or blue. Participants tended to choose the risk-averse treatment for boys in blue, consistent with Tversky and Kahneman's theorizing and findings. In contrast, participants tended to opt for the risk-taking treatment for boys in pink, consistent with research highlighting people's tendency to place lower subjective value on the lives of individuals who belong to socially devalued groups. Experiment 2 ruled out a possible expectancy effect with a different natural category. We discuss the reification of clothing color for demarcating masculinity as a societal attempt at policing gender and situate the findings in a cognitive consistency framework.

Keywords: gender prescriptions and proscriptions, stereotyping, cognitive consistency, gender backlash

Recently, a viral photograph of a young boy who chose to wear pink shoes to his first day at preschool evoked a heated debate in social media. The majority of bloggers were opposed to the mother's decision to have allowed her son to wear the pink shoes, in part, because that would: "subject him to being bullied or treated unfairly all because most people associate pink with girls" ("Photograph of Little Boy Wearing Pink. . .," 2012, December 19, para. 6, Huffingtonpost.com). Why would a violation of a seemingly innocuous cue–-a young boy wearing pink–-have generated such a controversy? Furthermore, are lay perceptions centering on alleged risks for boys who exhibit such seemingly minor gender transgressions predictive of actual consequences?

Clothing color serves as a potent cue for gender categorization, especially in infancy (Shakin, Shakin, & Sternglanz, 1985), because gender cues in jaw lines, brows, and hair length, among other characteristics, are not yet discernable (Brown & Perrett, 1993). Clothing for female infants tends to be multicolored–-including but not limited to pink. In contrast, male infants tend to be dressed predominately in blue and to a lesser extent in red and white (but not in pink; e.g., Pomerleau, Bolduc, Malcuit & Cossette, 1990). Although before the 1940s, pink was considered more suitable for boys than girls (Paoletti, 1987, 2012), pink has become highly diagnostic of gender, such that "pink is for girls, not boys." Consequently, a boy wearing pink appears gender non-normative and is thus likely susceptible to being perceived as socially deviant (for how gender violation creates perceptions of deviance, see Kobrynowicz & Biernat, 1998) and as feminine and thus as more fragile (for perceptions of gender atypical males as weak because of a "femininity stigma," see Rudman & Mescher, 2013).

We ask whether a proscribed feminine color cue on a male infant could have serious repercussions for his well being, in light of findings by Levin and Chapman (1990, 1993) that people tend to place lower subjective value on the lives of socially transgressive group members, resulting in risk-taking decisions about stigmatized individuals' health. Levin and Chapman's research was based on Tversky and Kahneman's (1981) classic Asian Disease Problem, in a gain frame (focus on lives saved):

> Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences are as follows:
>
> If Program A is adopted, 200 people will be saved.
>
> If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved (Tversky & Kahneman, 1981, p. 453).

Tversky and Kahneman (1981) predicted and found that most people (72%) chose the risk-averse/sure option (Program A) over the risk-taking option (Program B) in the above problem, in accordance with *prospect theory*. Levin and Chapman (1990,

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1993) qualified these findings in relation to social groups. They found that people opted for risk-averse treatments for members of desirable or socially valued groups (people in the US; hemophiliacs; leukemia patients) but chose risk-taking treatments for members of undesirable or socially devalued groups (people in Iran; IV drug users; AIDS patients).

Building on the research linking social deviance to risky decision making, we examined whether boys dressed in pink would be subject to risk-taking (vs. risk-averse) decisions by adapting the Asian Disease Problem to describe a flu outbreak expected to affect infant populations, and varied whether the male infants shown were dressed in pink or blue. Based on prospect theory, most people would be expected to choose the risk-averse treatment for all male infants regardless of clothing color. On the other hand, if people place less value on the lives and well being of male infants dressed in the "wrong" clothing color, then boys in pink would likely be subject to heightened risk-taking (consistent with Levin & Chapman, 1990, 1993). Such a finding would imply that a social-artifactual gendered color cue might have become imbued with a gender "essence" (for how artifacts might be perceived as taking on essences, see Bloom & Gelman, 2008), such that its violation places male infants at risk, despite not having agency or choice in their clothing options.

Pilot

The main thesis so far has been predicated on the assumption that pink clothing for male infants would be more socially prohibitive than blue clothing for female infants. We conducted a pilot study to test this hypothesis directly.

Method

Participants. Forty participants (21 female; 19 male) were recruited via MTurk.com, a crowd-sourcing Web site run by Amazon.com. All participants had an MTurk approval rating of 95% or higher and lived in the United States. Participants received $.10 for their participation in the study.

Procedure. Participants completed this study online. They were presented with one of the following questions (adapted from Prentice & Carranza, 2002): "How undesirable is it in American society for baby girls to wear blue?" or "How undesirable is it in American society for baby boys to wear pink?" on a 1–9 scale (1 = *extremely desirable*; 9 = *extremely undesirable*).

Results and Discussion

As expected, pink was significantly more proscribed for boys ($M = 8.05$, $SE = .42$) than blue was for girls ($M = 5.80$, $SE = .44$), $t(38) = 3.68$, $p = .001$, $d = 1.19$; providing empirical evidence for clothing color proscriptions.

Experiment 1

We presented participants with a modified Asian Disease problem consisting of a scenario about a flu outbreak expected to affect male infants, in a gain frame. Participants were asked to choose a risk-averse or risk-taking treatment for infants dressed in blue versus pink. In accordance with prospect theory, people would be predicted to choose the risk-averse treatment regardless of clothing color. However, if boys in pink are perceived as transgressive, they would likely incur more risk-taking.

Method

Participants. Thirty-one participants (16 women and 15 men) were recruited via MTurk.com and received $.10 for their participation.

Procedure. Participants completed different versions of the Infant Flu Problem online. This problem consisted of three photographs presented side-by-side followed by a written scenario. The photographs were of the same three infants dressed in either pink or blue plain clothing. All infants were labeled as male. Information provided with the photographs included birthplace (controlled for familiarity) as well as gender and age in months. Infants were piloted to be equivalent on perceived health and 'cuteness.' The clothing color was digitally altered. Participants were randomly assigned to view male infants dressed in pink or in blue. All participants read the following:

> Imagine that orphanages in Romania are preparing for a highly infectious strain of the flu that is predicted to infect their entire infant population. The health board advises them that they can take one of two measures to combat the flu. An orphanage in a small province of the country is facing particularly hard times and has very limited resources. However, they will receive government funding for one of the treatment plans, but must choose between them. Your job as the orphanage administrator is to decide which treatment to choose. Shown above are the three babies currently housed at the orphanage. All three babies are equally healthy and well-tempered. The orphanage staff have included information about each baby. Assume that the exact scientific estimate of the consequences of the treatments are as follows:
>
> *Treatment A* is a vaccine known to combat this strain of the flu, but is only available in limited quantities and can only be administered to 1 of the 3 babies in the orphanage. If treatment A is chosen, Baby 3 has been randomly selected to receive the vaccine and will stay healthy.
>
> *Treatment B* is an experimental treatment, which can be administered to all the children, but only 1/3 of the batches of the drug are effective. The other 2/3 of the batches are completely ineffective and there is no guarantee that the orphanage will receive a batch that contains an effective vaccine. If treatment B is chosen there is a 1/3 probability that all three babies will stay healthy and a 2/3 probability that none of the babies will stay healthy.
>
> Which of the two treatments would you favor?

Subsequently, participants completed a demographic questionnaire followed by a funneled debriefing (Bargh & Chartrand, 2000).

Results and Discussion

When the purported male infants were in blue, the majority of participants opted for Treatment A (62.5% vs. 37.5% choosing B) but when the same infants were in pink, only 26.7% of participants opted for Treatment A whereas 73.3% chose Treatment B, $\chi^2(1, N = 31) = 4.01$, $p < .05$, $d = .77$. Across both conditions, 45.16% participants chose Treatment A, $\chi^2 = .60$, *ns*, although this was driven by participants' preferences for Treatment B when the boys

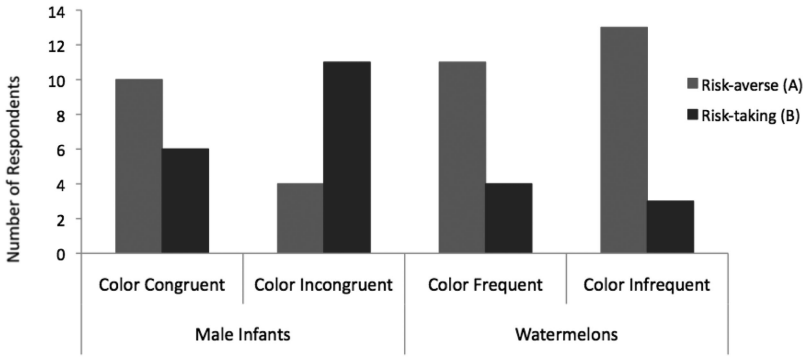

Figure 1. Number of participants who chose the risk-averse versus risk-taking option as a function of color-cue congruence/incongruence and color frequency/infrequency.

were dressed in pink. See left panel in Figure 1. There was no effect of participant gender.

Furthermore, choice justifications in the funneled debriefing varied as a function of color condition: When selecting the risk-averse option for boys in blue (option A), the more common justification (67%) was to avoid the worse-case scenario of no one surviving (e.g., "I thought about how at least with Option A, one baby would definitely be protected, whereas with Option B there was a 2/3 chance no babies would be protected"). The more common justification (80%) for selecting the risk-taking option for boys in pink (option B) however, was to "be fair" and to not preference one boy over the others (e.g., "What has the chance of possibly saving the most babies? A means only 1 baby (1/3) will be saved, but B means that all 3 babies could possibly be saved."). Despite these moral justifications in the service of "being fair," however, boys in pink were *de facto* subject to riskier decisions about their health.

It is possible, however, that the findings resulted from an expectancy effect–-people anticipated that boys would be dressed in blue based on real-world base rates. Encountering boys in pink might have caused more risk-taking based on a violation of familiarity alone or *mere exposure* (Zajonc, 1968). Perhaps any nonfamiliar exemplar would elicit more risk taking; a possibility we examine in Experiment 2.

Experiment 2

Experiment 2 was designed to rule out a simple familiarity-based/expectancy effect in Experiment 1 using *watermelon*, a nonhuman biological kind. Watermelon was chosen because it has frequently encountered (red) and infrequently encountered (yellow) subcategories. We examined whether people would choose the risk-averse versus risk-taking option as a function of watermelon color. According to prospect theory, participants were predicted to opt for the risk-averse option in a gain frame, regardless of color expectancy.

Methods

Participants. Thirty-one participants (20 women and 11 men) were recruited via MTurk.com and received $.10 for their participation.

Procedure. The experimental vignette (the Fungus Problem) was a variation of the Flu Problem in Experiment 1, describing an outbreak of a fungus expected to decimate three varietals of watermelon. Participants viewed pictures of either three yellow watermelons (low expectancy condition) or three red watermelons (high expectancy condition). If treatment A was chosen, Watermelon Varietal C was randomly selected to receive the fungicide and guaranteed to stay fungus-free. *Treatment B* was offered as an experimental treatment, which could be administered to all the watermelon varietals, but only 1/3 of the batches of the fungicide were effective. If treatment B was chosen, there would be a 1/3 probability that all watermelon varietals will stay fungus-free and a 2/3 probability that none of the watermelon varietals would stay fungus-free. All procedures were identical to Experiment 1.

Results and Discussion

There was no expectancy effect on participants' decisions. Participants preferred the risk-averse option for color frequent (87.5% choosing Treatment A vs. 12.5% choosing Treatment B) and color infrequent (86.7% choosing Treatment A vs. 13.3% choosing Treatment B) conditions. One-way Chi Square tests showed that participants significantly preferred Treatment A (the risk-averse option) in both the color frequent condition, $\chi^2 = 9.67$, $p < .05$, $d = 2.45$, and color infrequent condition, $\chi^2 = 8.07$, $p < .05$, $d = 2.16$. These data are consistent with prospect theory (Tversky & Kahneman, 1981). See right panel in Figure 1.

General Discussion

A male infant dressed in pink could pay the price of violating a socially constructed gendered color norm (pink is for girls, not boys) by incurring riskier decisions about his health and well being. However unsettling, this finding fits well within recent theorizing on cognitive consistency. Notably, Sherman, Allen, and Sacchi (2012) argued that a counterstereotypic instance tends to create an incompatible cognition, which is then oftentimes resolved by assimilating individuating information to a stereotype. Within Sherman et al.'s (2012) framework, encountering an infant dressed according to feminine prescriptions/masculine proscriptions could lead to reclassification of this infant as an atypical

exemplar or a subtype of the male gender category (e.g., "weak"), which preserves cultural beliefs about the male category structure.

Risky decision-making about boys in pink is consistent with the phenomenon of gender backlash, which refers to social penalties directed at people who violate gender norms (Rudman, 1998). Rudman and colleagues (e.g., Rudman & Mescher, 2013) have shown that men who engage in behaviors associated with women (e.g., ask for family leave) are perceived as possessing fewer desirable masculine traits (e.g., competence and assertiveness) and more undesirable feminine traits (e.g., weakness and uncertainty), resulting in workplace penalties. This social reality serves to reinforce a status quo in which gender normative men retain the highest status (consistent with the status-incongruity hypothesis [SIH]; Moss-Racusin, Phelan, & Rudman, 2010), thwarting a system threat against gendered social hierarchies. A caveat is in order, however. One main limitation of the current study is that it showcases risky decision-making with boys in pink but it does not address a femininity stigma directly nor objective discrimination (risk-taking in our paradigm could be rationalized as moral). We advocate for future research that would examine whether boys in pink are indeed subtyped (e.g., perceived as feminine or as gay: see Bosson, Prewitt-Freilino & Taylor, 2005) as well as subject to prejudice and discrimination (e.g., are liked and played with to a lesser extent).

The reification of clothing color as demarcating gender with an emphasis on what boys and men should not wear speaks to societal attempts at policing gender to maintain a status quo in which "real" men disavow feminine characteristics, a predicament that is especially harmful to atypical men but also limits gender conforming males' ability to express themselves fully (see Rudman & Mescher, 2013). Would a man wearing a pink shirt be subject to riskier medical decision making than if he were wearing blue? Physicians (and other rational individuals) would likely find such a question absurd but our data beckon further exploration of color and other subtle yet potent gendered cue violations on prejudice and discrimination against atypical males.

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