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Behavioral Patterns of the Cannibalism and Sexual Taboos

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Kayla R. Rice

THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
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IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
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Behavioral Patterns of the Cannibalism and Sexual Taboos

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Master's Thesis Proposal Submitted in Partial Fulfillment of the requirements for the Master of Arts Degree in Clinical Psychology
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Abstract

Previous research has suggested that there may be a connection between the cannibalism taboo and sexual attraction. Specifically, it appears that when forced to choose someone to cannibalize, people choose victims in a pattern that mimics who they would choose to be sexually intimate with. To confirm and explore this relationship, the current study measured sexual orientation and examined whether participants’ preferences in who to cannibalize if forced reflected their desired sexual partner. Participants recruited from Amazon Turk responded to forced pair choices regarding either desired sexual partner or cannibalism victims. Targets included all combinations of three variables: Physical Appearance (Attractive vs. Unattractive), Age (24 years old vs 80 years old), and gender. Planned contrasts were examined to see if patterns of preference were the same for sexual attraction and cannibalism. Results failed to confirm the connection between sexual attraction and cannibalism. In fact, our results could not provide any evidence that similar mechanisms of disgust were involved in preferences between preferred cannibalism victims and desired sexual partner.
Literature Review

Introduction

“I think in some way I wanted it to end,” infamous serial murderer and cannibal Jeffrey Dahmer mused about the time during which he was actively killing and consuming his victims, “even if it meant my own destruction” (Moss & Kottler, 2001). As deeply disturbed as Dahmer was, even he could not live with the level of disgust that is so often associated with the mere idea of consuming human flesh.

Why is it, then, that humans have such a fascination with the act? Several popular books have been written on the subject, such as Terry Goodkind’s (1994-2015) *The Sword of Truth* series, Anne Rice’s (1988) *The Queen of the Damned*, and more. Also, several movies have been made that revolve around cannibalism, such as “Cannibal Holocaust” (1980), “ Silence of the Lambs” (1991), “The Hills Have Eyes” (1980), “Wrong Turn” (2003), and just recently, “The Green Inferno” (2013). All over the world people are mesmerized by stories of cannibalism, both in murder and in ritual. Several stories of cannibalism received a great deal of media and news attention and are still talked about to this day: The Donner party, a group of pioneers who became trapped in the mountains and were put in a position of choosing between the option to cannibalize their dead or likely forfeit their survival (McNeese, 2009); the Uruguayan soccer team, whose plane crashed in the Andes, which again offered the options of feeding on their dead teammates and families or facing starvation (Read, 1974); and Jeffrey Dahmer, a deeply disturbed serial murderer and rapist, who killed almost twenty young boys and dismembered, preserved, and consumed several of their corpses (Moss & Kottler, 2001; Dvorchak,
These stories are some of the most gruesome, yet popular, stories of our time.

Although it may seem disturbing to most, there seems to be no obvious reason for cannibalism to be taboo. Humans consume the flesh and byproducts of other animals on a regular basis. Eating the flesh of another human being differs from this only slightly in nutritional ways. In fact, reports have shown that upwards of 1300 species, 75 of which are other mammals, regularly cannibalize within their species (Polis, Myers, & Hess, 1984; Polis, 1981). Fox (1975) summarized the eating habits of several land, freshwater, and marine populations that engage in inter-species cannibalism on a regular basis. He studied over one hundred and thirty species that are reported to cannibalize one another whenever food sources are depleted, the animals are under stress, or there is a large amount of potential prey for them to cannibalize. Fox (1975) and Pfenning (1997) even go so far as to note that eating other humans would be potentially beneficial to the species, by eliminating competitors for resources. So why is the act of eating the flesh of a mammal so much more interesting to popular culture and media, yet so much more disgusting, when it is a human being consumed rather than a cow or pig?

It is widely accepted that disgust plays a large role in the development of certain behaviors such as taboos. Disgust is a feeling of extreme revulsion to a certain stimuli when encourages the person to limit their interaction with it. Furthermore, disgust can cause a person to feel offense, disapproval, a strong disliking, or even have physical reactions to a stimuli, such as nausea or vomiting. A taboo is something which is culturally not acceptable to do, specifically on the grounds of moral or superstitious reasons (Merriam Webster, 2004). This creates a cultural construct that requires members
of this culture to refrain from performing these types of behaviors for social and moral reasons. This is how a taboo is maintained. However, the taboo may be maintaining a behavioral (dis)preference which serves an evolutionary function, such as the disgust response to eating feces, which would likely spread disease.

Scher, White, & Vlasak (2009) tested several hypotheses regarding the evolution of the cannibalism taboo, including a disease avoidance hypothesis (the cannibalism taboo was evolved to protect humans from disease), an inclusive fitness hypothesis (to ensure that people don’t consume their families), a predation avoidance hypothesis (hunting humans is more dangerous than hunting animals), and a mate pool reduction hypothesis (to keep from eliminating potential mates). The data were most consistent with the disease avoidance hypothesis: a taboo about eating other humans evolved because other humans (as opposed to other animals) would be more likely to transmit diseases that are specialized to humans, as some mammals are not susceptible to certain diseases and therefore cannot pass them on through their flesh being consumed. The cannibalism taboo thus seems to be part of the behavioral immune system, a system of proactive behaviors that were evolved in order to assist humans in avoiding disease (Schaller, 2011; Schaller & Park, 2011).

Scher et al.’s (2009) mate pool reduction hypothesis suggests that people would be more disgusted by eating a member of the opposite sex, particularly if the target was more sexually desirable. Surprisingly, results supported the opposite conclusion. People were more disgusted with the idea of consuming the flesh of someone of the same gender. Also, this study found that people were significantly more disgusted at the idea of eating an unattractive person rather than an attractive person and a low status person
rather than a high status person. This is the same pattern one would expect people’s sexual attraction to follow: more disgust at sex with same gender, unattractive, and low status others (e.g., Buss, 2003).

Thus, there appears to be a connection between the cannibalism taboo and sexual taboos, as they relate to disgust reactions. Scher (2004) found in two studies that the mean level of disgust people reported in cannibalizing particular targets formed a similar pattern to the mean levels of disgust other people reported in French kissing those same targets. (The correlations between the mean levels of disgust across various targets was in the range of .90.)

These data seem to suggest that there is, indeed, a connection between sexual taboos and cannibalism; however, this relationship is still not fully confirmed, as there was no measurement of sexual orientation to differentiate between a preference of opposite gendered persons based on one’s own gender or based on desired sexual partner. One particularly strong test of the connection would be to examine cannibalism in the context of sexual orientation. Although Scher et al. (2009) found that people found cannibalizing a same-sex other more disgusting, they did not measure the sexual orientation of their participants. It may be that the results from Scher et al. are driven by a disgust in cannibalizing a member of the same gender simply because a same-gender other is more similar to oneself than an opposite-gender other, not because of sexual attraction.

Tambiah (1969) noted that many cultures are disgusted at the idea of eating something that is too similar to ourselves (e.g., other humans) or something that is too dissimilar from ourselves (e.g., insects). This hypothesis could also apply to the link from
sexuality and eating habits to disgust. For instance, although people are disgusted at the idea of eating something that is either too close (cannibalism) or too distant (insects) from humanity, this same pattern can be seen in sexual behaviors. Specifically, in most cultures, it is seen as taboo to have sexual relations with someone who is too close (incest, maybe even homosexuality) or too distant (bestiality) from ourselves. It seems clear that these fears are not derived from health concerns (eating large quantities of fat would be seen as disgusting too), but rather are derived from a cultural understanding of the body as a sacred form, housing the human soul, which must be protected from contamination (Haidt, et. al., 1997). This conceptualization of disgust seems to directly connect the development of the cannibalism taboo with the same thought process as the development of taboos regarding sexuality.

The current study aims to test the connection between disgust levels related to cannibalism and disgust levels related to sexual intimacy. By measuring who participants' desired sexual partners are, we can separate the effects of gender from the effects of sexual attraction. We predict that regardless of whether someone is judging how disgusting they would find it to have sex with someone or how disgusting they would find it to cannibalize someone, they will find it less disgusting to do it with a desired sexual partner.

The Role of Disgust

It is not always clear why certain people/cultures find specific things disgusting. Taboos such as cannibalism and incest are some examples. Although most people would agree that these taboo behaviors are disgusting, and it seems clear that it is infrequent for people to engage in these behaviors, it is not always obvious why this is so. However, it
does seem likely that disgust, as it has generalized from its original evolutionary advantages, maintains these as taboo. Relevant research and theory regarding disgust support the hypothesis that there is some sort of link between cannibalistic and sexual behaviors.

Researchers outline at least seven different types of experiences that can elicit the emotion of disgust, possibly as an evolutionarily advantageous way to avoid disease, as follows: food, animals, body products, sexual deviance, body-envelope violations (times where the exterior envelope (skin) of the body is broken or changed in some way, such as physical deformities, surgery, wounds, etc.), poor hygiene, and contact with death (Haidt, Rozin, McCauley, & Imada, 1997; Shenhav & Mendes, 2014). Although these stimuli are believed to be the more traditionally understood as disgust elicitors, feelings of disgust have generalized to other situations. One of these generalizations is how disgust is not only directly applied to specific foods, but also to acceptable foods that have been in contact with unacceptable foods (Rozin & Fallon, 1987). Disgust is triggered primarily by concerns regarding what the object is, or where it has been, rather than simply how that object is perceived by our senses (Rozin & Fallon, 1987). In this way, disgust has generalized to realms outside of protection from consuming foods that may carry disease or be bad for one’s health.

The disgust reaction may be projected onto moral concepts (Chapman & Anderson, 2014). For instance, specific violations of social norms, such as bestiality, incest, and cannibalism are all considered disgusting and immoral. Chapman and Anderson posit that disgust plays a significantly larger role in the way humans understand morality than is recognized. This supports the theory that cannibalism and
sexuality are maintained through the same or similar mechanisms of disgust. Because
disgust seems to be regulating moral as well as physical behavior, this provides us with a
way to further investigate the link between cannibalism and sexual preferences as they
relate to the disgust response.

As one studies culture, it becomes clear that interactions concerning interpersonal
issues and morality are commonly connected to feelings of disgust (Haidt, et. al., 1997).
This is likely where taboos began to develop. Children learn moral disgust, likely through
observational learning, and are not born with it; because of this, it is reasonable to assume
that disgust plays a large role in the development of certain social behaviors being
considered as taboo (Haidt, et. al., 1997; Rozin, et. al., 1987).

Disgust is considered to be one of the major components of the behavioral immune
system, another theory that supports this idea (Schaller & Park, 2011; Schaller, 2011).
The feeling of disgust keeps humans from eating or coming into contact with objects that
may cause disease.

One overarching theme can be found in several of the events that people consider
disgusting: the idea of humans as animalistic in nature. It is not uncommon for humans to
attempt to separate themselves from their animalistic nature by engaging in religions,
cleanliness, and severely restricting acceptable behaviors (Leach, 1964; Ortner, 1973;
Tambiah, 1969). This concept of disgust sheds light on the connectedness of food, sex,
and the violation of body envelopes. Although humans could ingest almost all types of
animal flesh, including the flesh of other humans, most societies consider cannibalism
taboo and therefore do not engage in it (Soler, 1973/1979). Also, almost all other humans
are viable sexual partners, but cultures often limit themselves to monogamous,
heterosexual sexual experiences and even still severely restrict the range of possible sex acts. Many theorists (e.g., Haidt, et. al., 1997; Rozin, Haidt, & McCauley, 1993; Becker, 1962, 1973; Goldenberg, et al.,2001; Tybur, Lieberman, Kurzban & DeScioli, 2013) have suggested that human sexuality is removed from its animalism by projecting some value system (e.g., love and marriage) onto it. In a similar way, cannibalism may be a reminder of our animalism, and therefore we may borrow a similar mechanism to manage the cannibalism taboo.

Research Questions

To examine directly the sex-cannibalism link and what mechanisms within this relationship (e.g., age, level of attractiveness, gender) play a role, we propose the following research questions and associated hypotheses:

Question 1: Is there a parallel between feelings of disgust related to both the taboo of cannibalism and taboos regarding sexual intimacy?

Hypothesis 1.1: The pattern of disgust in cannibalism and in undesired sexual behavior will be the same. Participants will find it less disgusting to imagine cannibalizing someone who is of the gender which they usually find sexually appealing. Specifically, heterosexual participants will be more disgusted to cannibalize and be sexually intimate with someone of the same gender, whereas homosexual participants will be more disgusted to cannibalize and be sexually intimate with someone of the opposite gender. Bisexuals will fall in-between heterosexuals and homosexuals.

Hypothesis 1.2: Taboo type (sex versus cannibalism) will not interact with any of the other independent variables.
Question 2: Does the preference for attractiveness and youth play a similar role in the level of disgust experienced when considering who to be sexually intimate with as it does when considering who to cannibalize?

Hypothesis 2.1: Participants, especially males, will be statistically significantly less disgusted to both be sexually intimate with and to cannibalize a young person (e.g., 24 years old), than an older person (e.g., 80 years old).

Hypothesis 2.2: Participants, especially males, will be statistically significantly less disgusted to both be sexually intimate with and to cannibalize people with higher levels of attractiveness.

Methods

Mechanical Turk

To test these hypotheses, participants were recruited through the use of Amazon.com’s online labor market, Mechanical Turk (MTurk). MTurk is an online information gathering system where people can sign up for and participate in a variety of activities. Once the users have an account, they can perform tasks ranging from transcribing handwritten documents to taking online surveys for a few cents per task. Researchers can upload surveys to be taken by these users to gain a large number of participants for little money and in a short period of time.

Over the past several years a growing scientific literature has assessed the validity, reliability, and generalizability of samples collected solely from MTurk and compared them to the general population, the undergraduate psychology student pool (which many research studies utilize), and other common samples from which researchers obtain participants. Buhrmester, Kwang, & Gosling (2011) found that MTurk
was a reliable way to gain a large amount of data inexpensively without compromising
data quality. Their findings indicated that the MTurk sample was more diverse than the
other most common internet samples and college campus samples, the participants could
be recruited quickly and inexpensively without affecting the quality of the data, and the
data was as least as reliable as typical data collection methods. Researchers have found
that using MTurk was a particularly efficient and reliable way to directly access typically
underrepresented subpopulations, such as gay, lesbian, and bisexual identifying
individuals (Chandler, Mueller, & Paolacci, 2014); it is, therefore, a particularly
appropriate data source for our study.

Although the consensus is that MTurk data is generally as or more reliable than
traditionally obtained data (Johnson, et al., 2012), researchers have made some
suggestions to heighten the quality of data obtained on MTurk. Bates & Lanza (2013)
found that closely considering manipulating the required Worker criteria to participate in
the study allowed for an even higher quality of data to be obtained. Each participant is
rated on the work that they do via MTurk, and their ratings are interpreted as a reputation.
Peer, Vosgerau, & Acquisti (2014) found that, although data on MTurk was generally
reliable, the workers with higher reputations were found to produce the highest quality
work and that restricting the participant pool to high reputation workers (those with
approval ratings above 95%) would assist in maintaining data quality. They also stated
that one should consider limiting participants to those who have completed 500 previous
HITs (assignments on MTurk) to produce the highest possible quality MTurk data.

Some researchers suggest that, when appropriate, researchers limit their
participant pool to the country that they are interested in studying (Bates & Lanza,
2013; Paolacci, & Chandler, 2014). Others found that MTurk participants showed significant differences from the general population regarding several personality constructs, such as introversion, internal motivation, and social anxiety (Goodman, Cryder, & Cheema, 2013). Goodman et al. also found that MTurk workers tend to be “younger (about 30 years old), overeducated, underemployed, less religious, and more liberal than the general population” and that they were “less extraverted”, “less emotionally stable”, and “more socially anxious.” Johnson and Borden (2012) found that two thirds of the participant pool they gathered from MTurk were women and that they were generally around ten years older than participants collected in a lab, though the range of ages was similar. Also, they found that both samples consisted of about eighty percent White participants. Despite these limitations, MTurk seems the best choice for the current study because of the ability to more easily obtain data from homosexual participants.

Participants

Three-hundred and sixty-two participants were recruited using MTurk. However, due to several factors such as missing answers, incomplete surveys, and other issues, some participants were dropped due to errors in completing the survey. Due to this, we used data from 225 participants. We limited recruitment to participants from the United States; however, in order to gain a large enough sample, we did not limit to participants who had over 500 HITS or who have an approval rating of above 95%. Participants were each paid 10 cents. We gathered data from 149 males and 213 females. From this participant pool, 289 participants identified as white, 33 identified as Black or African American, 2 identified as American Indian or Alaska Native, 18 identified as Asian, 2
identified as Native Hawaiian or Pacific Islander, and 18 identified as other. The ages of the participants ranged from 18 to 69.

Research Design

Five independent variables – taboo type, desired sexual partner, target gender, target age, and target attractiveness – were included in the study. While taboo type (sexual attraction vs cannibalism) and desired sexual partner were between subjects variables, every other variable (target gender, target age, target attractiveness) was a within subject variable and was experienced by every participant.

Procedures

All data were gathered online. After completing informed consent procedures, participants were asked their gender and whether they were assigned that gender at birth (6 Ps reported a gender different from the one they were assigned at birth). Desired Sexual Partner (sexual orientation) was measured on a 5-point scale asking what gender Ps were sexually attracted to. Choice were “Only Male”, “Mostly Male”, “Males and Females Equally”, “Mostly Females”, and “Only Females”. Additionally, age and race/ethnicity were assessed.

Then, each participant read the following:

Sometimes in life we find ourselves in a situation where we must do something(s) that we would never consider doing otherwise. In situations like this, decisions are often made that we would not typically make if the situation didn’t force us to do so. This study will evaluate one such situation.
For this study, I will need you to imagine that you are in a very specific situation. In this situation, you will be forced to make a decision between two options, one or all of which you will find disgusting. This researcher is interested in understanding these decisions.

It may be difficult to imagine yourself in such a situation where you have to (practice cannibalism/become sexually intimate with those to whom you aren’t usually attracted) but please attempt to imagine that you are in a situation that forces you to make these choices. If you were in that situation, which of the two paired targets would you rather (cannibalize/become sexually intimate with).

Participants were then presented with a series of choices about who they would rather be sexually intimate with or to cannibalize (depending on experimental condition). They simply marked the person they would rather perform these acts with/on, if they had to, in the context provided during the introduction.

Participants were exposed to all pairwise comparisons between targets varying on GENDER, AGE (24 year old/80 years old), and ATTRACTIVENESS. The following targets were presented in randomly ordered pairs to each participant:

- Unattractive 24 year old man,
- Attractive 24 year old man,
- Unattractive 24 year old woman,
- Attractive 24 year old woman,
- Unattractive 80 year old man,
- Attractive 80 year old man,
- Unattractive 80 year old woman,
- Attractive 80 year old woman
Thus, each participant made 28 individual choices which appeared as in the following example:

I would be rather be sexually intimate with/cannibalize…

An attractive 24 year old woman
An unattractive 80 year old man.

However, due to an error in creating the survey the choice between a physically unattractive 24 year old woman and a physically unattractive 80 year old man was duplicated and the choice between a physically unattractive 24 year old woman and a physically attractive 80 year old man was omitted for both taboos. This issue was remedied through the creation of composite variables and is discussed in greater detail in the results section.

The survey was presented in an individual random order for each participant and each participant received the questionnaire on either sexual intimacy or cannibalism.

Debriefing

Participants each received a debriefing statement after they completed the survey. This explained the purpose of the research, and why they were asked certain questions. It then thanked them for their participation.

Results

While we hoped to be able to gather a sample that allowed us an appropriate amount of males and females with different sexual orientations, we were unable to do so. Sample size across genders and sexual orientations was quite limited in some categories (see Table 1.).
We hypothesized that people would prefer attractiveness and youth for both the sexual intimacy condition and the cannibalism condition. We also hypothesized that they would be less disgusted by cannibalizing the same gender with whom they would prefer to engage in sexual intimacy. Furthermore, we expected to see no interaction between taboo types, gender of the participant, and desired sexual partner.

Participants made 28 choices between targets. As mentioned above, the choice between a physically unattractive 24 year old woman and a physically unattractive 80 year old man was duplicated and the choice between a physically unattractive 24 year old woman and a physically attractive 80 year old man was omitted for both taboos. To remedy this issue, we created three composite variables: (1) the proportion of each participant’s choices for the young target over the old target, for all the times they could choose directly between young and old; (2) the proportion of participant-choices for the attractive target for all the direct choices between attractive and unattractive, and (3) the proportion of choices of the female target when they could choose directly between male and female targets.

We expected a preference for both youth (Hypothesis 2.1) and attractiveness (Hypothesis 2.2) for both taboo types. A one sample t-test comparing the proportion that the young target was chosen to 0.5 (i.e., random choice) shows that there was a
preference for youth (collapsed across both taboos; $M = .67, SD = .38; \; t(225) = 6.834, p < .001$). Similarly, there was a preference for attractiveness ($M = .60, SD = .20; \; t(225) = 7.43, p < .001$). These results confirmed our first and second hypotheses.

We also predicted that preferences for females would track the desired sexual partner (DSP) variable – regardless of taboo type (Hypothesis 1.1). We measured DSP on a scale from one to five (1= only males, 2= mostly males, 3= males and females equally, 4= mostly females, 5= only females). There was a significant linear trend in preference for females ($F(1, 220) = 22.44, p < .001$; see Figure 1). However, there was also an unexpected significant quadratic trend ($F(1, 220) = 11.20, p = .001$).
Our prediction was that the preferences for youth and attractiveness, and the relationship between DSP and preference for females would not be affected by taboo type (Hypothesis 1.2). An independent means t-test showed that there was a difference in preference for youth between those making choices about cannibalism ($M = .57, SD =$
and those making choices about sexual intimacy \((M = .87, SD = .15, t(224) = 6.14, p < .001)\). Nevertheless, participants in both taboo type conditions showed a preference for youth. One sample t-tests comparing the mean to .5 were marginally significant for cannibalism \((t(146) = 1.93, p = .056)\) and significant for sexual intimacy \((t(78) = 22.15, p < .001)\).

An independent means t-test was performed to determine whether or not there was a difference between the two taboos in preference for attractiveness. Results showed that there was (cannibalism: \(M = .57, SD = .24; \) sexual intimacy: \(M = .67, SD = .10; \) \(t(224) = 3.61, p < .001\)). Still, participants in both taboo type conditions showed a preference for attractiveness. One sample t-tests comparing the mean to .5 were significant for cannibalism \((t(146) = 3.41, p = .001)\) and significant for sexual intimacy \((t(78) = 14.27, p < .001)\).

A two (taboo type) by five (DSP) factorial between subjects ANOVA on proportion of females chosen found a significant main effect for DSP \((F(4, 215) = 15.54, p < .001)\) and a significant interaction between DSP and taboo type \((F(4, 215) = 11.01, p < .001)\), meaning participants were more likely to choose the gender of their desired sexual partner in the sexual intimacy condition when compared to the cannibalism condition. The taboo type main effect was not significant \((F(1, 215) = .002)\). While not surprisingly, people chose females for sex more often to the extent that they said that females were their desired sexual partner, there was no consistent relationship between DSP and preference for females in cannibalism (Figure 2), thus disconfirming our hypothesis.
What gender are you sexually attracted to?
Discussion

Our findings did not support our theoretical contention that there was a connection between the disgust mechanisms involved in sexual taboos and cannibalism. Although some of our hypotheses were confirmed, our major predictions – about the similarity in the pattern of preferences and disgust for cannibalism and sexual intimacy – were not. Desired sexual partner did not predict preferences for cannibalism victim at all. Our results did show a preference for attractiveness and youth in both taboo types, which would imply that some patterns do exist across conditions.

It was predicted that there would be no interaction between sexual attraction (desired sexual partner) and taboo type (either the cannibalism or sex condition) on preferences for the gender of the targets. However, our results suggest that disgust does not form the same pattern in cannibalism as it does with sexual attraction. Although the participants' choices in the sexual intimacy condition did, not surprisingly, mirror desired sexual preferences, in the cannibalism condition, the proportion of times a female target was chosen hovered around 0.5, suggesting that choices between different genders in relation to desired sexual partner or were made in each case based on other target-factors (i.e., youth, attractiveness).

The obvious assumption to be made upon these findings is that the disgust mechanism involved in sexual taboos and cannibalism is simply not the same. Although other theories may attempt to explain this, such as Tambiah's (1969) theory regarding people being disgusted at consuming or being sexually intimate with someone too similar (cannibalism/incest) or too dissimilar (insects/non-human mammals), our study did not support this opposing idea either. There does not seem to be a preference for opposite
gender targets or same gender targets in cannibalism victims; none of the means were significantly different than random chance (.50). There was no difference between male (M= .48) and female (M=.49) preferences for female targets (t(145) = .332). Therefore, the most logical conclusion is simply that the mechanisms of disgust involved in sexual taboos and cannibalism are simply not related. However, this is not to discount the fact that there are limitations to this study and that a pattern may exist that this particular study was not able to accurately measure.

**Limitations**

There are some limitations to this study for which we were unable to control for. Although our sample size was relatively large, with 225 participant responses, there was a significant shortage of male participants who ended up randomly assigned to the sexual intimacy condition. This could be due to several reasons. One consideration is the male aversion to homosexuality. Due to this, it is possible that males were more likely to drop out of the survey or submit an incomplete response. In general, the representation of gay participants was also lower than desired (see Table 1).

Furthermore, our participants were gathered online. As discussed in detail above, Amazon Turk (MTurk) has a high validity and reliability. However, it is understood that collecting data online rather with an in-person interview is generally less reliable. Furthermore, self-report measures in general tend to supply less reliable data.

Additionally, consistent with previous research using MTurk (Johnson and Borden, 2012), our participant pool consisted of overwhelmingly Caucasian identifying persons. This provides less diversity in our participant pool and limits our ability to generalize our results. Furthermore, in order to limit any confounds regarding language
barriers or cultural differences, we limited our participant pool to the United States. Although this did help us to control for these possible issues, it also created a limitation in the diversity of our participant pool.

Also, we may have been more able to assess for similar patterns if our taboo type variable had been within subjects instead of between subjects. If this had been the case, our participants would be making choices for both the cannibalism and sexual attraction conditions. This would allow us to assess for patterns in each particular participant and in general. This may have been a helpful way to more closely assess patterns of disgust.

Furthermore, it is understandably difficult for people to put themselves in a position of imagining what type of person they would rather cannibalize. As cannibalism is seen as an incredibly taboo behavior across most cultures, it makes sense that it would be difficult for our participants to imagine themselves in a situation where they would need to decide what traits they would prefer in a cannibalism victim. However, although on one hand it may be difficult for a person to put themselves in this hypothetical situation due to these difficulties, it is also important to recognize that the evolutionary purpose of disgust is to act as a deterrent to certain behaviors. Disgust functions in a way where one does not actually have to perform the action to experience the disgust, so in regards to disgust, imagination may actually be amendable to hypothetical decisions.

**Future Research**

Although our study was unable to identify similar patterns between disgust responses and preference in desired sexual partner and preferred cannibalism victim, there are opportunities for future research on this subject, however limited. If this study were to be duplicated, it might be beneficial to consider having taboo type be a within
subjects variable. As stated earlier, this would allow us to track patterns of preference in individual participants and in our subject pool as a whole, which would allow us to look more closely at these similarities, or lack thereof. Additionally, if this study were to be redone, it would be pertinent to ensure that the mistake of the omitted and duplicated option was corrected. Additionally, it would be beneficial to collect a larger sample that included more males in general and a more equal distribution of males/females and sexual orientations in both conditions. Finally, it may be beneficial to consider the benefits of a face-to-face collection of data. Although this would allow the opportunity for assisting the participants in imagining a scenario in which they would engage in a taboo, it poses some risks as well. For instance, it is possible that someone would not feel comfortable disclosing a sexual orientation to a researcher, specifically if they have yet to “come out”. Furthermore, it is more difficult in general to gather participants in this manner. Although these changes in research design pose some different limitations, these changes may be beneficial to future researchers that attempt to assess for a similar pattern of disgust across taboo types.

Conclusion

While we expected to see a similar pattern present itself across the sexual attraction intimacy and cannibalism, we were unable to confirm this hypothesis. In fact, it would seem that none of the theories discussed in the literature review are consistent with the results of this study. The most logical conclusion is that the mechanisms of disgust involved in sexual taboos and cannibalism are different from one another, impact preferences in a different manner, and do not form similar patterns across taboo types.
References

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Appendix

CONSENT TO PARTICIPATE IN RESEARCH

Behavioral Patterns regarding Disgust: You are invited to participate in a research study conducted by Kayla Rice and Dr. Steven Scher from the Psychology Department of
Eastern Illinois University, in Charleston, IL. Your participation in this study is entirely voluntary.

PURPOSE OF THE STUDY

We are interested in different things that make people disgusted. We will be assessing how you react to different scenarios that might make people disgusted.

PROCEDURES

If you volunteer to participate in this study, you will be asked to: Complete a short survey about your race, age, gender, and sexual orientation. Make a series of choices between different versions of a potentially disgusting scenario.

POTENTIAL RISKS AND DISCOMFORTS

Because these questions are about disgust, you may feel a certain amount of discomfort. However, you will only be imagining these situations. Therefore we don’t expect there to be any long-lasting problems.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information gathered in this study may prove beneficial to understanding the evolution of social taboos. Taboos are often confusing and there is no obvious reason why some taboos are considered to be disgusting. This research will allow us to examine patterns throughout taboo behaviors and determine different paths of disgust that may create or maintain certain behaviors as taboo. This would allow us the ability to move forward with social justice issues, understand cultural phenomenon more deeply, and
could enlighten us on specific situations that are, at this point, difficult to explain. Your only direct benefit will be the 10¢ (ten cents) you will be paid through Amazon’s MTurk survey engine.

CONFIDENTIALITY Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. We will not be asking your name in the survey, so your responses are completely anonymous. We will only have access to information provided to us from Amazon’s MTurk and from yourself. Your information will be collected without names or locations. Only people directly involved with analyzing data will have access to any materials. Any information you provide will only be made public by reporting statistics like averages. There will be no way to connect your personal answers to you.

PARTICIPATION AND WITHDRAWAL

Participation in this research study is voluntary and not a requirement or a condition for being the recipient of benefits or services from Eastern Illinois University or any other organization sponsoring the research project. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits or services to
which you are otherwise entitled. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about this research, please contact: Dr. Steven Scher, Faculty Sponsor. Office: 217-581-7269 Email: sjscher@eiu.edu

RIGHTS OF RESEARCH SUBJECTS

If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

Institutional Review Board  Eastern Illinois University 600 Lincoln Ave. Charleston, IL 61920 Telephone: (217) 581-8576 E-mail: euirb@www.eiu.edu

You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study. I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time. I have been given a copy of this form. If you
wish to continue with the study, please select “I agree”. If you do not wish to continue with the study, please select “I do not wish to continue”.

☐ I Agree (1)

☐ I Do Not Wish to Continue (2)

Display This Question:

If Click to write the question text I Do Not Wish to Continue Is Selected

Q19 Thank you for your interest in this study. We appreciate your time.

If This is text that they'll g... Is Displayed, Then Skip To End of Survey

Q66 What is your gender?

☐ Male (1)

☐ Female (2)

Q67 Is this the gender you were assigned at birth?

☐ Yes (1)

☐ No (3)
Q68 What gender are you sexually attracted to?
- Only Males (1)
- Mostly Males (2)
- Males and Females Equally (3)
- Mostly Females (4)
- Only Females (5)

Q70 What is your age

Q71 What is your ethnic background?
- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6)

Q5 Sometimes in life we find ourselves in a situation where we must do something(s) that we would never consider doing otherwise. In situations like this, decisions are often made that we would not typically make if the situation didn’t force us to do so. This study will evaluate one such situation. For this study, I will need you to imagine that you
are in a very specific situation. In this situation, you will be forced to make a decision between two options, one or all of which you will find disgusting. This researcher is interested in understanding these decisions.

Q6 It may be difficult to imagine yourself in such a situation where you have to become sexually intimate with someone but please attempt to imagine that you are in a situation that forces you to make these choices. If you were in that situation, which of the two paired targets would you prefer (be less disgusted) to become sexually intimate with. If it may be difficult to imagine... Is Displayed, Then Skip To End of Block

Q7 It may be difficult to imagine yourself in such a situation where you have to cannibalize someone (consume/eat another human) but please attempt to imagine that you are in a situation that forces you to make these choices. If you were in that situation, which of the two paired targets would you prefer (be less disgusted) to cannibalize (consume/eat). If it may be difficult to imagine... Is Displayed, Then Skip To End of Block
Q23 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old man (1)
- Physically attractive 24 year old man (2)

Q24 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old man (1)
- Physically unattractive 24 year old woman (2)

Q25 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old man (1)
- Physically attractive 24 year old woman (2)

Q26 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old man (1)
- Physically unattractive 80 year old man (2)

Q27 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old man (1)
- Physically attractive 80 year old man (2)
Q28 If I were forced to, I would rather cannibalize a

- Physically unattractive 24 year old man (1)
- Physically unattractive 80 year old woman (2)

Q29 If I were forced to, I would rather cannibalize a

- Physically unattractive 24 year old man (1)
- Physically attractive 80 year old woman (2)

Q30 If I were forced to, I would rather cannibalize a

- Physically attractive 24 year old man (2)
- Physically unattractive 24 year old woman (3)

Q31 If I were forced to, I would rather cannibalize a

- Physically attractive 24 year old man (2)
- Physically attractive 24 year old woman (4)

Q32 If I were forced to, I would rather cannibalize a

- Physically attractive 24 year old man (2)
- Physically unattractive 80 year old man (5)
Q26 If I were forced to, I would rather cannibalize a
- Physically attractive 24 year old man (1)
- Physically attractive 80 year old man (2)

Q27 If I were forced to, I would rather cannibalize a
- Physically attractive 24 year old man (1)
- Physically unattractive 80 year old woman (2)

Q28 If I were forced to, I would rather cannibalize a
- Physically attractive 24 year old man (1)
- Physically attractive 80 year old woman (2)

Q29 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old woman (1)
- Physically attractive 24 year old woman (2)

Q30 If I were forced to, I would rather cannibalize a
- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old man (2)
Q31 If I were forced to, I would rather cannibalize a

- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old man (2)

Q32 If I were forced to, I would rather cannibalize a

- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old woman (2)

Q33 If I were forced to, I would rather cannibalize a

- Physically unattractive 24 year old woman (1)
- Physically attractive 80 year old woman (2)

Q34 If I were forced to, I would rather cannibalize a

- Physically attractive 24 year old woman (1)
- Physically unattractive 80 year old man (2)

Q35 If I were forced to, I would rather cannibalize a

- Physically attractive 24 year old woman (1)
- Physically attractive 80 year old man (2)
Q36 If I were forced to, I would rather cannibalize a
   - Physically attractive 24 year old woman (1)
   - Physically unattractive 80 year old woman (2)

Q37 If I were forced to, I would rather cannibalize a
   - Physically attractive 24 year old woman (1)
   - Physically attractive 80 year old woman (2)

Q38 If I were forced to, I would rather cannibalize a
   - Physically unattractive 80 year old man (1)
   - Physically attractive 80 year old man (2)

Q39 If I were forced to, I would rather cannibalize a
   - Physically unattractive 80 year old man (1)
   - Physically unattractive 80 year old woman (2)

Q40 If I were forced to, I would rather cannibalize a
   - Physically unattractive 80 year old man (1)
   - Physically attractive 80 year old woman (2)
Q41 If I were forced to, I would rather cannibalize a
- Physically attractive 80 year old man (1)
- Physically unattractive 80 year old woman (2)

Q42 If I were forced to, I would rather cannibalize a
- Physically attractive 80 year old man (1)
- Physically attractive 80 year old woman (2)

Q43 If I were forced to, I would rather cannibalize a
- Physically unattractive 80 year old woman (1)
- Physically attractive 80 year old woman (2)

Q51 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically attractive 24 year old man (2)

Q52 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically unattractive 24 year old woman (2)
Q53 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically attractive 24 year old woman (4)

Q54 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically unattractive 80 year old man (5)

Q55 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically attractive 80 year old man (6)

Q56 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically unattractive 80 year old woman (7)

Q57 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old man (1)
- Physically attractive 80 year old woman (8)
Q58 If I were forced to, I would rather become sexually intimate with a

- Physically attractive 24 year old man (2)
- Physically unattractive 24 year old woman (3)

Q59 If I were forced to, I would rather become sexually intimate with a

- Physically attractive 24 year old man (2)
- Physically attractive 24 year old woman (4)

Q60 If I were forced to, I would rather become sexually intimate with a

- Physically attractive 24 year old man (2)
- Physically unattractive 80 year old man (5)

Q61 If I were forced to, I would rather become sexually intimate with a

- Physically attractive 24 year old man (1)
- Physically attractive 80 year old man (2)

Q62 If I were forced to, I would rather become sexually intimate with a

- Physically attractive 24 year old man (1)
- Physically unattractive 80 year old woman (2)
Q63 If I were forced to, I would rather become sexually intimate with a
- Physically attractive 24 year old man (1)
- Physically attractive 80 year old woman (2)

Q64 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old woman (1)
- Physically attractive 24 year old woman (2)

Q65 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old man (2)

Q66 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old man (2)

Q67 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 24 year old woman (1)
- Physically unattractive 80 year old woman (2)
Q68 If I were forced to, I would rather become sexually intimate with a
○ Physically unattractive 24 year old woman (1)
○ Physically attractive 80 year old woman (2)

Q69 If I were forced to, I would rather become sexually intimate with a
○ Physically attractive 24 year old woman (1)
○ Physically unattractive 80 year old man (2)

Q70 If I were forced to, I would rather become sexually intimate with a
○ Physically attractive 24 year old woman (1)
○ Physically attractive 80 year old man (2)

Q71 If I were forced to, I would rather become sexually intimate with a
○ Physically attractive 24 year old woman (1)
○ Physically unattractive 80 year old woman (2)

Q72 If I were forced to, I would rather become sexually intimate with a
○ Physically attractive 24 year old woman (1)
○ Physically attractive 80 year old woman (2)
Q73 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 80 year old man (1)
- Physically attractive 80 year old man (2)

Q74 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 80 year old man (1)
- Physically unattractive 80 year old woman (2)

Q75 If I were forced to, I would rather become sexually intimate with a
- Physically unattractive 80 year old man (1)
- Physically attractive 80 year old woman (2)

Q76 If I were forced to, I would rather become sexually intimate with a
- Physically attractive 80 year old man (1)
- Physically unattractive 80 year old woman (2)

Q77 If I were forced to, I would rather become sexually intimate with a
- Physically attractive 80 year old man (1)
- Physically attractive 80 year old woman (2)
Q78 If I were forced to, I would rather become sexually intimate with a

- Physically unattractive 80 year old woman (1)
- Physically attractive 80 year old woman (2)

Q65 Taboos Debriefing Sheet

Thank you very much for helping us out with our research on taboo behaviors and disgust. As you probably know, the word “taboo” (sometimes also spelled “tabu”) means something that is forbidden because it is improper or unacceptable. These taboo behaviors often elicit a reaction of disgust. We are interested in the taboos of cannibalism and taboo sexual behaviors. Most people feel disgust when they think about eating another human being. Sexual taboos include things like incest. These behaviors are very disgusting to think about for most people. For many people, it is also disgusting to have sex with someone other than the gender they usually find attractive. We are interested in exploring connections between some of these taboos. We predict that people will be disgusted cannibalizing everyone. However, based on previous research that we have done, our hypothesis is that people will be most disgusted cannibalizing people who they would also be disgusted having sex with. In this study, we asked some of you to make choices about who you would prefer (be less disgusted) to eat if you were forced to. For others, we asked who you would prefer (be less disgusted) to be sexually intimate with. In both cases, we gave you the same choices – people who were attractive or unattractive; people who were 24 or 80 years old; and males or females. Our predictions are that people who are asked about who they would choose to eat will pick the same types of
people as will people who are asked who they would choose to be sexually intimate with. For example, we expect everyone to say they would rather eat someone who is physically attractive – just like they will be more likely to say they want to be sexually intimate with attractive people. We expect people to prefer cannibalizing the same gender person that they indicate they usually find sexually attractive. In other words, people who are gay should not only say they prefer to be sexually intimate with someone of the same sex, they should also say they would prefer to cannibalize someone of the same sex. On the other hand, non-gay people should say they would prefer to cannibalize someone of the opposite sex. If we are correct in our predictions, this study will help us understand the nature of the cannibalism taboo, but also help us understand the nature of sexual attraction and sexual taboos. Ultimately, we hope that this will contribute to a more general understanding of the evolution of human behavior and of the human brain. If you have any questions or concerns about this research, please contact: Dr. Steven Scher, Faculty Sponsor. Office: 217-581-7269 Email: sjscher@eiu.edu. If you have any questions or concerns about the treatment of human participants in this study, you may call or write: Institutional Review Board Eastern Illinois University 600 Lincoln Ave. Charleston, IL 61920 Telephone: (217) 581-8576 Email: eiuirb@www.eiu.edu. You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study. Thank You Again for your assistance with our research.