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The Effects of Mortality Salience and Team Identification on Sports Fans' Willingness to Consider Anonymous Acts of Aggression

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The Effects of Mortality Salience and Team Identification on Sports Fans' Willingness to

Consider Anonymous Acts of Aggression

A Thesis

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Abstract

The current study sought to understand if mortality salience and identification with the University of Kentucky men's varsity basketball team (UK) would interact in such a way as to influence participants' willingness to engage in anonymous acts of aggression toward fans, coaches and players of rival sport teams. A research question was also evaluated which asked if mortality salience might be a potential mediator between participants' identification and their likelihood to engage in anonymous acts of aggression. Results indicated that mortality salience was not a significant predictor and there was no significant interaction between identification and mortality salience. As a result, subsequent mediation analysis also did not find mortality salience to be a mediator between identification and likelihood to engage in anonymous acts of aggression. Results did support previous research, which found identification to be a significant predictor of anonymous aggression. Participants who reported higher identification with UK were also more likely to report willingness to engage in anonymous aggression toward fans, players, and coaches of rival sport teams.

Chapter I: Introduction

Terror Management Theory (TMT) evaluates the effects that the knowledge of the inevitability of death has on humans (Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991a). Many previous studies have evaluated the multitude of different ways that thinking about one's own demise affects humans in terms of their intimate relationships (Hirschberger, Florian, & Mikulincer, 2003), one's occupation (Rosenblatt, Greenberg, Solomon, Pyszczynski & Lyon, 1989), and even political affiliation and aggression (Pyszczynski, Solomon, & Greenberg, 2003).

There are other possible constructs, however, to be explored, such as one's identification with a sport team. This is an area that has not been evaluated thoroughly in the theoretical framework of mortality salience. The current study seeks to understand the relationship between TMT and identification with a sport team. Additionally, how the anxiety associated with one's own death may influence the inclination to behave aggressively is of particular relevance.

Chapter II: Literature Review

According to TMT, when humans are faced with the knowledge of their own inevitable demise, they feel anxiety, which they are then strongly motivated to buffer or distract themselves from (Solomon et al., 1991). Human beings, like most other sentient beings, are strongly motivated towards self-preservation. This means that when the knowledge of death becomes salient, individuals are often met with potentially paralyzing anxiety, which oftentimes instigates behaviors that have been associated with an increased chance of survival. For example, Arndt, Greenberg, Pyszczynski, and Solomon (1997) found that individuals who are reminded of their impending death, commonly referred to as mortality salience (MS), report higher adherence to cultural values and disregard for those who deviate from them or challenge their cultural values than participants who were not reminded of mortality. The authors argue that mortality salience leads individuals to increase their adherence to cultural values as a means of increasing their feelings of unity with in-group members, thus easing those feelings of anxiety and simultaneously strengthening one's chances of survival. In-groups can refer to any value or belief that a group of people feels a strong sense of connection to. A common example of an in-group would be fans of a specific sport team.

Goodger and Goodger (1989) believed that sports were appealing because they provide a sense of excitement similar to the excitement felt during critical or dangerous situations, but in a safe and pleasurable fashion. Additionally, sport teams are a symbolic

form of social identity for fans. This belief was based on Durkheim's work on religion, and his theory that the excitement and powerful emotional responses shared by people of a certain religious belief during religious practices serve to intensify representations of social relationships and generate a sense of shared identity, which in turn provides a stronger sense of belonging and security. Goodger and Goodger (1989) argue that the behavior of sports fans during sporting events is so similar, at least superficially, to that of individuals during the religious rites described by Durkheim (1915), that they would provide the same reinforcement of social norms and bonds among sports fans (Goodger & Goodger, 1989).

Being a fan of a sport team may not seem like something that would make individuals feel they have a stronger chance of survival, but the feelings of unity and belonging that humans seek out as a means to ease existential anxiety are likely present among fans of the same sport team. Winegard and Deanor (2010) evaluate the hypothesis that team sports activate mechanisms and characteristics that evolved to facilitate coalitions (e.g., coalitions for small-scale warfare). They found that fandom, within men, was correlated with binding characteristics such as loyalty, purity and authority. These are characteristics conducive to the creation and sustainment of coalitions, which was something necessary for survival. The fact that these characteristics are present among sport fans suggests that fandom could be associated with a feeling of security and safety associated with an increased chance of survival.

Mortality Salience and In-groups

To understand how increasing one's sense of unity with an in-group can increase one's chances of survival, one must look at human beings from an evolutionary

standpoint. *Homo sapiens* do not possess the claws or sharp teeth that help other creatures in the animal kingdom survive, nor are they particularly fast or physically imposing (Pyszczynski, Solomon, & Greenberg, 2003). However, humans are very intelligent and highly social beings, and cooperation with others and strength in numbers is likely a survival tactic that has been passed on throughout history (Pyszczynski et al., 2003). Thus, it has been argued that this survival tactic is likely what is at the root of humans' desire to feel a sense of connection to in-groups (Baumeister & Leary, 1995).

This need for a feeling of connection and belonging to a group with which one identifies has even been found for smaller groups, such as one's occupation. Rosenblatt et al. (1989) discovered that, when death becomes salient, a group of municipal judges delved out harsher punishments for lawbreakers (i.e., prostitutes) than municipal judges who were not primed for mortality salience. The difference between these groups suggests that the municipal judges who were primed for mortality salience were attempting to buffer their own existential anxiety by delving out harsh punishments to individuals that opposed the values of a group with which they are associated.

A sense of connection to smaller groups, even ones as small as an intimate relationship between two people, can also be a source of comfort from death anxiety. For example, Hirschberger et al. (2003) evaluated intimacy striving as a coping mechanism to mortality salience. In this study, participants were divided into two groups, one of these groups was primed for death salience (these participants answered open-ended questions about what they believe happens after death, and what emotions these thoughts incite) and the other group was not (open ended questions were the same, but references to death were replaced with "watching television"). These two groups were then divided into three

groups each and randomly assigned to imagine a scenario in which they either received

praise, a neutral comment, or harsh criticism from their significant other. The results

indicated that participants in the mortality salience condition, regardless of whether they

imagined being praised or criticized by their intimate partners, reported higher desire for

intimacy from their partner than participants in the control situation. This suggests that

increasing bonds even in small in-groups, such as one's romantic relationship, are

effective buffers to death anxiety.

Mortality Salience and Out-groups

Previous research (Rosenblatt et al., 1989) has found that mortality salient

individuals seek out greater belonging with groups with whom they identify. However,

individuals faced with death anxiety have also been found to engage in behaviors

designed to distance themselves from those who oppose their values and the values of the

in-group. Judges faced with mortality salience delved out longer prison sentences to law-

breakers than judges who were not primed with mortality salience. Individuals delved out

the harsher punishments as a means to distance themselves from, or derogate the

members of the out-group (law-breakers). However, it is important to note that these

behaviors were not direct attempts to cause physical harm or pain (Rosenblatt et al.,

1989).

Pyszczynski and colleagues (2003) examined specifically whether participants

experiencing existential anxiety would behave aggressively towards individuals who

opposed their own beliefs and values. Experimenters measured aggression by allowing

participants to aggress against an annoying outgroup member by adding hot sauce to the

other participants' food. In this study, participants were either politically conservative or

liberal and were given essays they believed were written by the other participant. The essays were manipulated to oppose the participant's political stance. Half of the participants were primed for mortality salience and the other half were not. After reading the political essay, participants were told that they could apply hot sauce to a cracker that the author of the essay would have to eat, under the impression that the other participant did not enjoy spicy food. The results indicated that participants who were primed for mortality salience applied much more hot sauce to the other participant's cracker whom they believed wrote an essay opposing their political beliefs than participants who were not primed for mortality salience. During debriefing, participants were asked if they had been aware that they were being heavy handed with the hot sauce, and all reported that they had been aware of this during the study. This suggests that mortality salient individuals were not only aggressing against an out-group member but were also aware that they were behaving in a way intended to cause physical pain to the individual who opposed their in-group's values.

Sports Fandom and Identification

The previously mentioned research has shown that mortality salience results in a strong desire to feel closer to one's in-group (Hirschberger et al., 2003) and to separate from the out-group (Pyszczynski et al., 2003). However, identification with that in-group is also highly important, as it pertains to predicting one's behaviors. High levels of identification with a group can provide the sense of belonging that humans associate with a stronger chance for survival, which makes identification a very strong motivator for behaviors designed to protect one's sense of belonging to their group. An individual's identification with a sport team, for example, refers to the extent to which he/she feels a

psychological connection to it (Wann et al., 2001). For example, Dechesne, Greenberg, Arndt, and Schimel (2000) evaluated the role mortality salience plays in the context of sports fandom. Students from the University of Arizona, who all declared themselves as highly identified with their school's football and basketball teams before the fall 1997 season were asked to make estimates of how they believed both the University of Arizona basketball and football teams would do in the upcoming season. What they discovered was that mortality salient students reported higher estimates of success for their favored team when compared to control students. However, following the football team's loss in the first game of the season, mortality salient students reported less optimistic estimates for success than control students. More interesting is that following the first loss of the season for the Arizona football team, the students who experienced mortality salience reported increased optimism about their school's basketball team. Thus, the investigators drew the conclusion that "optimism about and identification with successful sport teams are, at least in part, motivated by the need to reduce concerns about mortality" (Deschesne et al., 2000, pp. 829-830).

In regards to out-group members, identification by itself is a sufficient predictor of aggressive behaviors. Wann, Peterson, Cothran and Dykes (1999) evaluated fan's reported willingness to participate in anonymous acts of aggression against opposing team member and coaches, as a function of their level of identification. Their results indicated that highly identified fans were more likely to report a willingness to participate in anonymous acts of aggression against opposing team members and coaches. It is interesting to note that the questionnaires included an item assessing participants' willingness to anonymously murder someone; however, the highly identified fans did not

report a greater willingness to do so. This is important because it indicates that highly identified fans are not simply more aggressive in general; it is limited to individuals associated with their rival team.

It is also important to note that the acts of aggression that highly identified fans reported a willingness to participate in were instrumental and not simply hostile (Wann, Haynes, McLean, & Pullen, 2003). That is, the acts of aggression would serve as a means to give their favored team a greater chance at victory ("if I could remain completely anonymous and there was no risk of arrest or retaliation, I would break the leg of a star player/coach of the opposing *team immediately prior to the championship game, thereby injuring them so that they could not participate").* Wann and colleagues (2003) found that highly identified fans were more willing to engage in anonymous acts of hostile aggression (e.g., "If you could remain completely anonymous and there was no risk of arrest or retaliation, would you break the leg of a star player/coach of the opposing team?") than less identified fans. This means highly identified fans were more willing to engage in acts of aggression toward opposing team members even when the aggressive acts are not intended to increase their own team's likelihood of success.

Although mortality salience was not specifically evaluated in the two previous studies, they do provide examples of behaviors that could be used as a means to increase one's sense of belonging to their in-group by distancing themselves from those who oppose the values of their in-group, in the realm of sports fandom.

Chapter III: The Current Study

When individuals are faced with mortality salience, they strive to feel a stronger sense of unity with their in-groups as a means of coping with existential anxiety (Arndt et al., 1997; Rosenblatt et al., 1989; Herschberger et al., 2003). A potential way to achieve this feeling of unity is to act aggressively towards out-group members who oppose the in-group values (Pyszczynski et al., 2003). Importantly, high identification alone, even when no existential anxiety is present, has also been found to result in a greater likelihood to act aggressively towards out-groups in the realm of sport fandom (Wann et al., 1999; Wann et al., 2003).

Thus, the current research sought to understand if mortality salience would interact with identification to influence sport fans' likelihood to participate in anonymous acts of aggression towards fans and members of rival teams. As mortality salience research indicates that death increases the likelihood of out-group aggression as well as increased feelings of optimism and identification with a favored sport team, it should make sense that mortality salient sports fans would feel more identified with their favorite team and consequently be even more likely to aggress against a rival team.

It was expected that the interaction between mortality salience and identification would exacerbate one's willingness to aggress against a rival team member. Specifically, it was hypothesized that individuals who were highly identified with a popular sport team and exposed to mortality salience would report a higher willingness to engage in

anonymous acts of aggression towards a rival of a popular sport team than individuals who were not exposed to mortality salience, and/or not highly identified.

A research question was also being evaluated which asks if a mortality salience would mediate the relationship between participants' identification and their likelihood to engage in anonymous acts of aggression.

Chapter IV: Methodology

Participants

Participants of this study ($N = 109$) ranged in age from 18-50 years. The mean age of participants was 20.24 years. There were a total of 77 females and 32 males. In addition to the 95 participants who reported White/Caucasian as their ethnicity, there were also African American ($n = 8$), Hispanic ($n = 2$), Asian ($n = 2$), Native American ($n = 1$), and one individual who did not disclose ethnicity. Out of the 109 participants, 45 reported attending religious services at least once a week, and 68 reported being highly religious.

Materials and Procedure

Participants of this study were recruited through SONA, an online research participation recruitment and data collection system used by the psychology department at this university. Participants found the study listed under the heading of "Personality, Pain, and Sports". Participants who chose the current study were prompted to make an in-lab appointment. Participants were tested in groups in a classroom setting and each participant was randomly assigned one of two conditions (i.e., mortality salience or dental pain).

Upon arrival, participants received an informed consent document. Upon providing consent, participants were given a survey packet. The packets differed in the second, fourth, and fifth pages, which was based upon random assignment. The first page

of the questionnaire was a blank sheet of paper. This ensured that the researcher was blind to the condition in which participants were randomly assigned. The second page of the survey packet contained two open-ended questions and participants were asked to spend five minutes answering these questions (Appendix A).

According to their condition, on the first page, participants were asked to write an essay about either death (i.e., MS condition) or dental pain (i.e. control condition). The method used to manipulate death or dental pain salience was what is traditionally used in the TMT research (e.g., Arndt et al., 1999; Rosenblatt et al., 1989). The questions consisted of having participants respond to two open-ended questions: "Please briefly describe the emotions that the thought of your own death/dental pain arouses in you." TMT research typically gives the following instructions as well, "Please describe, as specifically as you can, what you think will happen to you physically as you die/experience dental pain and once you are physically dead/ experienced dental pain" (e.g., Rosenblatt, et al., 1989). Participants were instructed to spend five minutes answering the essay questions. The researcher timed this portion.

Directly following the completion of the open-ended questions, participants were asked to spend five minutes completing a word search puzzle on the topic of planets (Appendix B). This is a filler task, as prior studies have shown that mortality salience effects take a few minutes to take effect (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Thus, participants were asked to work on the word search for five minutes.

After five minutes, the participants were instructed to complete the remainder of the questionnaire packet, which contains measures of sport identification, willingness to engage in aggression, and demographics.

Sport Identification. The Sport Spectator Identification Scale (SSIS; Wann & Branscombe, 1993; Appendix C) consists of seven Likert-scale items that assess identification with a sport team. Response options on the SSIS range from 1 (*low identification*) to 8 (*high identification*). An example of an item on the SSIS reads: "How important to you is it that the (target team) wins?" Subjects completed the SSIS twice during this study, once targeting the University of Kentucky men's basketball team and another time targeting their favorite sport team. Half of the participants received a survey packet with the SSIS instructing them to target the University of Kentucky preceding the SSIS instructing them to target their favorite sport team. The other half of participants received a survey packet with the two SSIS measures appearing in the opposite order. This measure has also been shown to have high internal consistency in past studies (α = .91; Wann & Branscombe, 1993).

Willingness to Engage in Aggression. Questions used successfully in past research (Wann et al., 2005; Wann et al., 2003; Appendix D), were used in the current study. Nine Likert-scale items that assess the participants' willingness to consider various acts of anonymous aggression toward players, fans, and coaches of rival teams were given. Responses to the items range from 1 (*definitely would not*) to 8 (*definitely would*). The nine items all contain the same lead: "If you could remain completely anonymous and there was no possibility of arrest or retaliation, would you..." This stem was followed by three sets of three items each. The first set focused on tripping a fan of the rival team, the star player of a rival team, and the coach of a rival team. A sample item from this set is "If you could remain completely anonymous and there was no possibility of arrest or retaliation, would you trip a fan of a rival team?" The second set of three items involved

physically hurting a fan, player, and coach of a rival team (e.g., "If you could remain completely anonymous and there was no possibility of arrest or retaliation, would you physically hurt the coach of a rival team?"). The final three items focused on breaking the leg of a rival fan, coach, and player. (e.g., "If you could remain completely anonymous and there was no possibility of arrest or retaliation, would you break the leg of the star player on a rival team?"). Higher numbers in response to these items indicated a greater willingness to participate in anonymous acts of aggression towards fans, players, and coaches of rival teams.

Demographics. Participants were also asked various demographic questions (Appendix E), such as age, ethnicity, religiosity, and gender.

Following the completion of this questionnaire packet, participants were debriefed and excused from the testing session.

Chapter V: Results

Pearson's correlation tests were conducted to gather additional knowledge about the variables. These tests revealed that level of identification with UK was significantly correlated with likelihood to aggress, $r(109) = .209$, $p = .029$. Identification with a favorite sport team was also significantly correlated with likelihood to aggress, $r(109) = .218$, $p = .023$, but there was not a significant correlation between mortality salience and identification with UK, $r(109) = .007$, $p = .942$. There was also not a significant correlation between mortality salience and likelihood to aggress, $r(109) = -.042$, $p = .801$, or between mortality salience and identification with participants' favorite team, $r(109) = -.129$, $p = .182$.

Additional Pearson's correlations were conducted on all of the variables after splitting the sample by condition. Correlations, means and standard deviations for variables in both conditions are presented in Table 1, with the mortality salience condition above the diagonal of the table and dental pain below the diagonal.

Table 1.

Intercorrelations Among Possible Predictors of Anonymous Aggression Among Sports Fans in Mortality Salience and Control Conditions

	1	2	3	4	5	
	Age	Sex	Religiosity	ID with UK	Aggression	M(SD)
1. Age	--	-.10	.14	.16	-.03	20.02(4.07)
2. Sex	-.03	--	.02	.01	-.09	1.73(.45)
3. Religiosity	-.13	.11	--	.19	-.11	2.81(1.47)
4. ID with UK	.24	-.07	.23	--	.14	22.96(15.96)
5. Aggression	-.06	-.23	.28*	.30*	--	14.53(10.08)
M(SD)	20.46(5.17)	1.69(.47)	2.97(1.51)	22.74(16.16)	15(9.40)	

*p<.05

A moderated regression analysis examined the hypothesis that there would be an interaction between mortality salience and identification with the University of Kentucky men's varsity basketball on likelihood to aggress. Identification was centered prior to being entered into the analysis. Likelihood to aggress was first regressed on mortality salience and level of identification, and the interaction between mortality salience and level of identification was entered in the second step of the regression. Regressing likelihood to aggress on mortality salience and identification resulted in an R^2 of .05, which was not statistically significant $F(2, 106) = 2.47$, $MSE = 9.58$, 95%, $p = .089$. The introduction of the interaction term did not account for a significant additional proportion of unique variance in participants' likelihood to aggress, $R^2 = .023$, $F(3, 105)= 1.845$, $MSE = 9.59$, $p = .144$.

An additional regression analysis examined whether any demographics could be used as potential predictors or covariates of anonymous aggression. All of the demographic variables that were collected were entered in the first step. The results were not significant, $F(3, 104) = 1.21$, $p = .309$, $R^2 = .03$, indicating that none of the demographics were able to successfully predict aggression. In the second step, the experimental variables were entered (i.e., identification and condition), but again resulted in a non-significant model, $F(2, 102) = 1.75$, $p = .129$, $R^2 = .08$. The coefficients for each potential predictor in each of the two models can be seen in Table 2.

Table 2.

Summary of Regression Analysis for Variables Predicting Anonymous Aggression

Variable	Model 1			Model 2		
	B	*SE B*	*β*	*B*	*SE B*	*β*
Age	-.11	.21	-.05	-.19	.21	-.09
Sex	-3.43	2.06	-.16	-3.23	2.03	-.15
Religion	.59	.63	.09	.27	.64	.04
ID with UK				.14	.06	.22
Condition				-.30	1.85	-.02
R^2		.03			.08	
F		1.21			1.75	

A mediated regression analysis was conducted to investigate the research question that asks if mortality salience is a mediator of participants' identification and their likelihood to engage in anonymous acts of aggression. All analyses were conducted using the PROCESS macro for SPSS 2.15 (Hayes, 2013). Results indicated that mortality salience was not a significant predictor of identification with UK $b = .223$, $SE = 3.08$, 95% $CI = -5.88, 6.32$, $p = .942$, and that identification with UK was a significant predictor of likelihood to aggress $b = .127$, $SE = .058$, 95% $CI = .013, .242$, $p = .03$. These results suggested that mortality salience was not a mediator between participants' identification with UK and their likelihood to aggress. Approximately five percent of the variance in participants' likelihood to aggress was accounted for by the predictors ($R^2 = .05$). The indirect effect was tested using a bootstrap estimation approach with 1000 samples (Shrout & Bolger, 2002). The results suggested the indirect coefficient was not significant, $b = .028$, $SE = .419$, 95% $CI = -.789, .963$.

Chapter VI: Discussion

This study sought to understand if mortality salience would interact with team identification in such a way as to influence sport fans' likelihood to participate in anonymous acts of aggression towards fans, coaches, and members of rival teams. The data did not support the hypothesis that there would be an interaction between mortality salience and level of identification with UK basketball on the likelihood to aggress. There was no evidence to suggest that an interaction between identification and mortality salience influenced participants' willingness to participate in anonymous acts of aggression. This is possibly due to the large number of participants in the sample who reported being highly religious.

Friedman and Rholes (2008) found that participants who reported low levels of religious fundamentalism reported stronger support for campus traditions when faced with mortality salience, while participants who reported high levels of religious fundamentalism did not report stronger support for campus traditions than participants in the control condition when faced with mortality salience. This suggests that religious fundamentalism is already a sufficient buffer to existential anxiety, and they did not need to increase their sense of connection to their campus traditions to buffer their anxiety (Friedman & Rholes, 2008). It is possible that the large amount of religious participants present in this study did not need to buffer their death anxiety by increasing identification

with a sport team or by aggressing against an opposing sport team because their religious beliefs were already serving as a sufficient buffer.

The data did, however, support findings from previous research that level of identification with a sport team is a significant predictor of willingness to participate in anonymous acts of aggression towards players and coaches on opposing teams (Wann et al., 1999; Wann et al., 2003). This means that participants with higher levels of identification to UK were more likely to report a willingness to aggress anonymously toward rival players, coaches, and fans.

It is important to note that the acts of aggression evaluated in this study were hostile in nature. They were not committed with the intent to increase a favored team's likelihood of success, but instead, were intended simply to cause pain or displeasure to opposing team members and coaches. Future research should evaluate the effects of mortality salience and identification on participants' willingness to engage in anonymous, instrumental acts of aggression. It is possible that participants would be more willing to consider anonymous acts of aggression when they are designed to increase a team's likelihood of success.

Another possible limitation to this study could be the fact that participants in the control condition were asked to describe dental pain. The experience of any kind of pain has been found to elicit an inclination to hurt an available target (Berkowitz 1993). It is very possible that participants in the control condition were inadvertently being primed to behave more aggressively just as much as participants in the mortality salience condition. The mean aggression score for the control condition was 15, while the mean aggression score for participants in the mortality salience condition was 14.5. The similarity of these

scores suggests that both conditions were almost equally aggressive. Future research should use essays for their control condition that replace mention of death with "watching television" instead of "dental pain" so that participants are not required to think about pain.

It is also important to take into consideration UK's performance during the 2016 NCAA Tournament that preceded this study. UK was eliminated from the tournament after a loss against Indiana. Not only is Indiana a rival team, but this was also the earliest tournament exit in a season that included an NCAA bid since 2008. This is important to note because Dechesne et al. (2000) found that level of optimism and identification with a favored team decreased among participants faced with mortality salience following their favored teams first loss of the season. It is possible that UK's poor performance in the tournament immediately preceding this study could have played a role in the results.

It should also be stated that participants in the study were given an identification measure targeting their favorite sport team in addition to the measure targeting UK's basketball team. However, the participants' likelihood to anonymously aggress toward rivals of their favorite team was not measured in addition to their likelihood to aggress towards rivals of UK. It is possible that participants in the mortality salience condition may have been more likely to report a willingness to aggress toward rivals of a favored team as a means to buffer existential anxiety than rivals of UK.

Lastly, team identification as a psychological construct, is further removed from mortality salience than the typical constructs that people use, such as religion or romantic relationships. As this construct is not as strongly connected to mortality salience, it is possible that the effect would be very small. That is, it is very possible that this study

simply did not have a large enough sample to generate significant results. If future studies seek to evaluate sports fandom as a possible buffer to mortality salience, a much larger sample should be used.

In conclusion, the data did not suggest that that an interaction between mortality salience and level of identification with UK was influencing participants' willingness to participate in anonymous acts of aggression, but level of identification was found to influence participants' likelihood to aggress, which supports the findings of previous studies.

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Appendix A: Essay Prompts

Experimental Essay Prompts:

Please briefly describe the emotions that the thought of your own death arouses in you.

Please describe, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead**.**

Control Condition Essay Prompts:
Please briefly describe the emotions that the thought of dental pain arouses in you.

Please describe, as specifically as you can, what you think will happen to you as you physically experience dental pain and once you have physically experienced dental pain.

Appendix B: Word Search (Filler)

```
D  H  O  B  S  H  N  E  P  T  U  N  E  Y
U  E  J  I  H  U  N  Y  S  T  H  A  O  R
D  N  A  U  U  E  E  E  M  A  E  N  W  A
W  N  A  I  P  L  U  T  O  N  A  O  D  H
A  G  H  P  L  I  Z  O  O  E  R  U  S  U
R  D  E  I  H  C  T  M  N  W  T  N  S  H
F  H  Y  H  O  P  B  E  O  Q  H  I  U  E
R  A  C  O  E  A  A  R  R  T  E  O  A  E
U  S  A  T  U  R  N  C  P  L  A  N  E  T
R  T  A  E  H  F  T  U  E  U  L  E  E  E
I  E  U  C  U  F  A  R  O  V  C  E  I  O
A  R  F  A  I  R  A  Y  A  O  E  I  R  H
T  O  A  I  N  I  A  B  E  A  R  N  A  E
O  I  A  T  E  O  E  N  A  A  E  H  U  A
E  D  I  D  D  O  E  D  U  T  S  E  T  S
E  S  Z  E  E  H  O  P  H  S  L  U  M  S
```
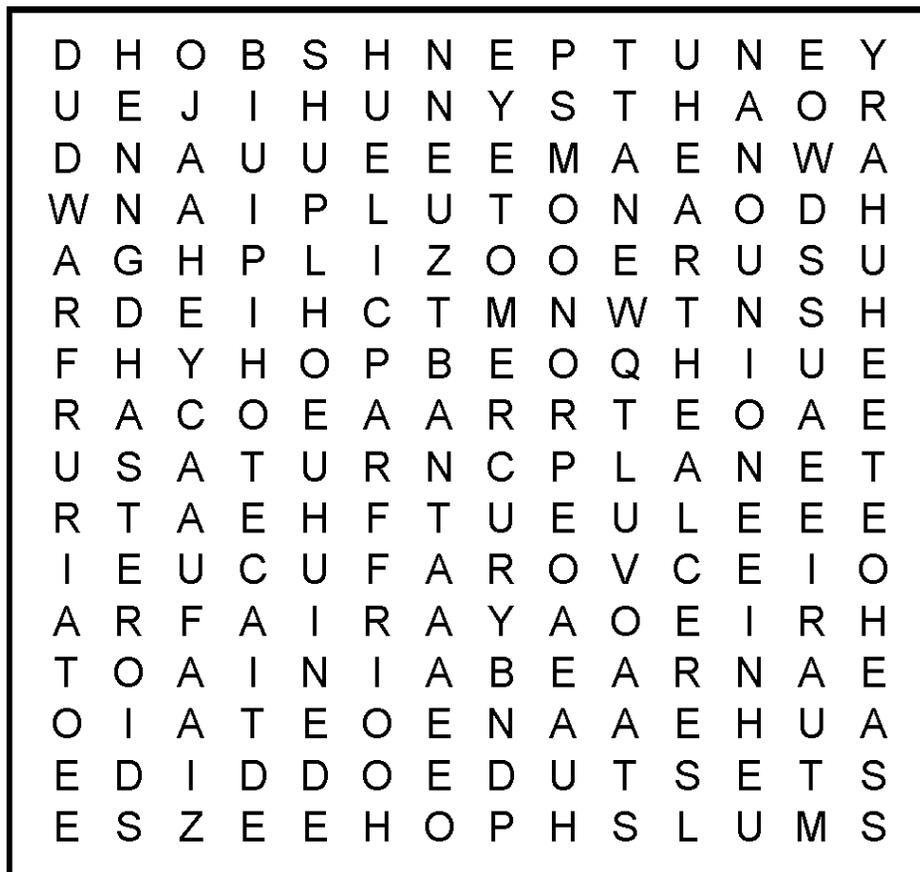
VENUS
EARTH
MARS
CERES
ASTEROIDS
JUPITER
SATURN
NEPTUNE
URANUS
PLUTO
DWARF
PLANET
MOON

Appendix C: Sport Spectator Identifaction Scale

Instructions: Please answer the following questions based on your feelings for the University of Kentucky Men's Varsity Basketball Team. There are no "right" or "wrong" answers, simply be honest in your responses. For each item, circle the number representing your answer.

1.   How important to YOU is it that the U.K, basketball team wins?

Not important   1   2   3   4   5   6   7   8   Very important

2.   How strongly do YOU see YOURSELF as a fan of the U.K. basketball team?

Not at all a fan   1   2   3   4   5   6   7   8   Very much a fan

3.   How strongly do your FRIENDS see YOU as a fan of the U.K. basketball team?

Not at all a fan   1   2   3   4   5   6   7   8   Very much a fan

4.   During the season, how closely do you follow the U.K. basketball team via ANY of the following: a) in person or on television, b) on the radio, c) television news or a newspaper, and/or d) the Internet?

Never   1   2   3   4   5   6   7   8   Almost everyday

5.   How important is being a fan of U.K. basketball to YOU?

Not important 1   2   3   4   5   6   7   8 Very important

6.   How much do YOU dislike U.K. basketball's greatest rivals?

Do not dislike 1   2   3   4   5   6   7   8   Dislike very much

7.   How often do YOU display the U.K. basketball team's name or insignia at your place of work, where you live, or on your clothing?

Never   1   2   3   4   5   6   7   8   Always

Appendix D: Sport Spectator Identifaction Scale

Instructions: Please answer the following questions based on your feelings for the your favorite sports team. There are no "right" or "wrong" answers, simply be honest in your responses. For each item, circle the number representing your answer.

1.   How important to YOU is it that your favorite sports team wins?

Not important   1   2   3   4   5   6   7   8   Very important

2.   How strongly do YOU see YOURSELF as a fan of your favorite sports team?

Not at all a fan 1   2   3   4   5   6   7   8   Very much a fan

3.   How strongly do your FRIENDS see YOU as a fan of your favorite sports team?

Not at all a fan 1   2   3   4   5   6   7   8   Very much a fan

4.   During the season, how closely do you follow your favorite sports team via ANY of the following: a) in person or on television, b) on the radio, c) television news or a newspaper, and/or d) the Internet?

Never   1   2   3   4   5   6   7   8   Almost everyday

5.   How important is being a fan of your favorite sports team to YOU?

Not important 1   2   3   4   5   6   7   8 Very important

6.   How much do YOU dislike your favorite sports team's greatest rivals?

Do not dislike 1   2   3   4   5   6   7   8   Dislike very much

7.   How often do YOU display your favorite sports team's name or insignia at your place of work, where you live, or on your clothing?

Never   1   2   3   4   5   6   7   8   Always

Appendix E: Anonymous Aggression Items

Instructions: Please answer the following questions based on your feelings for the University of Kentucky Men's Varsity Basketball team. There are no "right" or "wrong" answers, simply be honest in your responses. Circle the answer to each item that best represents your response.

1.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you trip a fan of a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

2.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you trip the star player on a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

3.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you trip the coach of a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

4.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you physically hurt a fan of a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

5.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you physically hurt the star player on a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

6.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you physically hurt the coach of a rival team?

Definitely Would Not   Definitely Would
                1   2   3   4   5   6   7   8

7.   If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you break the leg of a fan of a rival team?

Definitely Would Not   Definitely Would

          1   2   3   4   5   6   7   8

8. If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you break the leg of a player on a rival team?

Definitely Would Not   Definitely Would

          1   2   3   4   5   6   7   8

9. If you could **remain completely anonymous** and **there was no possibility of arrest or retaliation**, would you break the leg of the coach of a rival team?

Definitely Would Not   Definitely Would

          1   2   3   4   5   6   7   8

Appendix F: Demographics

Instructions: Please answer the following questions regarding general information about yourself.

AGE: _____

ETHNICITY: _____

Biologically assigned sex at birth: Male   Female

Place an X on the following line to indicate how religious you are.

Not at all _____Extremely

How often do you attend religious services?

1   – never
2   - once a year
3   - about once every two or three months
4   – about once a month
5   – about once every two weeks
6   – about once a week
7   – several times per week
8   – nearly every day
9   – at least once a day

Appendix G: Institutional Review Board Approval Letter

TO: Jana Hackathorn
                  Department of Psychology

FROM: Institutional Review Board
                  Sally Mateja, CIP, IRB Coordinator

DATE: February 4, 2016

RE: Human Subjects Protocol I.D. - IRB 16-078

The IRB subcommittee has completed its review of your student's Level 2 protocol entitled "Personality, Pain, and Sports." After review and consideration, they have determined that the research, as describe in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The consent form and materials that are to be used in this research study are attached to this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3. If this research study is being conducted by a student, you, as the faculty mentor, are responsible for ensuring that the correct processes and forms are used by your student.

This Level 2 approval is valid until May 30, 2016. If data collection and analysis extends beyond this time period, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, May 30, 2016. You must reapply for IRB approval by submitting a Project Update and Closure form (available on the Institutional Review Board web site). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. **It is your responsibility to submit the appropriate paperwork in a timely manner.**

The protocol is approved. You may begin data collection now.