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# Eye Movements of Highly Identified Sport Fans

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EYE MOVEMENTS OF HIGHLY IDENTIFIED SPORT FANS

A Thesis  
Presented to  
The Faculty of the Department of Psychology  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts

By  
Michele N. Murdock

May 2015

EYE MOVEMENTS OF HIGHLY IDENTIFIED SPORT FANS

Date Recommended March 26, 2015

  
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## EYE MOVEMENTS OF HIGHLY IDENTIFIED SPORT FANS

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May 2015

30 Pages

Directed by: Frederick Grieve, Matthew Shake, and Andrew Mienaltowki

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Individuals who are highly identified with a sport team have a strong psychological connection with the team (Wann et al., 2001). Sport team identification can be beneficial to communities and individuals. It provides entertainment, helps form group affiliation, and improves self-esteem. Because team identification is important to people, they notice environmental cues related to the team. Individuals are more likely to attend to a stimulus that is liked or one that is familiar. When an individual has accessible attitudes toward an object, he or she is more likely to attend to and notice the object (Roskos-Ewoldsen & Fazio, 1992).

The current study examined the relationship between sport team identification and attention. Participants ( $n = 31$ ) were presented with 64 displays of college team logos, which were shown in sequential order. While viewing the displays, participants' eye movements were monitored by the SR Research Eyelink II, an eye-tracking recording system. The participants then completed a questionnaire designed to determine their level of team identification with an indicated team. Higher scores on the questionnaire indicated a higher level of identification.

The first hypothesis under study states that highly identified UK fans detect the UK logo faster than the UT logo when each logo appears without the other, whereas low identified UK fans detect both the UK and UT logos equally quickly when each logo appears without the other. A mixed-model ANOVA was conducted to examine the

impact of set type on total time to identify the target. The ANOVA yielded no main effects or interactions.

The second hypothesis under study states that highly identified UK fans detect the UT logo more slowly when the UK logo is present than the low identified UK fans. A mixed-model ANOVA was conducted to examine how distractible the UK logo was when detecting the UT logo. The ANOVA yielded no main effects or interactions.



## **Introduction**

People have identified with different groups for centuries, including religious, occupational, social, and sport groups. Individuals identify with groups for a variety of reasons, including the belongingness the individual feels within a group of people (Ashforth & Mael, 1989). Social groups provide psychological support (Wann, 2006a), enhance self-esteem, and provide a sense of meaning in life (Mael & Ashforth, 2001).

Being part of a social group also helps individuals develop and maintain positive self-concept (Wann, 2006a). For instance, sport fandom provides social contact with others and is related to psychological health. Because sport fandom, specifically sport team identification, is important to people, it increases the likelihood that individuals notice environmental cues related to the team.

### **Sport Team Identification**

Sport team identification is “a fan’s psychological connection to a team; that is, the extent to which the fan views the team as an extension of his or herself” (Wann, Melnick, Russell, & Pease, 2001, p. 4). Those who are highly identified with a team have a strong psychological connection with the team (Wann et al., 2001). Sport team identification can be beneficial to communities and individuals. It provides entertainment, helps form group affiliation, and improves self-esteem.

Team identification increases self-esteem and well-being by increasing social connections for the fan. Social well-being is closely related to self-acceptance, coherence, and integration (Wann, 2006c). According to the Team Identification-Social Psychological Health Model (TI-SPH; Wann, 2006c), when an individual is surrounded by other fans of the same team, he or she should feel the most social support and

camaraderie. The TI-SPH Model posits that the connections that sport fans make with other sport fans lead to social psychological health benefits. It is not the team identification that is increasing the individual's self-esteem, but the fact that identification leads to connections with others. These positive mental health benefits are related to one's social identity, and most associated with a sense of relatedness and connection to others.

Social connections can be temporary or enduring. Temporary connections are developed from interactions with other fans away from their home region, whereas enduring connections are those that are developed in their home region. Enduring connections lead to enduring psychological benefits, while temporary connections lead to temporary psychological benefits (Wann, 2006c).

The connection with an individual's team is part of his or her self-identity and part of how he or she develops self-esteem (Wann, 2006a). Identifying with a sports team has shown to provide a number of benefits. Team identification is positively correlated with higher levels of personal self-esteem (Wann, 1994), perceptions of the trustworthiness of others (Wann & Polk, 2007), and better psychological adjustment (Wann, 2006b). Identifying with a local sport team decreases loneliness and isolation (Wann, 2006c) and levels of depression (Branscombe & Wann, 1991), and stress (Lee, et al., 2011). Additionally, sport fans have the highest levels of trust for other fans who support the same team (Wann & Dolan, 1994; Wann & Grieve, 2005).

An individual's self-esteem can increase or decrease after a loss. After a win, individuals bask in reflected glory (BIRG; Cialdini, et al., 1976). BIRGing occurs when people think that they can share in the glory of another person's success with whom they

are associated. After a loss, however, people cut off reflected failure (CORF; Cialdini et al., 1976). That is, people distance themselves as far as possible for the losing team. The higher their identification with a team, the more likely a person will be to BIRG or CORF.

Individuals deal with threats to self-esteem via team-related setbacks, such as poor performance or loss. People with low identification are able to distance from the team after a loss, but people with high identification cannot distance from the team (Wann, 2006c). People who highly identify with a team deal with threats in a number of ways, including blasting, modifying perceptions, and changing expectations for future performance. Blasting is the derogating of others, such as referees, other players, and other fans (Wann & Grieve, 2005). When people modify their perceptions, they look downward for comparison instead of upward. When people change expectations for future performance, they experience decreased perceptions of the likelihood of victory. Changes in expectations for future performance include Retroactive Pessimism (i.e., “We never had a chance, anyway.”) and Proactive Pessimism (i.e., as time approaches, perceptions of likelihood of victory decrease; Wann & Grieve, 2003).

## **Attention**

Environmental cues provide feedback about the rewarding properties of stimuli. For instance, you learn the associations between a visual stimulus and the reinforcement. Learning such associations is central to how we learn about the world (Kolb & Whishaw, 2009). Because team identification is important to people, they notice environmental cues related to the team.

Individuals who are highly identified with a team have a desire to obtain material objects related to their team. Individuals wear clothing with the team insignia or name (Grieve, Shoenfelt, Wann, & Zapalac, 2009), display banners of their team outside of their homes, and notice others who do the same. An individual who highly identifies with University of Kentucky may notice another individual wearing a University of Kentucky shirt in a crowd of people, even if he or she does not know the individual. Individuals are more likely to attend to a stimulus that is liked or one that is familiar. When an individual has accessible attitudes toward an object, he or she is more likely to attend to and notice the object (Roskos-Ewoldsen & Fazio, 1992).

Numerous objects enter into an individual's visual field daily and he or she must be able to select what stimuli receive attention. Attention is a cognitive process that requires concentrating on one aspect of the environment while ignoring others (Yantis, 1998). Individuals unconsciously focus on certain sensory inputs, memories, or representations in the environment (Kolb & Whishaw, 2009).

A visual field search requires internalized knowledge to direct the eyes (Kolb & Whishaw, 2009). Vision allows individuals to know the content of their environment. Individuals scan stimuli with numerous eye movements, or saccades. These are a series

of involuntary, abrupt, and rapid small movements made by both eyes simultaneous in changing the point of fixation (Kolb & Whishaw, 2009). This is done to get a better sense of an object and the major function is object recognition, which is accomplished by visual selection. Visual attention is the mechanism that accomplishes selection.

Attitudes can determine to which object an individual visually attends. An attitude toward an object in the visual field may be activated from memory (Roskos-Ewoldsen & Fazio, 1992). Attitude accessibility can be determined by the frequency with which the attitude has been activated from memory. The greater the attitude, the more likely the attitude will be activated when the object is observed. Consequently, the object will be noticed. Even when objects are presented as distractors to be ignored, the objects toward which subjects had more accessible attitudes are still more likely to be noticed (Roskos-Ewoldsen & Fazio, 1992).

Miltner and colleagues (Miltner, Krieschel, Hecht, Trippe, & Weiss, 2004) have proposed that behavior and eye movements to threatening and nonthreatening stimuli differ for phobic and nonphobic individuals. To test this, Miltner et al. (2004) used a visual search to study search strategies for phobic information in a group of neutral stimuli. This was presented to spider-phobic and nonphobic participants, who were asked to search for a predefined target (i.e., either a spider or a mushroom) in a trial of neutral flower stimuli. In half of the displays, the mushroom target was paired with a spider distractor, or a spider target was paired with a mushroom distractor.

When spider-phobic participants were requested to search for a neutral mushroom target while a feared distractor was simultaneously present, the participants' responses became significantly delayed. The spider-phobic participants' attention was drawn to the

feared distractor before fixating on the neutral targets. The participants' attention was focused on the spider distractor before they turned to the mushroom target. This suggests that the participants that were spider-phobic paid attention to environmental cues more than nonphobic participants because their attention was captured automatically by threat.

While there is a wealth of literature on the benefits of sport fans and the benefits of team identification, research is lacking regarding attitudes toward teams and how those attitudes drive attention. Previous research has looked at the relationship between threat and attention, but the current study looks at the relationship between identification and attention.

In the present experiment, a visual search task was applied in which highly identified sport fans searched for a predefined target (i.e., either the University of Kentucky logo or the University of Texas logo) against a background of neutral sport team logos. Half of the displays contained one additional distractor stimulus (i.e., either the University of Kentucky logo or the University of Texas logo). The question is whether participants highly identified with University of Kentucky detected the University of Kentucky logo faster compared to neutral stimuli. Additionally, we were interested in the effects of the distractor stimulus (University of Kentucky logo), with the expectation that distractor stimuli will inhibit the responses to the neutral target.

Because the University of Kentucky and University of Texas logos were used along with neutral logos, results from the experiment should provide an answer to the question of how the simultaneous presentation of the logos interfere with the attention to neutral logos. Because participants were instructed to select and attend to the neutral targets and to ignore the target stimuli (University of Kentucky logo), such a result would suggest

that the target stimuli (University of Kentucky logo) forced individuals who are highly identified with University of Kentucky to automatically attend to the University of Kentucky logo.

There were two hypotheses examined in this study. The first hypothesis under study states that highly identified UK fans detect the UK logo faster than the UT logo when each logo appears without the other, whereas low identified UK fans detect both the UK and UT logos equally quickly when each logo appears without the other. The second hypothesis under study states that highly identified UK fans detect the UT logo more slowly when the UK logo is present than the low identified UK fans.

## **Method**

### **Participants**

Participants for this study were 31 students recruited from undergraduate and graduate courses at Western Kentucky University. Of these participants, 18 (58.06%) were male and 13 (42.94%) were female. The participants ranged in age from 18 to 30, with a mean age of 21.68 ( $SD = 3.12$ ). The ethnicity of the sample was 25 (80.65%) Caucasian and 6 (19.35%) were African American. Of the 31 participants, 10 (32.26%) indicated that they were a freshman in college, 1 (3.23%) indicated that he was a sophomore in college, 4 (12.90%) indicated that they were juniors in college, 3 (9.68%) indicated that they were seniors in college, and 13 (41.94%) indicated that they were in graduate school.

### **Stimuli**

The stimuli consisted of four sets of color displays. See Appendix A for logos and Appendix B for the display sets used in the study.

A pilot study was conducted to determine which college logos were used. The logos were originally selected at random from Division One (D1) universities. The logos all had a white background with contrasting colors in the logo so that they were easily identifiable. The means of the logos chosen were compared and the logos that were moderately rated were chosen to be used in the current study.

Each display of these sets used in the study comprised a matrix of 16 pictures of college team logos presented simultaneously and arranged into four rows and four columns. No horizontal or vertical grid lines, and no frame surrounding the displays, were used. Each color image is arranged within the cell so that the center was aligned



with the center of the cell. Overall, 64 displays were shown in sequential order, forming four sets of 16 displays each.

Each trial began with the presentation of a fixation cross in the middle of the screen for a period of 500 ms. This was followed by the presentation of an individual display presented for three seconds. The stimulus onset was for a period of about 1000 ms between fixation cross and display. Participants' responses were measured by recording the time of the gaze contingent response in relation to the display onset. If the participant's response was delayed longer than three seconds, he or she was presented with a prompt stating that it was taking too long to locate the target. Following the prompt, the participant was again presented the individual display he or she had previously seen prior to the prompt.

The four display sets are configured as follows: Set One: 15 of the 16 cells depicted neutral college logos against a white background, while the 16<sup>th</sup> cell contains a picture of the University of Texas logo (target). The location of the University of Texas logo was varied in a pseudorandom order across succeeding trials to assure that the University of Texas logo appears once in each cell. Set Two: The University of Texas logo now acted as the target, and the University of Kentucky logo acted as the distractor. Set Three: The University of Kentucky logo (target) replaced the University of Texas logo target used in the Set-1 displays, while all other aspects of the presentation were the same. Set Four: In this set, 14 of the 16 cells showed neutral college logos, the 15<sup>th</sup> cell contains the University of Kentucky logo (target), and the 16<sup>th</sup> cell simultaneously shows the University of Texas logo (distractor).

## **Data Recording**

Participants' eye movements were monitored by the SR Research EyeLink II, an eye-tracking recording system, while viewing displays. Eye movement measures were based on the corneal reflection caused by an infrared light source. Movements of the pupil were recorded continuously at 500 Hz, while participants viewed the displays. The eye tracking system was positioned below the monitor that was used to present the displays to the subject and was centered along its vertical axis, with the camera and infrared source light directed onto one or both of the participant's pupils. Before each experiment, participants' eye movements were calibrated and validated by requesting participants to focus on nine white circles inserted in random order at the four corners, the center, and the vertical and horizontal midpoints of the outer borders of the screen's display space.

Using an additional feature of this system (i.e., a drift correction) each display of each set was presented only when the participant was exactly focused on the fixation cross prior to each display's onset. This was achieved by defining a circular area with a diameter of 1 cm around the center of the fixation cross and only releasing the presentation of the display when the location of the subject's gaze matched the spatial coordinates of this circle for at least 200 ms, or the experimenter started the next trial. Otherwise, the presentation was delayed until this criterion was fulfilled. If there were large delays in time to fixation, the experiment was halted, and the participant was instructed on the appropriate procedures.

## Measures

**Demographics.** Participants completed a demographic section that included information about each participant's age, gender, ethnicity, and education level (See Appendix C).

**Team Identification.** Participants completed the Sport Spectator Identification Scale (SSIS; Wann & Branscombe, 1993) to determine the participant's level of team identification with the University of Kentucky (See Appendix D). The SSIS is a seven-item Likert-type scale. Participants rate each item between 1 (*low identification*) and 8 (*high identification*). An example item of the SSIS is, "How strongly do your friends see you as a fan of this team?" (Wann & Branscombe, 1993). Higher scores on the SSIS indicate a higher level of identification with the indicated team. The SSIS has an internal consistency of .91 (Wann & Branscombe, 1993).

## Procedure

Prior to the experiment proper, participants were instructed about the details of the experiment and were requested to sign an informed consent. Participants were given a questionnaire packet that included a demographics section and the SSIS. Participants were seated in a comfortable chair whose height and back were adjusted so that the horizontal axis of participants' eyes was approximately 15 to 48 above and 1 m in front of the center of the computer monitor.

As a teaching tool, the participants were shown a screen displaying the University of Texas and University of Kentucky logos. This was followed by a second screen in which the participants had to identify the University of Texas and University of Kentucky logos correctly before continuing the experiment.

Before each set of displays were presented, participants' pupils were calibrated to compensate for any body movements made by the participant. The participants were instructed to search for the appropriate target and to press the spacebar with their dominant hand as quickly as possible following target detection. Prior to sets containing distractors (Sets 3 and 4), participants were not informed about the possible presence of distractors. To avoid sequence effects, the sequence of sets varied across each group.

## Results

### Preliminary Analyses

Scores from each of the seven items included on the SSIS were combined to create a single index of team identification ( $M = 27.77$ ,  $SD = 17.98$ , actual range = 7 to 56, potential range = 7 to 56). A median split on the SSIS scores (median = 26) was used to differentiate between high and low identification groups. An independent  $t$ -test showed significant differences in SSIS scores between low ( $M = 11.68$ ,  $SD = 5.64$ ) and high ( $M = 44.93$ ,  $SD = 6.92$ ) identification groups,  $t(31) = -14.70$ ,  $p < .001$ .

For each person, average response times were calculated for each set in order to test the current study's two hypotheses. With respect to the times required by participants to locate the target in the visual search task, the internal consistency of Set 1 was .73 ( $n = 23$ ), Set 2 was .39 ( $n = 25$ ), Set 3 was .27 ( $n = 21$ ), and Set 4 was .52 ( $n = 24$ ). Data were dropped if the trial time was two or more standard deviations above the mean. Only 3% of the trials were dropped, which was 1.3 trials per person.

### Hypothesis Testing

The first hypothesis under study states that highly identified UK fans detect the UK logo faster than the UT logo when each logo appears without the other, whereas low identified UK fans detect both the UK and UT logos equally quickly when each logo appears without the other. A mixed-model ANOVA was conducted to examine the impact of set type on total time to identify the target, specifically comparing highly identified UK fans' ability to detect the UK logo faster than the UT logo when each logo appeared without the other (Sets 1 and 3) relative to low identified UK fans. The ANOVA yielded no main effects or interactions,  $F(1, 29) < 1$ ,  $p > .42$ .

The second hypothesis under study states that highly identified UK fans detect the UT logo more slowly when the UK logo is present than the low identified UK fans. A mixed-model ANOVA was conducted to examine how distractible the UK logo was when detecting the UT logo, more specifically the ANOVA examined the impact that the presence of the UK logo had on the detection time for the UT logo comparing Set 1 (when the UT logo appears without the UK logo) to Set 2 (when the UT logo appears with the UK logo). The ANOVA yielded no main effects or interactions,  $F(1, 29) < 1.3$ ,  $p > .26$ .

If the above findings emerged because of the dichotomization of identification, then it is useful to treat identification as a continuous variable. This was done to predict the difference in response time between Sets 1 and 2 (Set 2 – Set 1). As shown in Figure 1, the resulting correlation was not significant,  $R(31) = -.132$ ,  $p = .48$ .

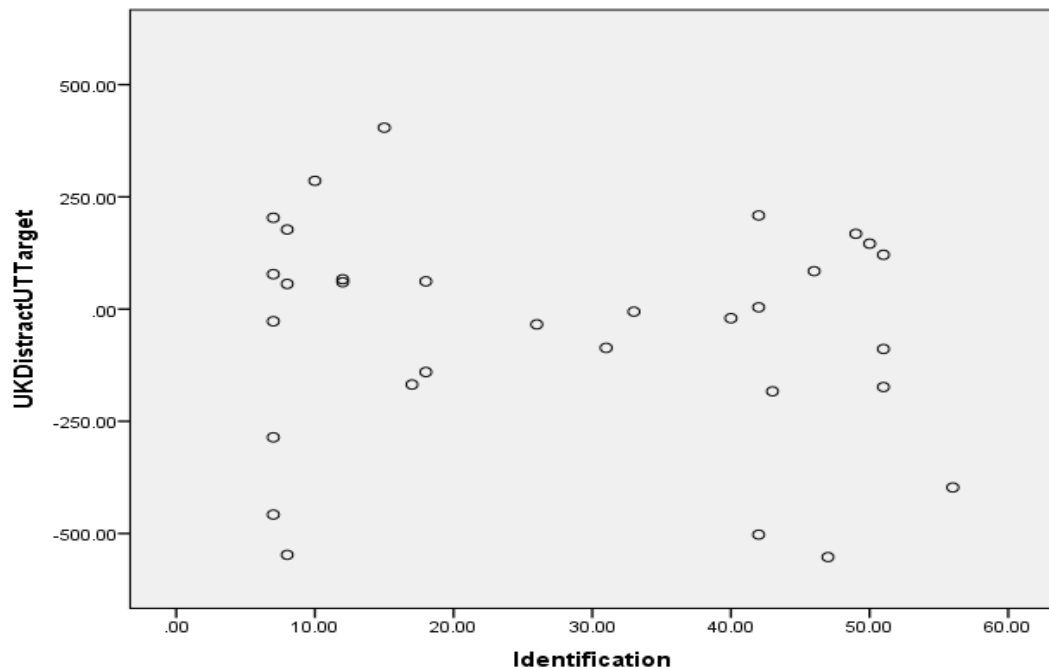


Figure 1. Difference in Response Time between Sets 1 and 2

## Discussion

The current study sought to examine the relationship between sport team identification and attention. Previous research on sport team identification has shown that team identification and psychological effects are important aspects of being a sport fan. Those who are highly identified with a team have a strong psychological connection with the team (Wann et al., 2001). Because sport team identification is important to people, it increases the likelihood that individuals notice environmental cues related to the team.

Individuals who highly identify with a sport team often wear clothing, hang banners, and participate in rituals of the sport team (Wann et al., in press). These individuals notice others who do the same, even if they do not know them, and share the same positive attitude toward the sport team (Grieve, et al., 2009). Thus, it was expected that highly identified sport fans would be influenced by their positive attitudes and perceptions of the team with which they identify. The current study examined this via two different hypotheses.

The first hypothesis stated that highly identified UK fans would detect the UK logo faster than the UT logo when each logo appeared without the other, whereas low identified UK fans would detect both the UK and UT logo equally quickly when each logo appears without the other. This hypothesis was not supported by the results. The presence of the UK logo did not affect the rate at which the UT logo was identified, nor did the level of identification. Highly identified UK fans were not significantly faster at detecting the UK logo than the UT logo when each logo appeared without the other.

Additionally, low identified fans did not detect the UK and UT logos equally fast when each logo appeared without the other.

Attitudes, whether positive or negative, can determine to which objects an individual visually attends. The greater the attitude, the more likely the attitude will be activated when the object is observed. Even when objects are presented as distractors to be ignored, the objects toward which people have stronger attitudes are still more likely to be noticed (Roskos-Ewoldsen & Fazio, 1992). Although the participants in the current study held strong attitudes about the stimuli, these attitudes did not influence their ability to quickly find the target.

The second hypothesis stated that highly identified UK fans detect the UT logo more slowly than when the UK logo is present than low identified UK fans. This hypothesis was not supported by the results. The level of identification did not affect the rate at which the UT logo was detected. Highly identified UK fans did not detect the UT logo faster than the low identified UK fans.

This finding is surprising, especially based on what we know about Miltner and colleagues (Miltner et al., 2004) study, in which a visual search task was used to study search strategies for phobic stimuli in a trial of threatening, nonthreatening, and neutral stimuli. They found that behavior and eye movements to threatening and nonthreatening stimuli differ for phobic and nonphobic individuals. When spider-phobic participants were instructed to find neutral (flowers), or nonthreatening stimuli (mushrooms), reaction times were delayed. The participants paid more attention to the distractors (spiders) because their attention was automatically captured by threat.



There are some differences between this study and the Miltner et al. (2004) study. In Miltner et al. (2004), the threat of spiders evoked anxiety and fear in the participants. In the present study, the logos searched for do not represent threat; the University of Kentucky logo for highly identified fans is not a threat and the University of Texas logo was chosen because it was a neutrally-rated logo. The emotion attached to the spider for spider phobic individuals is greater than the emotion attached to the logo for highly identified fans. Therefore, the logo is less likely to interfere with the search.

It is possible that a rival logo (i.e., Duke University or University of Louisville in this case) could have increased the perceived threat and, thus, increased the interference in the search and decreased reaction time in finding the indicated logos. It is possible that emotion can be increased via priming. For example, playing a sport team's fight song or showing a clip of a game prior to the sport team logos could elicit an increase in emotion.

Sport games increase anxiety and a number of other emotions ranging from anger to joy in sport fans while the fans are watching the game and immediately afterwards (Bizman & Yinon, 2002; Wann & Branscombe, 1992). However, these same emotions may not be as strong when the fan is far removed from the game. There is a wealth of research on how sport fans feel and behave while watching a sports game, but more research needs to be conducted to examine sport fans' emotions irrespective of a game. Although previous research on team identification has shown that highly identified sport fans show more positive emotions after a team wins and more negative emotions after a team loses (Bizman & Yinon, 2002), more research needs to be done on the emotions of sport fans regardless of game outcome.

There are two limitations of the present study. First is the lack of generalizability to the entire population. Participants selected for the study came from a university, and the average age of participants was 21. This makes it difficult to generalize to other age groups and education levels. The study also lacked diversity. Differences may be found if this research was completed with participants of different ethnic and racial backgrounds.

The purpose of this study was to examine the relationship between sport team identification and attention. The first hypothesis under study stated that highly identified UK fans would detect the UK logo faster than the UT logo when each logo appeared without the other, whereas low identified UK fans would detect both the UK and UT logo equally quickly when each logo appears without the other. The second hypothesis stated that highly identified UK fans detect the UT logo more slowly than when the UK logo is present than low identified UK fans. Unfortunately, the hypotheses were not supported. The presence of the UK logo did not affect the rate at which the UT logo was identified, nor did the level of identification. The level of identification did not affect the rate at which the UT logo was detected. Highly identified UK fans did not detect the UT logo faster than the low identified UK fans. This could be due to a lower level of emotionality associated with the logos in this study. This study will help with emerging research focusing on the attention of sport fans, and how emotions play a role in that attention.

## References

- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14*, 20-39.
- Bizman, A., & Yinon, Y. (2002). Engaging in distancing tactics among sport fans: Effects on self-esteem and emotional responses. *Journal of Social Psychology, 142*, 381-392.
- Branscombe, N. R., & Wann, D. L. (1991). The positive social and self-concept consequences of sport team identification. *Journal of Sport and Social Issues, 15*, 115-127.
- Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology, 34*, 366-375.
- Grieve, F. G., Shoenfelt, E. L., Wann, D. L., & Zapalac, R. K. (2009). The puck stops here: A brief report on National Hockey League fans' reactions to the 2004-2005 lockout. *International Journal of Sports Management and Marketing, 5*, 101-114).
- Kolb, M., & Whishaw, I. Q. (2009). *Fundamentals of human neuropsychology* (6<sup>th</sup> ed.). New York, NY: Worth Publishers.
- Lee, M., Hanahan, M., Foster, C., Savage, D., Shelley, E., Menser, S., Young, A., & Jensen, B. (2011, February). *Identification with a collegiate football team and perceived levels of stress at the game and at home*. Invited presentation for the Seventh Annual Sport Psychology Forum, Western Kentucky University, Bowling Green, KY.














- Mael, F. A., & Ashforth, B. E. (2001). Identification in work, war, sports, and religion: Contrasting the benefits and risks. *Journal for the Theory of Social Behavior, 31*, 198-222.
- Miltner, W. H. R., Krieschel, S., Hecht, H., Trippe, R., & Weiss, T. (2004). Eye movements and behavioral responses to threatening and nonthreatening stimuli during visual search in phobic and nonphobic subjects. *Emotion, 4*, 323-339.
- Roskos-Ewoldsen, D. R., & Fazio, R. H. (1992). On the orienting value of attitudes: Attitude accessibility as a determinant of an object's attraction of visual attention. *Journal of Personality and Social Psychology, 63*, 198-211.
- Wann, D. L. (1994). The "noble" sports fan: the relationship between team identification, self-esteem, and aggression. *Perceptual and Motor Skills, 78*, 864-866.
- Wann, D. L. (2006a). The causes and consequences of sport team identification. In A. A. Raney & J. Bryant (Eds.), *Handbook of sports and media* (pp. 331-351). Erlbaum: Hillsdale, New Jersey.
- Wann, D. L. (2006b). Examining the potential causal relationship between sport team identification and psychological well-being. *Journal of Sport Behavior, 29*, 79-95.
- Wann, D. L. (2006c). Understanding the positive social psychological benefits of sport team identification: The Team Identification-Social Psychological Health Model. *Group Dynamics: Theory, Research, and Practice, 4*, 272-296.
- Wann, D. L., & Branscombe, N. R. (1992). Emotional responses to the sports page. *Journal of Sport & Social Issues, 16*, 49-64.








- Wann, D. L., & Branscombe, N. R. (1993). Sports fans: Measuring degree of identification with the team. *International Journal of Sport Psychology, 24*, 1-17.
- Wann, D. L., & Dolan, T. J. (1994). Spectators' evaluations of rival and fellow fans. *The Psychological Record, 44*, 351-358.
- Wann, D. L., & Grieve, F. G. (2005). Biased evaluations of in-group and out-group spectator behavior at sporting events: The importance of team identification and threats to social identity. *Journal of Social Psychology, 145*, 531-545.
- Wann, D. L., Grieve, F. G., End, C., Zapalac, R. K., Lanter, J., Pease, D. G., Fellows, B., Olliver, K., & Wallace, A. (in press). Examining the superstitions of sport fans: Types of superstitions, perceptions of impact, and relationship with team identification. *Athletic Insight*.
- Wann, D. L., Melnick, M. J., Russell, G. W., & Pease, D. G. (2001). *Sport fans: The psychology and social impact of spectators*. New York: Routledge Press.
- Wann, D. L., & Polk, J. (2007). The positive relationship between sport team identification and belief in the trustworthiness of others. *North American Journal of Psychology, 9*, 251-256.
- Yantis, S. (1998). Control of visual attention. In H. Pashler (Ed.), *Attention* (pp. 223-256). East Sussex, UK: Psychology Press.

## APPENDIX A

### College Team Logos Used for the Study

The college logos used in the displays. The logos were originally selected at random from Division One universities. They needed a white background with contrasting colors in the logo so that they were easily identifiable. All logos used in the displays are 1.0” in height and 1.5” in width.

Name of Team	Logo	Mean Score	Used in Study?
University of Kentucky		4.74	Figure 1
University of Texas		4.24	Figure 2
Boston University		2.68	Figure 3
Duke University		3.51	Figure 4
University of Florida		4.59	Figure 5
Kansas State University		3.38	Figure 6
University of Kansas		4.55	Figure 7
University of Michigan		3.86	Figure 8
University of Louisville		2.60	Figure 9
Murray State University		3.56	Figure 10
Ohio State University		4.20	Figure 11
University of Oklahoma		2.84	Figure 12
St. Louis University		2.66	Figure 13

Syracuse University		2.38	Figure 14
Texas A&M University		3.22	Figure 15
Texas Tech University		3.30	Figure 16
University of Missouri-St. Louis		4.08	Figure 17
Western Kentucky University		5.72	No
University of Nebraska		4.90	No
University of Alabama		4.76	No

## APPENDIX B

### Display Sets Used for the Study

Display Set 1: The University of Texas logo is present; the University of Kentucky logo is absent.



Display Set 2: The University of Texas logo is the target; the University of Kentucky logo is the distractor





Display Set 3: The University of Kentucky logo is present; the University of Texas logo is absent



Display Set 4: The University of Kentucky logo is the target; the University of Texas logo is the distractor



## APPENDIX C

### Demographics

Demographic items.

1. What is your age? \_\_\_\_ years
2. What is your gender?
  - a. Male
  - b. Female
3. What is your ethnicity?
  - a. American Indian / Native American
  - b. Asian
  - c. Black / African American
  - d. Hispanic / Latino
  - e. White / Caucasian
  - f. Pacific Islander
  - g. Other
4. What year are you in school?
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
  - e. Graduate Student

APPENDIX D

Sports Spectator Identification Scale (SSIS)

Items for the Sports Spectator Identification Scale (SSIS). All items are rated on an eight-point Likert-type scale from 1 (*low identification*) and 8 (*high identification*).

Please indicate what team you are supporting at this game:

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Please answer the following questions based on your feelings for the team you mentioned above. There are no "right" or "wrong" answers, simply be honest in your responses. (circle your answer)

1. How important to YOU is it that this 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 this 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 this 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 this 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 this team to YOU?

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

6. How much do YOU dislike this team's greatest rivals?

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

7. How often do YOU display this 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

### Informed Consent

You are being asked to participate in a survey research project. As such, we would like you to have an understanding of the following:

1. The purpose of this study is to track the eye movements of sport fans to see how quickly individuals attend to and fixate on an array of presented college team logos.
2. You will complete an eye tracking experiment in which you will attend to and fixate on a specified target. This will be followed by demographic questions and two additional questionnaires. The first questionnaire will be used to determine your level of team identification with an indicated team. You will rate your favorite and least favorite college sport teams on the second questionnaire. Completion time should take about 20 to 30 minutes.
3. There are no foreseeable risks associated with your participation in this research. However, the SR Research EyeLink II eye tracking equipment is head-mounted so you may experience minimal discomfort. You are free to discontinue participation in the study at any time without penalty or loss of benefits. You may also freely decline to answer any questions asked of you.
4. Your participation in this study does not guarantee any beneficial results. You will be entered into a raffle and you may receive a 20 dollar gift card as a result of your participation.
5. The responses that you provide today will be kept completely anonymous. At no time will your name or any other identifying information be associated with any of the data that you generate today. In addition, the researcher will never identify you personally in any report of this research. Within these restrictions, results of the study will be made available to you upon your request. Although your individual responses will not be made public (i.e., they will remain anonymous), your data will be combined with the data of others and submitted for presentation at conventions and/or publication in scholarly journals.
6. If you have questions about the research project, please direct them to Michele Murdock. You can contact her by phone Monday through Friday from 8:30am until 4:30pm at 407-252-0171 or via e-mail at [michele.murdock523@topper.wku.edu](mailto:michele.murdock523@topper.wku.edu).
7. Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.
8. You also understand that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

*Your continued cooperation implies your consent.*

## APPENDIX F

### Debriefing Statement

Project Title: Tracking Eye Movements of Sport Fans

Investigator: Michele Murdock, Psychology Department, (407) 252-0171

Thank you for your participation in this research! The general purpose of this research is to determine if individuals who highly identify with a specified sport team will more quickly attend to their team's logo compared to those who are not highly identified with a specified sport team. In this experiment, you were asked to participate in an eye tracking study looking at how quickly you attended to and fixated on the pre-determined college team logos. You were then asked to fill out a questionnaire packet, including a demographics section, the Sport Spectator Identification Scale (SSIS) to determine your level of team identification with an indicated team, and a questionnaire in which you listed your favorite and least favorite college sport teams. It was hypothesized that the more highly identified an individual is with a sport team, the more likely his or her attention will be drawn to that team's logo.

Final results will be available from the investigator, Michele Murdock, but August 1, 2013. You may contact me at [michele.murdock523@topper.wku.edu](mailto:michele.murdock523@topper.wku.edu) to receive an email copy of the final report. All results will be grouped together; therefore, individual results are not available. Your participation, including your name and answers, will remain absolutely confidential, even if the report is published.

If you have any additional questions regarding this research, please contact Michele Murdock at [michele.murdock523@topper.wku.edu](mailto:michele.murdock523@topper.wku.edu).