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Trash Talk in a Competitive Setting: Impact on Self-Efficacy, Affect, and Performance

Oliver Benjamin Conmy
FLORIDA STATE UNIVERSITY

COLLEGE OF EDUCATION

TRASH TALK IN A COMPETITIVE SETTING: IMPACT ON SELF-EFFICACY, AFFECT, AND PERFORMANCE

BY

OLIVER BENJAMIN CONMY

A Dissertation submitted to the Department of Educational Psychology and Learning Systems in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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The members of the Committee approved the Dissertation of Oliver Benjamin Conmy defended on 30th October 2008.

________________________
Gershon Tenenbaum
Professor Directing Dissertation

________________________
Robert C. Eklund
Committee Member

________________________
Alysia Roehrig
Committee Member

________________________
Robert Moffatt
Outside Committee Member

Approved:
Akihito Kamata, Chairperson, Department of Educational Psychology and Learning Systems

The Office of Graduate Studies has verified and approved the above committee members.
Rosie and Ollie

This is called the dedication page, and how infinitesimal that word seems when attempting to articulate what you two have done for me in my life. I would need another 10 documents this size to even begin to communicate what it is that makes you two so extraordinary. Sitting here now, writing this, I think how silly it is I’m even bothering, because it is truly impossible to tell you what inner tranquility you have given to me since I was old enough to understand what it is to be loved. You are the world to me.

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ABSTRACT

The experimental design utilized in this study tested the phenomenon of trash talk as the pivotal component under investigation. Madden™ NFL 08 Football video-game players (\(N = 40;\) \(\text{Mean age} = 20.68, \text{SD} = 2.00\)) were randomly assigned to two conditions in which they participated in two games of Madden™ NFL 08 Football. In the first condition (Silent-Talk) players conducted their first game in complete silence, and in the second game players were permitted to trash talk. This scenario was reversed for condition two (Talk-Silent), players being permitted to talk in the first game, and enforced to be silent for game two. All players in the study completed 5 separate measures for; Madden™ NFL 08 Football Self-Efficacy, Positive Affect (PA), and Negative Affect (NA). Players also completed a short trash talk survey and made two specific choices prior to a hypothetical “Game 3” which was never played. Choices related to a player’s ability to talk or remain silent, and whether to permit their opponent to talk or to enforce them to remain silent in “Game 3.”

Measurements were taken immediately prior to each game played, after players had received their instructions for the game (Talk or Silence), immediately after games 1 and 2 had been played, and finally before the hypothetical “Game 3,” which was not played. Results confirmed that the ability and freedom to trash talk in a competitive setting is considered extremely important by Madden™ NFL 08 video-game players. Players were adamant that trash talking was a motivational tool, which they used when competing in the game; almost all (95%) players admitted to using trash talk in physical sports environments outside the milieu of computer gaming.

RM ANOVAs revealed several significant (\(p < .05\)) results for the variables of interest (self-efficacy, positive affect, negative affect, and performance), but not all in line with the stated hypotheses. Contrary to expectations, performance measures for specific talk and silent games revealed no discernible differences for scoring, rushing, or passing. Although non-significant (\(p < .05\)) effects were noted for experimental conditions in overall performance measures, winners differed from losers on these variables. Winning performance resulted in significantly better overall performance measures across both games, with the exception of game 1 and rushing yards.

Players enforced to be silent in the first game (Silent-Talk condition)
instantaneously exhibited lower self-efficacy, lower PA, and higher NA than players permitted to talk in game 1. Players’ self-efficacy remained relatively consistent after winning game 1. However, players subsequently instructed to remain silent in the second game showed markedly decreased self-efficacy compared to players permitted to talk in game 2. All the losers in game 1 reported decreased self-efficacy scores following a loss. However, players permitted to talk in the second game showed a significant increase in efficacy compared to players who lost and were also instructed to be silent in game 2. Prior to the hypothetical “Game 3,” after players’ trash talk choices (i.e., talk or silence in “Game 3”, both personally and for an opponent) had been made, self-efficacy displayed a sharp increase for both experimental conditions and outcome (win/loss).

Winners in the talk-silent condition decreased in PA after game 1 and prior to game 2, in which they had to remain silent. However, this decrease was more pronounced for losers who displayed a consistent downward trend in PA following game 1, and prior to game 2 in which they were to remain silent. Winners in the silent-talk condition exhibited a gradual increase in PA throughout the first three measures. Losers reported a slight decline after losing game 1, but a marked increase in PA after being instructed to talk in game 2. Both experimental conditions resulted in a significant increase in PA after trash talk choices were made prior to “Game 3.” This was replicated for winners and losers who both showed increased PA after their trash talk choices.

Elevation in NA was noted for both winners and losers after game 1, but this increase was more acute for losers. Players in both conditions showed an increase in NA after game 1, and both conditions showed a very similar decrease in NA immediately prior to game 2. Winners in both conditions maintained very similar NA scores across the first three measures, whereas losers showed an increase in NA after game 1, before finally decreasing immediately prior to game 2. Across both conditions winners’ NA decreased following game 2, whilst losers perceived NA increased distinctly. After trash talk choices were made, losers’ NA decreased, whilst winners’ NA unexpectedly increased.

The majority (95%) of players chose to be free to talk in “Game 3” of the study. Unexpectedly, many players preferred not to enforce silence upon their opponent for “Game 3.” Players who did choose to enforce silence upon their opponent most
commonly did so when they had been victorious in the *silent* game played, or they had lost both of their games. The majority of players in the study felt that their enforced silence had *helped* their opponent. However, several players who won the silent game believed their enforced silence had *no effect* on their opponent.

The order in which the games were played (Talk-Silent or Silent-Talk) dramatically impacted the amount of trash talk used in the ‘talk’ games. The silent-talk condition resulted in 58% more coded trash talk occurrences than the talk-silent condition. Two conceivable reasons were the potential to reference game 1 as a source of conversation, and the reluctance of players to trash talk a total stranger.

Overall, results reveal self-efficacy was impacted by the freedom to trash talk, and by winning and losing in line with the hypotheses outlined at the inception of this study. Specifically, when permitted to talk and when winning games players experienced personal autonomy, a sense of control, and positive mastery experiences, which are all key tenets of bolstering self-efficacy (Bandura, 1992, 1997). As self-efficacy changed due to experimental conditions and outcome there were simultaneous effects on both PA and NA, which echoes previous research on self-efficacy expectations as a mediator to changes in affect (Feltz & Lirgg, 2001). However, unlike self-efficacy, emotions (PA and NA) were less predictable and idiosyncratic, even when the outcomes or conditions were seemingly optimal (Boutcher, 1993; Robazza et al., 1998). Whereas self-efficacy measures appeared to remain contingent on experimental condition or outcome throughout the study, affect scores exhibited features which support the assertion that most significant emotions are invariably personal relevant, regardless of tangible outcomes (Hanin, 2000, 2007).
INTRODUCTION

In the 2006 Soccer World Cup Final, the most watched single sports event in the world (Harris, 2007), Italy’s Marco Materazzi received a vicious head butt to the chest from France’s midfielder superstar Zinedine Zidane. There have undoubtedly been more violent incidents in sporting arenas around the globe – but rarely has an incident been so shocking, so high profile, and so dramatic (this was to be Zidane’s final act as a professional athlete). Materazzi was seen by a myriad of TV cameras stationed in every corner of the stadium, verbally engaging Zidane. Materazzi claims what was said (he asserts an insult involving Zidane’s sister; Zidane alleges the comment involved his mother), was said in the heat of the moment (Fifield, 2006). Regardless, Zidane was ejected from the game, Italy won the World Cup, and Materazzi became a national hero overnight. We will probably never know if Materazzi planned this World Cup Final intervention with Zidane, the costs for admitting it was deliberate are too high (i.e., suspension, fines). Nevertheless, on that specific evening in Berlin, due to a split second incident involving trash talk, the momentum to regain the Soccer World Cup shifted from fervent French hands into the grateful arms of the Italian nation.

Another recent example of trash talk’s potential influence in a sports context was described in the Las Vegas Times under the headline “Golden Boy inspired by Trash Talk” (Haney, 2006). The article discusses the boxer Oscar De La Hoya who fights under the sobriquet ‘Golden Boy,’ in reference to his good looks, popularity within the sport, and amongst the general public. De La Hoya had been victorious over Ricardo Mayorga in the MGM Grand Garden Arena, Las Vegas, attributing his win to "Him talking, those things he said, got my blood boiling, I needed it. It got me so revved up." De La Hoya went on to explain that the choice to fight Mayorga was not coincidence, rather "There was a plan five months ago when we picked Mayorga that he was going to talk bad about me, talk dirty about me, and that would give me the motivation I need to get up for the fight," De La Hoya said. "The plan was he was going to talk smack and insult me and that motivated me." The twist with this incident is that Mayorga apologized to De La Hoya immediately after the fight for “all those things I said to you,” but by that stage the damage had been done; De La Hoya had achieved his aim and emerged as the champion.
The sport of basketball has created a culture in which trash talk is not merely acknowledged, but also celebrated (Albom, 1993). Basketball websites and blogs often feature lists of the most prolific trash talkers currently in the NBA, and of all-time. Some of the names on these lists may at first seem surprising. For instance, Larry Bird and Michael Jordan were both notorious for using trash talk which “could burn the ears of a longshoreman” (Saunders, 2004). In basketball as in many other sports, trash talk is not confined to the professional ranks. The problem became so overt in competitive college games that league commissioners were forced to hand out stiff sentences in an attempt to curb excessive trash talk (Landman, 2002). Some commentators attribute this rise in trash talking to the cultural revolution brought about by the ‘Fab Five’ freshmen from Michigan University. In his book entitled “The Fab Five: Basketball, Trash Talk, the American Dream”, Mitch Albom (1993) chronicled the exploits of the exceptional freshmen team (featuring Chris Webber) who challenged the establishment with “baggy shorts and constant trash talking” (Crane, 2002). Ostensibly, trash talking has been a feature of the basketball milieu for a number of years. However, in recent years trash talk has become more than a footnote in the sport of basketball, but rather “pervades both college and professional basketball” (Crane, 2002). However, trash talk is not confined to the physical sports arena.

Trash talk, typed or spoken, is also becoming commonplace in the world of video game players, with sites featuring numerous references to trash talk use (http://www.gametrailers.com). The advent of voice chat, such that is found on Xbox Live or in video games, such as Battlefield 2 or Halo, has made trash talking much easier, but most importantly much faster. In the specific case of video game trash talk, the insults are often focused on the players game-play skill level, but are also commonly in the form of racial, ethnic or sexual slurs. Previous technology demanded a player stopped their game while they typed their trash talk, but instant voice chat permits players to trash talk without pausing their play. This is a crucial feature of trash talk; it is a dynamic interaction with unpredictable antecedents and consequences. With the advent of a trash talk culture in video gaming, it appears a generation being raised ‘online’ is unlikely to cease participation in the phenomenon (http://www.sportsgamer.com). It would be remiss to conclude that this generation of video gamers will not broaden some of this
culture into real-life, and real sports. Perhaps there is a considerable discrepancy between trash talking a video game opponent ‘online’ who you will probably never meet, and trash talking an opponent face-to-face in your high school rivalry basketball game – but then again, perhaps not. Another high profile video game phenomenon which has exploded into mainstream American Culture is “Madden Nation”.

“Madden Nation” is a reality television show which provides viewers with an insider’s view of Madden NFL, an extremely popular football video game. The nationwide competition involves the most elite football video game players facing off in elimination-style tournaments. Sports stars (e.g., NFL Star Chad Campbell) are involved in sponsorship and promotion of the event, prize money is into the tens of thousands, and the video contests are broadcast to a national television audience. A key selling point of these video contests is non-stop trash talk from the game players – it has become a fundamental part of the “Madden Nation” experience (Chalifoux, 2006). Watching individuals play video games on television will not inspire the average sports fan to watch. However, adding the controversy of extensive (often abusive) trash talk as a central element of the event and the viewing figures are rising, and the profile of the show is increasing with every season that passes. The final game of the reality series takes place in Times Square, New York, on the large ABC Super Sign. The intention in conducting this study is to research the phenomenon of trash talk with scientific rigor and impartiality.

Rationale for the Study

In the absence of theoretical conceptualization and scientific evidence, the intention is to elaborate on areas of interest which are conceptually linked to trash talk in sport. Current research in sport psychology does not address the specific concept of trash talk, and its potential impact within a sports context. A systematic approach studying trash talk could prove extremely valuable for the sport science community. The research design was formulated to test several assumptions about the perceived importance, and potential impact of trash talk from the users’ perspective. Madden™ NFL 08 Football players were randomly assigned to two separate conditions in which they participated in two games of Madden™ NFL 08 Football. In the first condition (Silent-Talk) players conducted their first game in complete silence, and in the second game players were
permitted to trash talk. This scenario was reversed for condition two (Talk-Silent), players being permitted to talk in the first game, and enforced to be silent for game two. The present study was devised to research whether the ability to utilize trash talk impacts individual’s emotional state/mood and their belief in their ability to organize and execute courses of action in the context of the Madden™ NFL 08 Football game. Other areas of interest were the perception of trash talk as an important aspect of playing Madden™ NFL 08, and as a motivational force when engaged in competition. Finally, the study explored whether trash talk users would choose to utilize trash talk when given the option, and whether they would enforce silence upon an opponent when given the opportunity to do so.
CHAPTER 1

LITERATURE REVIEW

The specific purpose of this review is to provide a conceptual foundation for studying trash talk relative to the variables of interest in this study. Relatively little is known about the nature of the phenomenon, how trash talk operates, and what athletes specifically hope to achieve through its use. Initial research into the trash talk phenomenon (Conmy, 2005, 2007) has revealed it is multifaceted, providing a myriad of opportunities for future research paradigms to explore.

Trash talk is a phenomenon that has the potential to perturb athletes at all expertise levels (Conmy, 2005, 2007) anecdotal evidence suggests trash talk has the capacity to affect athletic performance at the very highest levels (e.g., Zinedine Zidane's ejection from the 2006 World Cup Final). Previous research in sport sciences has revealed a myriad of verbal interactions (e.g., aggressive, norm-breaking) in the competitive sport environment, featuring aspects of what could be classified under the rubric of trash talk (e.g., Guilbert, 2006; Hanegby & Tenenbaum, 2001; Kavussanu, Seal, & Phillips, 2006; Long, Pantaleon, Bruant, & d’Arripe-Longueville, 2006; Maxwell & Moores, 2007). However, none of these studies have exclusively focused on the trash talk phenomenon. Rather, research has examined broader areas of interest (e.g., moral reasoning, anti-social behavior), which include facets of trash talk behavior.

Trash talk is viewed here (in the absence of any other source known to us in the sport science literature) as a cognizant/deliberate form of verbal communication utilized by individuals for both affirmative personal reasons (i.e., motivation, fun), and disruptive motives towards opponents (i.e., distraction, intimidation). The trash talk definition presented in this study is based on previous research conducted by the principal investigator (Conmy, 2005; 2007), and is intended to provide parameters for coding and data analysis within the context of this specific study. The definition is not exhaustive, and due to the idiosyncratic nature of trash talk, and the lack of research in the area, a comprehensive definition is a challenging task. Trash talk has some similarities with a phenomenon such as pornography. Individuals have widely varying definitions as to what constitutes ‘pornographic’ material. One of the challenges in defining trash talk is this
ambiguity and individual interpretation as to what trash talk really is. Trash talk for one individual, is not considered trash talk for another. Much like pornographic material, trash talk is a topic, which generates huge variation in classification. For the purpose of this study, the phenomenon of trash talk is conceptualized within the context of the above definition.

Despite the extensive use of trash talk within the contemporary sports environment, there is an absence of studies examining individuals’ trash talk experience. Current research does not address the specific concept of trash talk and its prospective consequences within a sports context. The aim in this work is to develop two specific areas of interest incorporating theories, which are conceptually linked to trash talk in sport. This review derives from literature relating to self-efficacy and affectivity in a sports context, and their potential impact as mediators to overall performance levels.

**Self-Efficacy**

Self-efficacy refers to an individual’s belief in his or her capabilities to organize and execute courses of action that are required to produce given attainments (Bandura, 1997). The assumption is that trash talk can feature as a specific source, which can bolster self-efficacy beliefs, and provide individuals with the necessary confidence to execute various actions. Self-efficacy judgments relate to what one thinks one can do, not what one has actually accomplished. These judgments are the result of complex processes involving self-appraisal and self-persuasion, which rely on cognitive processing of diverse sources of efficacy information. Bandura (1986) identified determinants of self-efficacy beliefs to include personal mastery experience (performance accomplishments), vicarious experience, physiological states, and verbal persuasion.

Personal accomplishments are the most influential source of efficacy information because they are grounded in an individual’s own mastery experiences (Bandura, 1997). The cognitive processing of mastery experiences dictates how individuals form their self-efficacy beliefs. If individuals view their experiences as successes then it follows that self-efficacy be enhanced; whereas the reverse is true for individuals who view their experiences as failures. Self-monitoring successful experiences ought to endorse and improve self-efficacy beliefs, in contrast to individual’s self-efficacy perceptions when they focus on failure. From this perspective, it is expected that regular trash talk users
experience more successes than failures when using trash talk behaviors. In this study, the assumption is that regular trash talkers associate winning experiences with trash talk usage, which in turn reinforces efficacy beliefs. However, it is important to note that individuals are likely to have their own idiosyncratic interpretation of each specific trash talking occurrence.

Trash talk is not perceived to be a one-dimensional process; the assumption is that nuances existing in every trash talk experience result in a multitude of interpretations from the individuals involved in them. This study was focused specifically on the users’ perspective of their trash talk usage (as opposed to a recipient’s perception). Bandura (1997) argued that the impact of past performance experiences (in which our participants used trash talking behaviors) depends on the perceived difficulty of the task, the amount of effort put forward (e.g., amount of trash talking utilized by the competitors in this study), and the instruction or guidance which was provided.

Previous research has noted the distinction between, task self-efficacy and coping efficacy (Maddux, 1995). Task self-efficacy involves an individual assessing certain motor skills or capabilities (e.g., climbing to a certain level on a hill). Coping efficacy refers to how efficacious an individual is when a hindrance is added to achieving a certain successful behavioral performance (e.g., stipulating that a heavy back-pack must be carried on the hill climb). Therefore, task and coping efficacy differ in that one is focused on the elemental aspects of a task, while the other adds challenging conditions to a specific task (Rodgers & Sullivan, 2001). Individuals, who acknowledge the potential for trash talk to occur during the course of an athletic encounter, but still believe they have the requisite skills to successfully negotiate the interaction exemplify coping efficacy. The concept of coping efficacy is more aligned with the nature of trash talking, which can be both intermittent and unpredictable.

Bandura (1997) has previously asserted that peace of mind can be achieved in challenging situations through the confidence to exercise control over threats and stressors. Coping efficacy, which is built through mastery experiences, can have a profound effect on both intrusive thoughts and emotional distress. With regards to trash talk, individuals can articulate whatever they wish to an opponent during competition in an attempt to exercise some form of control over them. In a head-to-head competitive
condition featuring trash talking, it was believed that the competitors’ self-efficacy would be higher when they are permitted to talk, as opposed to conditions in which they are instructed to restrain from using trash talk.

For self-efficacy beliefs to be prominent a certain level of autonomy of performance appears to be necessary (Bandura, 1997). Trash talking provides this opportunity for individuals to express themselves freely and to have complete control over at least one specific aspect of their performance. In the present study it was posited that trash talkers would identify trash talk as a facet of their performance, which is important to them when in competitive situations. In Bandura’s conceptualization, the autonomy to trash talk an opponent could be an essential element in the development of strong self-efficacy beliefs. However, even when individuals develop strong self-efficacy beliefs there is no guarantee of successful performance outcomes (Bandura, 1997).

It is important to note that high self-efficacy does not always equate to winning. It does increase the probability that the athlete will perform to his/her best in terms of the facets of performance within her/his personal control (Bandura, 1997). Thus, performers must think confidently in order to enhance their chances to perform optimally (Duda & Treasure, 2001). In the current study the supposition is that trash talking increases the confidence/motivation levels of performers in competitive situations. Overall, research on self-efficacy beliefs of athletes has shown self-efficacy to be a reliable predictor of sport performance, and useful in combination with other cognitive and training variables in accounting for performance variance (Feltz & Lirgg, 2001). High self-efficacy expectations were accompanied by low pre-competitive anxiety, positive affect, strong goal importance, high personal goals, high trait sport confidence, and higher intrinsic motivation in athletes (Feltz & Lirgg, 2001; McAuley & Mihalko, 1998).

**Self-Efficacy & Motivation**

Recent research has purported the view that several meaningful relationships exist between motivation and self-efficacy. However, the current psychological milieu appears apathetic to researching these relationships exhaustively (Vancouver, More, & Yoder, 2008). The present study was aimed at exploring the assumption that self-efficacy beliefs are boosted by the use of trash talking, which in turns impacts individuals’ motivation to compete. Vancouver et al. (2008) claimed self-efficacy is particularly important from an
applied psychological perspective because it represents a malleable lever by which human behavior might be influenced. Bandura and Locke (2003) introduced several studies, which examined the relationships between self-efficacy and various outcomes, including work performance (Sadri & Robertson, 1993) and athletic performance (Moritz, Feltz, Fahrbach, & Mack, 2000). These studies supported the view that higher efficacy beliefs result in greater motivation towards a task (Latham & Pinder, 2005). The current study examined this notion under conditions of trash talk facilitation and inhibition.

Situational motivation refers to the motivation individuals experience while engaging in a given activity at a specific point in time (Vallerand & Rousseau, 2001). Trash talk can ultimately lead (depending on interpretation and reaction) to either increased or decreased motivation in an athlete. In the current study, the competitive situation provided the context in which it was assumed trash talk would be used to increase self-efficacy beliefs through increased motivation towards a task. Research in sport reveals that winners (e.g., Vallerand, Gauvin, & Halliwell, 1986; Weinberg & Ragan, 1979) and those who subjectively feel that they have done well in competition (McAuley & Tammen, 1989) displayed higher levels of intrinsic motivation than losers, and those who feel they have not done well. In this context, a trash talk user could ‘subjectively’ feel they are performing well in competition whilst using (and possibly, as a function of) trash talk, which could in turn increase intrinsic motivation, and yet in reality, the performance is poor.

Kowal and Fortier (1999) showed that higher levels of self-determined motivation in swimmers were positively related to better concentration on the task at hand. Swimmers who exhibited a self-determined motivational profile were more focused and were not as influenced by external distractions. Subsequently these individuals could devote all their attention and concentration to the relevant task (Vallerand & Rousseau, 2001). These findings have clear implications for the study of trash talk and its potential effects on self-efficacy of a performer, and subsequently his/her performance outcomes. The current study hypothesizes that trash talk is one specific tool used in the development of improved self-determined motivation, which bolsters self-efficacy, and contributes to sustained effort towards a specific goal.
The majority of human motivation is cognitively generated (Bandura, 1997). Efficacy beliefs and judgments play a central role in the cognitive regulation of motivation. Judgments about self-efficacy can impact individuals’ motivational levels regarding a specific task. Self-efficacy judgments can influence thought patterns (e.g., causal attributions) and emotional reactions (e.g., pride, shame, happiness) that also influence motivational levels (Feltz & Lirgg, 2001). Individuals’ motivation develops from the belief that their behaviors result in outcomes they desire. Thus, outcomes are not the behavioral performance itself, but the outcomes that result from the behavior (Bandura, 1997). In the context of the present study, the belief was that trash talk users would associate trash talk behavior with superior performance outcomes whilst playing competitive computer games. However, Bandura (1997) cautions that a low sense of efficacy can nullify the motivating potential of even the most alluring outcome expectations.

**Self-Efficacy and Feedback**

Deficient performances can often draw harsh criticism that berates the performer rather than offering helpful guidance on how to improve performance (Baron, 1998). Devaluative feedback not only creates social estrangement, but also undermines people’s belief in themselves. Given the same level of performance, disparaging criticism lowers perceived efficacy and aspirations, whereas constructive criticism sustains aspirations and upholds, or even bolsters, a sense of personal efficacy (Baron, 1998). Baron’s findings take on added significance because of the debilitating and enabling effects of evaluative feedback generalized across different types of activities. It is more difficult to instill enduringly high beliefs of personal efficacy by persuasory means alone than it is to undermine such beliefs by persuasory means (Bandura, 1997). People who have been persuaded that they lack the capabilities to perform certain activities (e.g., by a trash talking opponent) tend to avoid challenging situations that cultivate competencies and give up quickly in the face of difficulties (Vallerand & Rousseau, 2001).

Escarti and Guzman (1999) argued that self-efficacy is a cognitive variable, which can mediate the relationship between feedback and performance. The authors used feedback about performance as their ‘informational source’ delivered to 69 Spanish students relating to an athletic task. However, this informational source could also be
manifested as trash talk delivered from one individual to another. In this context, trash talk is considered as a specific form of feedback – from one opponent to another. The authors speculated that future research should analyze the various modes (e.g., from who, positive/negative) in which subjects process different information relating to their capabilities. They argued that greater understanding of the form of information, which has the most influence on athlete’s self-efficacy, could be of substantial benefit to trainers, coaches, and athletes themselves. If trash talk users believe their trash talk (as a form of feedback) has a tangible impact on their opponent, then losing the ability to trash talk a competitor (e.g., official warning) could potentially diminish their own self-efficacy beliefs in competition. However, Bandura (1997) has noted that performance feedback which is inconsistent with perceived self-efficacy will be dismissed as less accurate by an individual than feedback which is consistent with one’s sense of efficacy.

Recent research by Bindarwish and Tenenbaum (2006) explored a variety of feedback paradigms (positive feedback, negative feedback, and variable feedback) to investigate potential effects on self-efficacy, performance and affective states in the context of reversal theory (Kerr, 1997). The two studies with the same 40 students in each participated in a dart-throwing task from variable distances, and received feedback based upon their performance. The use of a confederate ensured ‘bogus’ feedback could be delivered to manipulate the naïve participants’ perception of performance without suspicion. For novice dart players’ greater pleasant feelings were associated with the positive feedback condition, in which efficacy perceptions were the strongest. This implies that perceptions of self-efficacy are associated with pleasant affectivity, but the authors urged caution with these conclusions due to the strong impact of a performer’s skill level (novice, intermediate, and expert) upon self-efficacy beliefs. The link between efficacy perceptions and affective states has previously been established in the sport science literature (McAuley, 1991), but never within a trash talk context.

**Self-Efficacy and Affect**

According to Bandura (1992) self-efficacy affects the nature and intensity of affective states of individuals. In what is termed the action-oriented mode of influence, efficacy beliefs regulate emotional states by encouraging effectual courses of action to modify the situation in ways that alter its emotive potential (Bandura, 1992). Perhaps
trash talk is used as a course of action, which can alter a competitor’s interpretation of a specific competitive context. Trash talkers could use trash talk as a form of weapon, much like a soldier in battle feels more confident when armed, conceivably the trash talker feels a similar poise when permitted to exercise a specific verbal skill set. Bandura (1997) has previously stated that the incapacity to influence events and social conditions that notably affect one’s life can give rise to feelings of uselessness and despondency as well as anxiety.

The mood of an individual provides a supplementary source of affective information for judging personal efficacy because he/she often accompany alterations in quality of functioning. Mood states can affect how events are deciphered, cognitively organized, and retrieved from memory (Eich, 1995). Bandura cited work by Kavanagh (1983) who found that efficacy beliefs were bolstered in positive affect states and lowered in a negative affect state, in spite of whether the mood was induced by fortuitous events or by successes or failures. Individuals then act in accordance with their mood-altered efficacy beliefs, choosing more challenging tasks in a self-efficacious frame of mind than they do when they doubt their efficacy (Bandura, 1997). It is conceivable that for some individuals trash talk acts as a mediator, which produces positive affect, and subsequently augments efficacy beliefs.

**Affective States**

Given a certain level of physical preparedness, an athlete’s likelihood of achieving an optimal performance depends on being in an appropriate emotional state (Hardy, Jones, & Gould, 1996; Vallerand, 1983). Emotions affect behavior through engaging the person to become invested in certain events, and thereby activate and organize other systems (e.g., perceptual, cognitive, motor) to adapt to the events (Hanin, 2000). Emotion is regarded as a fundamental aspect of the competitive sporting experience; performance-related emotions determine the extent to which performance is facilitated or inhibited (Boutcher, 1993; Hanin, 1997; Robazza, Bortoli, & Nougier, 1998). The use of trash talk has previously been associated with strong emotions during competition (Conmy, 2007).

According to Kerr and Cox (1991), proficient performance in sports may be associated with hedonic tone (i.e., experienced pleasure). Hedonic tone is likely to be
very pleasant when felt arousal matches that which is preferred in the operative meta-motivational state (Apter, 1982; Kerr, Yoshida, Hirata, Takai, & Yamazaki, 1997). Trash talk has the propensity to influence hedonic tone as a function of unpleasant stimuli in the athlete’s environment. However, both positive and negative emotions are assumed to exert beneficial or detrimental effects on the task at hand, depending on the individual (Robazza et al., 1998). Athletes can perceive emotions as facilitating or debilitating, positive or negative, depending on idiosyncratic meaning and intensity (Robazza, Bortoli, Nocini, et al., 2000). Thus, certain athletes might experience extreme disturbance, while other athletes may not be affected at all by similar trash talk interactions. The current study was designed to elicit this information from participants immediately prior to, and following a competitive situation.

Trash talk incidents have the potential to arouse numerous emotional responses from individuals in a competitive environment. Previous research highlights a myriad of idiographic emotional labels that athletes assign to encapsulate trash talking incidents (Conny, 2005). Hanin (2007) argues that challenging situations need to be evaluated from a stand-point which acknowledges how a specific situation is experienced by an individual. Hanin posits situations should be analyzed not by focusing on solely the situation or the person per se, rather the experience or perspective of the individual is critical. In a sport-specific context there are several performance-related experiences, which have been studied extensively. Of particular interest with regards to trash talk is the concept of meta-experiences. Meta-experiences encompass awareness, attitude and preferences/rejection of one’s experiences (Mayer & Stevens, 1994). Meta-experiences relate to lessons which are learned or reflected experiences in both successful and substandard performances (Hanin, 2004).

Meta-experiences reflect athletes’ feelings about their past, present, or anticipated emotional experiences and the perceived impact of these emotional experiences on performance and general well-being. Meta-experiences are molded as athletes consider conditions (e.g., trash talk use), which result in triumphant and second-rate performances. The current study posited that individuals would associate trash talking experiences with successful performances. In competitive sport, one feature of emotional regulation involves the reframing of an athletes’ attitude toward individual emotional experiences.
(Hanin, 2007). For instance, an athletes’ attitude towards trash talk use will be colored by previous incidents and the respective outcomes which occurred. Specific meta-experiences result in more depth and meaning when assessing perceived situational states – which contribute to an individual’s interpretation as either facilitating or debilitating. This interpretation is one contributing factor to the overall perception of emotional content.

Emotion content refers to the categorical discernment of emotional experiences, including; positive and negative (Watson & Tellegen, 1985), functionally optimal or dysfunctional (Hanin, 1993) and facilitating or debilitating (Jones, 1995). Lazarus (2000) hypothesized it would be inexplicable to have an emotion which did not feature both a distinctive content and intensity. The potential impact of emotions can be mediated by the quality and intensity of an emotional experience (Hanin, 2007). This quality and intensity is a key determinant in emotional impact on performance and well-being. The present study assumed trash talk had widely varying quality and intensity, and that individuals using it would have a myriad of emotional reactions when engaged in a trash talk encounter.

Recent work has identified ‘emotive language’ as a source of manipulating individuals, environments, and events for a specific purpose (Seifried, 2008). The contention is that descriptive language can prompt diverse emotional reactions within a sports context. Seifried (2008) focused on the semantics’ of specific language (e.g., doublespeak, euphemisms), and the nuances prevalent in the specific manner in which language can be manipulated and presented to befuddle issues and bewilder thought. Media coverage of sports and academic language used to describe specific sports scenarios were identified as key areas in which the clarity and intention of the language used is of paramount importance. Although the focus of the current study is the direct impact of trash talking (a very specific form of language) in a direct competitive situation, there is undoubtedly an emotive aspect to much the language used. As yet, researchers studying emotions (and seemingly emotional language) have not reached a consensus in terms of a ‘definitive list’ detailing all possible emotional categories (Hanin, 2007; Ortony, Clore, & Collins, 1988).

With such wide-ranging idiosyncratic experience possible in the emotional realm
it is unlikely such a consensus will ever be achieved, either ideologically or scientifically. However, scholars have established an accord that the most significant emotions are typically personally relevant, task-specific, and are functionally useful or detrimental depending on the actual experience of the individual athlete (Hanin, 2007). Lazarus (1998) exemplified this notion through his expansive emotion research which confirmed that under similar environmental conditions, people perceive, think, cope, and experience and display emotions differently. This study acknowledged this unpredictability in trash talk usage. It is conceivable that trash talk users could utilize the same trash talk on several different occasions, and the nuances involved (e.g., mood, emotional resources available) in each specific situation could potentially elicit contrasting emotions. One reason for these varying emotions is an individual’s ability to access pertinent available resources to deal with the situation at hand.

Resource-Matching Hypothesis

One theory, which provides a rationale for the allocation of specific resources, is the resource-matching hypothesis (Hanin & Stambulova, 2004). The resource-matching hypothesis is grounded in the assertion that emotional experiences reveal person-environment interactions. The hypothesis states that an interaction (match or mismatch) between task demands and individuals’ resources (available, recruited, and utilized) will result in varying levels of content and intensity in situational emotional experiences (Hanin, 2000). The resource-matching hypothesis posits that even the most intricate tasks can appear straightforward when an individual possesses all the relevant resources primed and available to be employed when necessary.

Paradoxically, an individual who is engaging in a seemingly undemanding task can experience tremendous difficulty in successful execution of the task demands if specific resources are unavailable, or an individual is not prepared to draw on them proficiently (Ruiz & Hanin, 2004). The resource-matching hypothesis forwards three possible reasons for unpredictability with regards to optimal emotion content and intensity. These reasons include (a) available resources, (b) the ability to recruit them at the right time and place, and (c) the skill to use them efficiently (Hanin, 2007). Assuming trash talk can be termed a resource, at least for some self-confessed trash talk users, the implications for future research and in the context of previous empirical work are
For instance, two specific elements of Hanin’s (1997) work on pregame or midgame optimal pleasant emotions or unpleasant emotions details states termed challenge zone or emergency zone. The challenge zone represents athletes who are well prepared, whose resources are ample for a task and they have the skills to utilize them effectively. The emergency zone highlights athletes who do not possess the requisite resources for a task, or an athlete who is driven to compensate for a lack of resources. Therefore, a trash talker who is warned to stop talking to opponents during a game (e.g., ungentlemanly conduct) may not believe they have the available alternative resources to maintain an advantage. With a multitude of different combinations regarding optimal pleasant/unpleasant emotions it is crucial for researchers to identify the most effectual amalgamation of positive and negative emotions for specific individuals. These diverse fusions of emotions are of interest due to their propensity to produce adaptive or maladaptive conclusions depending on the individual in question (Hanin, 1997).

Although high levels of positive affect have been identified as one of the correlates of successful athletic performance (Hanin, Jokela, & Syrja, 1998), the task at hand should ultimately dictate what levels (low/medium/high) of positive and negative feelings are appropriate for successful performance. Perhaps for trash talk, the task at hand also dictates what levels or intensity of trash talk is appropriate for successful performance. From this perspective, rivalry games and personal nemeses could potentially result in far greater trash talk volume than is ordinarily the case.

Self-Efficacy, Affect, and Performance

Efficacy perceptions can be influenced through one’s emotional state (Vallerand & Rousseau, 2001). Positive feelings, such as joy, excitement, and serenity, are more likely to strengthen efficacy judgments than are negative feelings, such as misery, anxiety, and despair (Maddux & Meir, 1995; Treasure, Monson, & Lox, 1996). Therefore, for trash talk to be considered of benefit to the individual in competition it is reasonable to anticipate trash talking inducing positive affective states, which in turn influence efficacy beliefs and performance outcomes. In contrast, despondent feelings (perhaps induced through zero tolerance of trash talking behaviors in a specific sport) can lower efficacy beliefs; the lowered beliefs in turn, weaken motivation and spawn poor
performance, breeding even deeper despondency in a downward cycle. In contrast, by raising efficacy beliefs that heighten motivation and performance accomplishments, good mood can set in motion an affirmative reciprocal process (Bandura, 1997).

Schunk (1995) posited that emotional symptoms that communicate anxiety could be construed by an individual to mean that he or she lacks the requisite skills to perform a certain task, which in turn influences efficacy judgments. Treasure et al. (1996) argued that efficacious athletes display lower levels of cognitive and somatic anxiety prior to competition in addition to maintaining a more positive affective state. Low pre-competitive anxiety, positive affect, strong goal importance, and high trait sport confidence, are but a few of the benefits associated with efficacy expectations (Vallerand & Rousseau, 2001). The trash talk user who is prohibited from using trash talk in a contest could potentially experience the detrimental synergistic effects of both diminished self-efficacy beliefs in combination with negative affect.

A belief that one can relieve unpleasant emotional states, whatever their foundation, makes them less aversive (Bandura, 1997). Arch (1992) asserted that the independent contribution of beliefs in personal efficacy could control affective aspects of functioning in taxing achievement situations (i.e., sports). If the management of emotional distress, sometimes associated with competitive performance situations, is essential to successful performance outcomes, then it is plausible to suggest trash talk use as a specific source of belief in personal efficacy, and as such, of tangible benefit to the individual user.

It is crucial to acknowledge the broad diversity, which exists in competitive athletic conditions. This diversity can be the catalyst, which prompts the reappraisal of personal efficacy; this reappraisal, depending on its nature, facilitates or hinders competitive performance (Lee, 1986). It is possible that trash talking is manifested in all athletic encounters as a constant, which can be relied upon time and again by an individual. Therefore, even when great diversity exists between performance conditions, trash talk remains unwavering.

Bandura (1997) has argued that the efficacy biasing impact of mood is especially evident when mood mismatches performance attainments. People who fail whilst in a happy mood overestimate their capabilities. Those who succeed whilst in a sad mood
underestimate their capabilities. Individuals recall many more successes from events that occurred in the happy mood than in the sad mood (Kavanagh, 1983). These findings suggest that the impact of mood on efficacy beliefs is at least partially mediated by selective recall of past successes and failures. If trash talk features heavily in an individual’s competitive toolbox, it is likely it will be used across a wide variety of performance outcomes. The challenge for the individual competitor is to interpret trash talk use in the context of both affect and self-efficacy, and its potential impact as a mediator to overall performance levels.
The Purpose of the Study

The purpose of this study is to examine the impact of trash talk on self-efficacy, affect, and performance in a competitive context from the user’s perspective. Self-efficacy, affect, and performance levels are utilized to evaluate the extent to which users utilize trash talk as a fundamental component of their competitive toolbox. The conceptualization proposed here posits that when self-confessed trash talk users are permitted to employ trash talking they are likely to experience greater positive mood, enhanced self-efficacy, and superior performance in contrast to situations in which trash talking is prohibited. The design used in this study was devised on the premise that the use of trash talk was varied across two conditions whilst playing a sports focused computer video-game (Madden™ NFL 08 Football), which replicates a game of American Football. The variation across conditions ensured trash talk was both permitted and prohibited within-subjects for both games 1 and 2, and the order of trash talk use or prevention across games 1 and 2 was varied between-subjects. The conditions are silent-talk and talk-silent. In the first condition players participated in the first game in complete silence, and in the second game players were permitted to trash talk. This scenario was reversed for condition two, players being permitted to talk in the first game, and instructed to remain silent throughout game two. Players were then informed there would be a third game (which is not played), and they were given the choice to be able to talk or remain silent, and could also enforce their opponent to be silent, or sanction their trash talk use.
Research Questions

The research questions, which this study is designed to explore, are:

- Will enforced silence have an effect on admitted trash talk user’s self-efficacy beliefs and will this effect be mediated by winning or losing?
- Will efficacy beliefs be bolstered when players are permitted to talk, and will this be mediated by winning or losing?
- Will enforced silence have an impact on admitted trash talk user’s affect and will this impact be mediated by winning or losing?
- Will effect be bolstered when players are permitted to talk, and will this be mediated by winning or losing?
- Will players choose to be permitted to trash talk in competition when they are given this decision, and will they enforce silence upon their opponents when given the opportunity to do so?
- Will players identify their enforced silence as helping, hindering, or having no effect on their opponents?
- How will trash talk be enacted in the experimental trash talk conditions?
Hypotheses

The central hypotheses in this study were divided into three separate phases reflecting the distinct moments (measures 1 to 5) at which participants documented their responses to the variables of interest (Self-Efficacy, Positive Affect, and Negative Affect) elicited in this study. The three phases are shown in Table 1.

Table 1

Content of Phase and Specific Measures Used in Analysis

<table>
<thead>
<tr>
<th>Phase</th>
<th>Content and Measures Included in Analysis</th>
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<tbody>
<tr>
<td>PHASE 1 Analysis</td>
<td>Initial impact of experimental condition (i.e., to stay silent or trash talk) <strong>Measure 1</strong></td>
</tr>
<tr>
<td>PHASE 2 Analysis</td>
<td>Impact after game 1, and following instructions for game 2 (stay silent or trash talk) <strong>Measures 1, 2, &amp; 3</strong></td>
</tr>
<tr>
<td>PHASE 3 Analysis</td>
<td>Impact after game 2, and following trash talk choices made prior to “game 3” (prefer to be silent or trash talk, and whether opponent should remain silent or be permitted to trash talk) <strong>Measures 1, 2, 3, 4, &amp; 5</strong></td>
</tr>
</tbody>
</table>

1. **Phase 1**: Players in the Silent-Talk condition will report lower Self-Efficacy, more Negative and less Positive Affect than players in the Talk-Silent condition.
2. **Phase 2**: Self-efficacy will:
   a. decrease for losing players and increase for winning players immediately following game 1 regardless of condition
   b. increase for players in the Silent-Talk condition but more for winners, and decrease for players in the Talk-Silent condition, but more for losers, after receiving instruction for game 2
3. **Phase 2**: Positive Affect will:
   a. decrease for losing players and increase for winning players immediately following game 1 regardless of condition
   b. increase for players in the Silent-Talk condition but more for winners, and decrease for players in the Talk-Silent condition, but more for losers, after receiving instruction for game 2

4. **Phase 2**: Negative Affect will:
   a. increase for losing players and decrease for winning players immediately following game 1 regardless of condition
   b. decrease for players in the Silent-Talk condition but more for winners, and increase for players in the Talk-Silent condition, but more for losers, after receiving instruction for game 2

5. **Phase 3**: Self-efficacy will:
   a. decrease for losing players and increase for winning players immediately following game 2 regardless of condition
   b. increase for all players across both conditions after trash talk choices are made prior to “Game 3”

6. **Phase 3**: Positive Affect will:
   a. decrease for losing players and increase for winning players immediately following game 2 regardless of condition
   b. increase for all players across both conditions after trash talk choices are made prior to “Game 3”

7. **Phase 3**: Negative Affect will:
   a. increase for losing players and decrease for winning players immediately following game 2 regardless of condition
   b. decrease for all players across both conditions after trash talk choices are made prior to “Game 3”

8. Performance measures (scoring, rushing, passing) will be significantly higher for the games in which players are permitted to talk
9. When given the choice, all players will choose to be permitted to talk in “Game 3,” and all players will choose to force their opponent to be silent in “Game 3”

10. Players across all conditions will identify their enforced silence as a help to their opponent

11. Players across all conditions will identify trash talk as a positive motivational tool when engaged in competition.

12. Players across all conditions will strongly endorse the freedom to trash as an important aspect of competing in Madden™ NFL 08 Football Game
CHAPTER 2
METHOD

Participants

40 Madden™ NFL 08 video-game players from a Northern Florida University town participated in this study. Only male players were recruited to minimize between-sex self-presentation concerns (Jones & Pittman, 1982). Participants were randomly assigned to two separate conditions (silent-talk and talk-silent). Participants’ were recruited through the principal investigator’s existing contacts, Madden™ NFL 08 tournament organizers, and through a variety of classes conducted at the University. All game players were screened and requested to provide brief demographic information (Appendix A) prior to participation in the study. The participants mean age was \( M = 20.68 \) years \( (SD = 2.00) \), with 35 White, 4 African-American, and 1 Hispanic. The mean year’s players had spent participating in the Madden NFL game was \( M = 7.95 \) years \( (SD = 2.05) \). Players were also asked two screen questions to ensure they rate themselves as using trash talk “almost always” or “always” when playing Madden™ NFL 08, and to establish their belief that trash talk is an acceptable part of playing the game (Appendix A). All participating players satisfied screening requirements.

Apparatus

The apparatus was a Sony Play-station 2, two game-playing control panels, television monitor (28 inch), digital-recorder, two chairs, and a Madden™ NFL 2008 Football Game. Madden™ NFL 08 replicates the breakdown of an NFL football game. In essence, each team’s objective is to move the ball 10 yards on each possession with 4 attempts, or ‘downs.’ Each time a team moves the ball the necessary 10 yards they achieve a ‘1st down.’ A successful ‘1st down’ conversion results in 4 more ‘downs’ for the offensive team to orchestrate achieving 10 additional yards in search of another ‘1st down.’ This continues until the team is stopped and they must ‘punt the ball’ (kick the ball back to the opposing team), or attempt to score through a field goal or a pass into the end zone. The scoring system in the Madden™ NFL 08 game is exactly the same as the National Football League itself; 6 points for a touchdown, 1 point for the extra-point kick immediately following a touchdown, 3 points for a field goal, 2 points for a safety (an act or play in which a player on the offensive team is tackled in his own end zone or downs.
the ball there), and 2 points for a two-point conversion immediately following a
touchdown. In this scenario a team elects not to kick the extra point but rather attempts to
get into the end zone once again through either a running or passing play. Games consist
of four quarters and two halves. There are two quarters in each half of play. Each player
has 3 time-outs for the first half, and 3 for the second half. Time-outs can be used
whenever a player deems it most appropriate, time-outs are 1 minute in duration. For the
purposes of this study each quarter was programmed to run 3 minutes in duration.
Allowing for time-outs and game play, including stoppages, previously monitored games
with these parameters averaged 35 minutes in length.

**Experimental Design**

Two conditions were used in this study; both conditions featured two games of
Madden™ NFL 08 played to a conclusion. The two conditions were: (a) silent-talk, and
(b) talk-silent. For each condition there were two self-confessed trash talkers playing
against each other on the Madden™ NFL 08 football game. The two conditions are
presented in Figure 1.

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>GAME 1</th>
<th>GAME 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silent-Talk N=20</td>
<td>Players Silent Winner</td>
<td>Players Talk Winner</td>
</tr>
<tr>
<td></td>
<td>Players Silent Loser</td>
<td>Players Silent Loser</td>
</tr>
<tr>
<td>Talk-Silent N=20</td>
<td>Players Talk Winner</td>
<td>Players Silent Winner</td>
</tr>
<tr>
<td></td>
<td>Players Talk Loser</td>
<td>Players Silent Loser</td>
</tr>
</tbody>
</table>

*Figure 1*. Experimental design for studying trash talk.

**Silent-Talk Condition.** Players participated in their first game in total silence, and in
the second game players were permitted to trash talk.
Talk-Silent Condition. Players were permitted to talk in their first game, and in the second game players were instructed to remain completely silent throughout the competition.

For each experimental condition there was an identical procedure. Players were randomly assigned to one of the two conditions upon arrival at the laboratory. Upon arrival they were familiarized with their surroundings and then immediately taken into separate rooms to be directed as to whether they were permitted to talk, or must remain silent. Players were instructed to choose one envelope from two choices. Both envelopes contained identical instructions reflecting the specific condition being employed. Therefore, if the condition was silent-talk, before game 1 both envelopes contained silent instructions (Appendix B), and before game 2 both envelopes contained talk instructions (Appendix C). The intention in getting players to choose envelopes in separate rooms was to increase the impact of the condition (silent or talk) independent of their opponent, and immediately before they completed the relevant measures.

All players were told there was a third game of Madden™ NFL 08, but this game was never played. The pretense of the game was utilized to elicit further information about players’ attitudes towards trash talking. All players in both conditions were told there was a third game. The ‘Game 3’ scenario is explained in detail in the procedure section below.

In the games in which players were permitted to talk (across both conditions), the envelopes explaining the talk condition (Appendix C) also contained a Trash Talk Primer Script (Appendix D). The trash talk primer was read by the players immediately prior to participating in games in which they were permitted to trash talk. The trash talk themes utilized and representative quotes used in the primer script emerged from previous research conducted by the PI (Conmy, 2007), and through consultation with expert Madden™ NFL 08 players. Expert Madden™ NFL 08 players provided invaluable insight and sensitivity with regards to the Madden™ game, and terminology used within it. All quotations were modified to incorporate the language of the game, including mentioning particular skills necessary for successful performance. The brevity of the script was intended to provide players with a simple one-page document, which could be easily read immediately prior to games. The script was focused on familiarizing players
with some trash talk terminology and specific quotes for possible use in the upcoming competition.

The script was run through a pilot procedure involving 10 Madden™ NFL 08 players (not used in the main study) to obtain feedback on the accuracy of language used and the format which was being used in the context of this study. The players were solicited from a convenience sample drawn from University undergraduate classes at a North Florida University, and Madden™ NFL 08 players the author previously had access to through existing contacts. The pilot work helped clarify the script developed was easily understood, and ensured no adjustments were required to improve the clarity of the language used, or the format presented.

There were five key themes utilized in the script including; Talk-the-Talk-Walk-the-Walk, Sing When You’re Winning, Distraction, Incisive, and Fun. Talk-the-Talk Walk-the-Walk included quotations such as “Really going to be tough to beat me today I think,” and “Actually, I don’t think I’ve lost a game of Madden this year.” Sing When You’re Winning featured quotes which would be used after scoring or when winning a game such as “Yes Yes Yes – I’m making this look easy right?” and “Not much time for a comeback now.” Distraction focused on drawing the players attention away from the game being played, examples include “Are your hands slipping on the controller?” and “Can you see the TV screen properly from where you are sitting?” The incisive trash talk theme is insightful and game-specific, for example “You might want to try running the ball,” and “I’d try a different formation if I were you.” The final group of quotations focused on a sense of fun during the game, representative quotes were “Is it too soon to say dynasty?” and “I’m like the Michael Jordan of Madden!”

Instrumentation

Madden™ NFL Self-Efficacy Scale (Appendix E). The Madden™ NFL 08 Self-Efficacy Scale was developed specifically for this study. Self-Efficacy items for this scale were developed in accordance with Bandura’s (1986, 1997) guidelines, and drew from previous formats used in self-efficacy studies. Items evaluated as accurately as possible self-efficacy relevant to the experience being engaged in (Madden™ NFL 08 Football Video Game). Measurement of self-efficacy was centered on the task-level. Players were asked to respond to 10 items, which pertained to the specific skills necessary for
successful performance in the Madden™ NFL 08 video game. Remaining consistent with previous procedural techniques employed (Treasure, Monson & Lox, 1996), both expert players and tournament organizers were asked to identify specific skills, which were deemed necessary for successful Madden™ NFL 08 performance. The critical skills identified were: passing, rushing, touchdowns scored, sacking the quarterback, forcing turnovers, stopping the run, field goal execution, and kick returns. Players were asked to rate their certainty of completing each specific skill from 0 (no confidence) to 100 (absolute certainty) points (Kuczka & Treasure, 2005). Self-efficacy perceptions are determined by summation of all the certainty ratings across all items providing a composite score (0-1000) for each self-efficacy measure.

The Madden™ NFL 08 self-efficacy scale was run through a pilot procedure involving 50 Madden™ NFL 08 players (not being used in the main study), to pretest the items. Factor analyses confirmed the homogeneity of the items, and the scale was shown to be unidimensional. Internal consistency reliabilities across all items were satisfactory resulting in a Cronbach’s Alpha coefficient of .95.

Positive and Negative Affective Schedule (PANAS; Watson, Clark, & Tellegen, 1988; Appendix F). The PANAS is a 20-item self-report schedule measuring negative affect and positive affect as dispositional dimensions. The PANAS consists of 10 positive affects (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active), and 10 negative affects (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid). Players were directed to rate the extent to which they had experienced each particular emotion under specified time instructions (this study asked how players felt ‘at the present moment’ after five separate measures; as opposed to the ‘past week’, or ‘in general’) with reference to a 5-point scale. The scale ranges from 1 (very slightly or not at all) to 5 (extremely). The timings of the five measures are detailed in the procedure section below. Watson et al. (1988) reported the PANAS scales showed excellent internal consistency in six large data sets, with samples ranging from 586 to 1002. The coefficient alphas for the Negative Affect scale ranged from .84 to .87, whereas those for the Positive Affect scale ranged from .86 to .90 (Weiner, Schinka, & Viliver, 2003). Watson et al. (1988) factor-analyzed the same data sets extracting two factors in each case. They subsequently correlated the PANAS scales
with regression-based estimates of these factors. The PANAS scales were shown to be excellent measures of the underlying Positive and Negative affect dimensions. The PANAS Positive Affect scale had correlations ranging from .89 to .95 with the Positive Affect scores, and from -.02 to -.17 with the Negative Affect factor. Conversely, the PANAS Negative Affect scale had correlations ranging from .91 to .93 with scores on the Negative Affect factor, and from -.09 to -.18 with the positive factor. Weiner et al. (2003) reviewed the measurement of Positive and Negative Affect in their Psychology Handbook on Research Methods and concluded the PANAS provides a reliable and valid measurement of the underlying Positive and Negative Affect dimensions.

*Trash Talk User Survey (Appendix G).* The survey was formulated through consultation with Madden™ NFL 08 players and tournament organizers, previous research conducted by the PI (Conmy, 2005; 2007), and the literature review based on research conceptually linked to the trash talk phenomenon. The survey was run through a pilot procedure involving 10 Madden™ NFL 08 players (not being used in the main study) to obtain feedback on the most salient elements of the survey, and more importantly, areas that were ambiguous. The players were solicited from a convenience sample consisting of undergraduate/graduate students at a North Floridian University, and Madden™ NFL 08 players the author previously had access to through existing contacts. The pilot work ensured the instrument developed was easily understood by Madden™ NFL 08 players, and feedback confirmed there was no confusion or problems with interpreting the short survey.

The opening question in the survey asked players to rate how important it is for them to have the freedom to trash talk during Madden™ NFL 08 games using a Likert-type response format ranging from 1 (*not at all*) to 6 (*extremely*). The player was then asked to state using the same Likert-type response format whether he believed trash talk was significant in motivating him to continue to play hard during a competitive encounter. The players were then asked a forced-choice question rating whether they believed their enforced silence in the games helped, hindered, or had no effect on their opponent. The final forced-choice (yes/no response) question asked players whether they use trash talk in physical sports environments away from video games.
Performance Measures (Appendix H). Performance measures consisted of three components. First, the outcome (win-loss) of each individual game, in each separate condition, was recorded. The score of each game (silent and talk) played was recorded. Finally, yardage numbers for both passing and rushing was recorded across both games played.

Trash Talk Choices (Appendix I). Players were asked to make two choices before “Game 3.” The choices were: (a) the individual players had the option to talk or remain silent in “Game 3”, and (b) the choice to enforce their opponent to be silent or permit them to talk in “Game 3.”

Procedure

Institutional Human Subjects Committee approval was obtained for this study (7/11/2008 – Appendix J). Upon arrival at the laboratory players were introduced to each other. Prior to each condition they were asked to read and sign the informed consent form (Appendix K). This form explained the study to players, informed them of their rights, ensured confidentiality, and provided contact information for further discussion or questions. The form provides written documentation of the participant’s willingness to partake in this study. All players were over 18 years of age and as a result did not require a parent/guardian’s signature.

Players were randomly assigned to the various conditions upon arrival at the laboratory. Players were given a brief verbal explanation of the sequence of events. They were informed that the amount of total points they scored across both games played would be converted into raffle tickets at the culmination of the study. They were informed that for each 7 points scored they would receive 1 raffle ticket. They were informed that limiting their opponent to less than 10 points in a game resulted in a bonus raffle ticket. They were informed that the tickets would be entered into a prize draw from which the winner would receive the brand new Madden™ NFL 09 computer game immediately upon its release. Previous research has shown the importance of the event to individuals is crucial, and this incentive was provided for both participation and ongoing commitment throughout the experiment (Hausenblas & Carron, 1996).

Players were shown the equipment to be used, and were encouraged to ‘get a feel’ for the video game control panels, their respective seats during the game, and the position
of the television monitor. The researcher checked verbally that the both competitors had clarity on the procedure. They were informed that the researcher would not be present during the game because his presence could potentially influence their behavior.

Prior to game 1 in the silent-talk condition players were taken into separate rooms and instructed to choose one envelope from two choices. All envelopes contained precisely the same instructions. Players were instructed to remain completely silent throughout the duration of the impending game (Appendix B). The silent instructions stated clearly any speaking at all would result in forfeiting the game, and the player would be withdrawn from the raffle to win the Madden™ NFL 09 game. Verbal confirmation assured all participants understood the rules for the impending game to be played. All players then completed both the Self-Efficacy scale and PANAS schedule (Phase 1) before returning to the laboratory for game 1.

After the completion of the first game players were thanked for their effort, and were once again separated into different rooms. Players were then asked to complete the Self-Efficacy scale and PANAS schedule immediately upon entering the room. Following the completion of the Self-Efficacy scale and PANAS schedule players were once again instructed to choose one envelope from two choices. All envelopes contained precisely the same instructions. Players were informed that trash talking was permitted in the impending game (Appendix C), and they were given the primer script (Appendix D) to read through several times before entering the laboratory. After choosing the particular envelope being used for the specific condition, the subject was instructed to fill out the Self-Efficacy scale and the PANAS schedule for the third time, prior to re-entering the laboratory to compete in the second Madden™ NFL 08 game (Phase 2). This opportunity was taken to return to the laboratory and record all performance measures from the first game (i.e., win/loss, total points scored, total yardages for rushing and passing). Concurrently the equipment was prepared for the second game to be played to facilitate the second game beginning immediately upon the player’s return to the laboratory. The researcher then invited both players back into the laboratory and informed the players that he would be absent from the room once again throughout the duration the game. Immediately prior to players entering the laboratory for game 2, the digital recorder was activated. During game 2 (and for all ‘talk’ games across both conditions) the PI
monitored from a separate room (two-way mirror) the chronological order in which players talked to identify player 1 or player 2 for transcription purposes and future qualitative analysis. The second game was then played.

After the second game was completed in the silent-talk condition, the researcher entered the room, and both players were taken into separate rooms. Players were asked to complete the Self-Efficacy scale and PANAS schedule immediately upon entering the room. The players were then informed there was a surprise “bonus” game in which all points earned were doubled towards raffle ticket accumulation. The third game was not actually played, but the players assumed it was going to take place. The players were then given two choices to make prior to the ‘third game’: (a) the individual players had the option to talk or remain silent in “Game 3,” and (b) enforce silence upon their opponent or permit them to talk (Appendix I). Subsequently the players were asked for the fifth and final time to complete the Self-Efficacy scale and PANAS schedule (Phase 3). At this point the PI returned to the laboratory and recorded all performance measures for game 2.

The silent-talk condition concluded by returning to each player separately and informing them there would be no third game of Madden™ NFL 08. The players were then thanked for their patience and participation and requested to complete a brief trash talk survey (Appendix G). It was made clear that this was the final component of the study, and at the completion of the survey the experiment had concluded. Participants were given a full verbal debrief and the general purposes of the study were communicated.

Participants were informed that everyone participating in the study received an equal number of raffle tickets (1) to be entered into the draw for the Madden™ NFL 09 game. They were asked to not to reveal any details of the study to fellow students or video-gaming colleagues, and they were thanked for their effort and time.

This above procedure was reversed for the talk-silent condition. In the first game players were permitted to talk and in the second they were instructed to remain silent. A key procedural difference involved activating the digital-recorder immediately prior to game 1, as opposed to game 2 (Silent). All other manipulations, measures, and timings remained identical to the silent-talk condition.
Manipulation Check and Qualitative Analysis

Data were excluded from analysis if players spoke during a silent game, or if both players remained completely silent throughout a talk game. Only one set of data (two players) was eliminated from data analysis – the opening ‘Silent-Talk’ condition in which one player spoke at the beginning of game 1. The PI was meticulous in subsequent briefings for the experiment, and no additional problems were encountered for either condition.

During each ‘talk’ game of Madden™ NFL 08 across both conditions all verbalizations were transcribed and coded using the constant comparative method. Coding was focused on the frequency of the talk, and the type of trash talk used. There were three coding categories. These were Primer Script (S), Other Trash Talk (O), and Not Trash Talk (NO). Therefore, trash talk used in the games was either from a category in the trash talk primer script being used, was another form of trash talk (which is in line with the parameters outlined previously in the context of this specific study), or verbalizations were coded as not constituting trash talk at all.

The constant comparative method was utilized to analyze the data (Glaser & Strauss, 1967; Maykut & Morehouse, 1994). This analysis involved identifying the principal codes expressed by each individual (i.e., intratextually) and across individuals (i.e., intertextually). Inductive procedures were completed through intratextual analysis of the data. The inductive process ensured each transcript was thoroughly examined and findings emerged from the data itself, not a pre-existing framework (Patton, 2002). The reflective nature of this procedure is intended to support the classification and the placement of significant text (i.e., quotations from Madden™ 08 players), into appropriate codes. This process was exhaustive, and repeated until all quotations were appropriately coded.

There were three specific methods use to ensure scientific thoroughness in the analysis of the final data. An empathetic stance, investigator triangulation, and devil’s advocate are three methods recognized as qualitative techniques, which support meticulous data analysis (Rees, Smith, & Sparkes, 2003; Sparkes, 1998). Maykut and Morehouse (1994) argued that enabling a contextual analysis of the data is crucial, which involves significant time being spent with all pertinent data collected. The data was coded
and classified according to the parameters outlined previously in the study. Subsequent to this initial coding a research assistant (who was an advanced graduate researcher) familiar with the trash talk phenomenon, was utilized to provide investigator triangulation.

The research assistant read through all game transcripts. The assistant operated as a check against preconceived biases that may have unduly influenced the initial analyses (Amis, 2005). Both researchers then entered into a dialogue regarding the coding of the data for all talk games. This discourse provided the researchers with a discerning reevaluation of the established coding. The assistant also operated as a ‘devil’s advocate’ through sanctioning and challenging data coding by the researcher. When disagreements arose, the transcripts were thoroughly reviewed, and discussions lasted until the points of dispute were resolved. This process was exhaustive, until full agreement was reached between the researcher and his assistant.

*Data Analysis*

The study consists of 2 conditions (i.e., silent-talk condition or talk-silent condition) to which players were randomly assigned. Experimental Condition was considered the between-subjects (BS) factor. Self-Efficacy and Affect (positive/negative) were measured 5 separate times; prior to the first game, immediately after the first game was completed, immediately after instructions (talk or silent) were provided prior to the second game, immediately after the second was completed, and after players had made their trash talk choices for ‘Game 3’ which was not played. The five measures were considered a within-subjects (WS) factor in the analysis. In addition players were categorized into “winners” and “losers” following the first and second games, thus establishing a second BS factor. To test the study’s hypotheses Repeated Measures ANOVAs with experimental conditions and outcome as BS factors, and 5 measures of Self-Efficacy and PANAS as WS factors were performed.

Descriptive statistics ($M, SD$) and normality coefficients (kurtosis and skewness) were calculated on each variable in each of the five measures.
CHAPTER 3
RESULTS

Descriptive Statistics

The initial measures of the study’s variables were subjected to descriptive statistics analysis including skewness and kurtosis. The results are presented in Table 2.

Table 2
Descriptive Statistics for all Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0-1000</td>
<td>712.27</td>
<td>111.24</td>
<td>-.40</td>
<td>.42</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>1-5</td>
<td>3.23</td>
<td>.71</td>
<td>.81</td>
<td>.59</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>1-5</td>
<td>1.71</td>
<td>.62</td>
<td>1.16</td>
<td>.78</td>
</tr>
<tr>
<td>Performance Score</td>
<td>0-33</td>
<td>14.53</td>
<td>7.17</td>
<td>.40</td>
<td>-.09</td>
</tr>
<tr>
<td>Performance Rush</td>
<td>0-200</td>
<td>66.64</td>
<td>36.27</td>
<td>.51</td>
<td>-.40</td>
</tr>
<tr>
<td>Performance Pass</td>
<td>0-400</td>
<td>197.70</td>
<td>64.51</td>
<td>-.27</td>
<td>-.67</td>
</tr>
<tr>
<td>Survey Question 1</td>
<td>1-6</td>
<td>5.55</td>
<td>.64</td>
<td>-1.13</td>
<td>.25</td>
</tr>
<tr>
<td>(Trash Talk Freedom)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey Question 2</td>
<td>1-6</td>
<td>5.28</td>
<td>.68</td>
<td>-.40</td>
<td>-.75</td>
</tr>
<tr>
<td>(Trash Talk Motivation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data screening of the variables used in the study revealed no significant outliers, satisfied standard distribution parameters’, and fulfilled the assumptions for multivariate analysis. Skewness and kurtosis were all within the (-2) – 2 range. Mean self-efficacy was considered high overall. Positive affect was moderately strong and negative affect was low in comparison as expected.
Testing Hypotheses
Self-Efficacy (3-Phase Hypothesis)

Phase 1. Initial Impact of Experimental Condition
Phase 2. Impact after Game 1, and after Instructions for Game 2
Phase 3. Impact after Game 2, after trash talk choices were made, prior to “Game 3”

Phase 1. Initial Impact of Experimental Condition (Measure 1)

Immediately after informing the participants about which experimental condition they would be assigned to (i.e., silent or talk), self-efficacy measures related to how confident they were executing specific Madden™ NFL 08 game playing skills were taken. It was assumed that trash talkers would reflect lower self-efficacy when deprived the option to trash talk in comparison to the freedom to be able to utilize trash talk. To test this hypothesis univariate ANOVA was performed using the composite self-efficacy score as a dependent variable and experimental condition as a between-subject variable. The ANOVA resulted in significant condition effect, $F(1, 38) = 8.96, p = .005, \eta^2 = .19$. This effect is shown in Figure 2.

![Figure 2. Self-Efficacy mean ratings for the first measure in two experimental conditions.](image)

A large standardized Effect Size (ES) between the two conditions emerged ($ES = .86$). As predicted, on average players permitted to talk showed higher self-efficacy than players prevented from talking.
Phase 2. Self-Efficacy Immediately Following Game 1 and After Instructions for Game 2 (Measures 1 to 3)

The hypothesis was that player’s composite self-efficacy score would increase after winning game 1, but decrease following a loss. The change in condition (talk or silence) after game 1, and before game 2 was also assumed to have an impact on self-efficacy score across experimental conditions. To test these hypotheses a Repeated Measures ANOVA was performed. The statistical analysis results are presented in Table 3.

Table 3
RM ANOVA for Self-Efficacy Rating by Measures(3), Experimental Conditions, and Outcome (win/loss)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ λ</th>
<th>F</th>
<th>df</th>
<th>ρ</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Measure</td>
<td>.74</td>
<td>6.00</td>
<td>2, 35</td>
<td>.006</td>
<td>.26</td>
</tr>
<tr>
<td>B. Condition</td>
<td>1.93</td>
<td>1, 36</td>
<td>.17</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>C. Outcome (Game 1)</td>
<td>17.62</td>
<td>1, 36</td>
<td>.001</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>D. A by B</td>
<td>.49</td>
<td>17.98</td>
<td>2, 35</td>
<td>.001</td>
<td>.51</td>
</tr>
<tr>
<td>E. A by C</td>
<td>.64</td>
<td>10.01</td>
<td>2, 35</td>
<td>.001</td>
<td>.36</td>
</tr>
<tr>
<td>F. B by C</td>
<td>0.23</td>
<td>1, 36</td>
<td>.88</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>G. A by B by C</td>
<td>.81</td>
<td>4.24</td>
<td>2, 35</td>
<td>.02</td>
<td>.19</td>
</tr>
</tbody>
</table>

Five significant (p < .05) effects related to self-efficacy emerged after game 1 and instructions pertaining to game 2. These are: measure, outcome, measure by condition, measure by condition, and measure by condition by outcome. The 3-way significant (p = .02) interaction provides integrative information for self-efficacy differences with respect to measure, condition, and outcome. The 3-way interaction is shown in Figure 3.
Figure 3. Mean values for self-efficacy by condition, outcome, and measure.

The 3-way interaction shown in Figure 3 exhibits several trends, which together contribute to its significant effect. These trends are outlined as follows:

(a) Players prohibited from talking in the first game, who were victorious, exhibited an overall increase in self-efficacy ($ES = .54$)

(b) Players denied the opportunity to trash talk in game 1 exhibited a lower self-efficacy score than those permitted to talk in game 1, and when losing the first game their self-efficacy decreased even further $ES = -.53$. However, after receiving permission to talk in the second game, losing players reported increased self-efficacy scores, $ES = .74$. When compared with winners of game 1 in the
silent-talk condition (A), losers reported noticeably reduced ($ES = -1.34$) self-efficacy scores after game 1.

(c) Players permitted to talk in game 1 reported higher initial self-efficacy ($ES = .46$) than those instructed to remain silent. Self-efficacy remained relatively stable for all three measures for players winning in the talk-silent condition.

(d) When losers in game 1 were allowed to talk, their self-efficacy was initially higher ($ES = 1.26$) than when prevented from talking and losing (B). However, when players lost the first game their self-efficacy dropped markedly ($ES = -1.40$) and continued to decrease after being instructed to remain silent during the second game compared ($ES = -.61$) to losers in silent-talk (B).

The other significant ($p < .05$) and measurable effects shown in Table 2 were outcome ($p = .01$), measure by condition ($p = .01$) and measure by outcome ($p = .01$). The outcome (win/lose) of the first game produced self-efficacy means of $M = 767.22$ and $M = 655.03$ for a loss; resulting in $ES = .95$. The 2-way interactions (measure by condition and measure by outcome) are shown in Figures 4 and 5.

![Figure 4: Mean values for self-efficacy by condition and measure.](image)

The 2-way interaction shown in Figure 4 displays the discrepancy between initial self-efficacy scores across the experimental conditions. The talk-silent condition resulted in significantly higher initial self-efficacy than the silent-talk condition ($ES = .86$). The
talk-silent condition decreased substantially from measure 1 to measure 3 (ES = -.81) after players were informed they were to remain silent in game 2. When players were told they would be permitted to talk in game 2 in the silent-talk condition after measure 2 was taken, self-efficacy scores increased (ES = .55). Differences between the self-efficacy scores by condition were moderate for both measure 2 (ES = .40) and measure 3 (ES = .33). Figure 5 shows the mean values for self-efficacy by outcome.

![Figure 5. Mean values for self-efficacy by outcome and measure.](image)

Self-efficacy scores for the winning players in game 1 increased slightly from measure 1 to measure 3. Losing players exhibited fluctuating self-efficacy scores, but overall decreased sharply from measure 1 to 3 (ES = -.72). There were considerable differences between winners and losers self-efficacy scores for both measures 2 (ES = 1.36) and measure 3 (ES = 1.25).

**Phase 3. Impact after Game 2, after trash talk choices were made, prior to “Game 3”**

To further examine the effect of experimental condition and game outcome on self-efficacy scores throughout the five measures used in this study, self-efficacy measures were subjected to a Repeated Measures Mixed ANOVA. The results are shown in Table 4.
Table 4
RM ANOVA for Self-Efficacy Rating by Measure (5), Experimental Condition, and Outcome (win/loss)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ λ</th>
<th>F</th>
<th>df</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Measure</td>
<td>.50</td>
<td>7.14</td>
<td>4, 29</td>
<td>.001</td>
<td>.50</td>
</tr>
<tr>
<td>B. Condition</td>
<td>.77</td>
<td>1, 32</td>
<td>.39</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>C. Outcome (Game 1)</td>
<td>15.52</td>
<td>1, 32</td>
<td>.001</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>D. Outcome (Game 2)</td>
<td>5.10</td>
<td>1, 32</td>
<td>.031</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>E. A by B</td>
<td>.53</td>
<td>6.54</td>
<td>4, 29</td>
<td>.001</td>
<td>.47</td>
</tr>
<tr>
<td>F. A by C</td>
<td>.72</td>
<td>2.86</td>
<td>4, 29</td>
<td>.041</td>
<td>.28</td>
</tr>
<tr>
<td>G. A by D</td>
<td>.69</td>
<td>3.27</td>
<td>4, 29</td>
<td>.025</td>
<td>.31</td>
</tr>
<tr>
<td>H. B by C</td>
<td>.62</td>
<td></td>
<td>1, 32</td>
<td>.44</td>
<td>.02</td>
</tr>
<tr>
<td>I. B by D</td>
<td>.59</td>
<td></td>
<td>1, 32</td>
<td>.45</td>
<td>.02</td>
</tr>
<tr>
<td>J. C by D</td>
<td>3.64</td>
<td></td>
<td>1, 32</td>
<td>.07</td>
<td>.10</td>
</tr>
<tr>
<td>K. A by B by C</td>
<td>.89</td>
<td>.93</td>
<td>4, 29</td>
<td>.461</td>
<td>.11</td>
</tr>
<tr>
<td>L. A by B by D</td>
<td>.95</td>
<td>.38</td>
<td>4, 29</td>
<td>.82</td>
<td>.05</td>
</tr>
<tr>
<td>M. A by C by D</td>
<td>.88</td>
<td>.98</td>
<td>4, 29</td>
<td>.44</td>
<td>.12</td>
</tr>
<tr>
<td>N. B by C by D</td>
<td>.006</td>
<td></td>
<td>1, 32</td>
<td>.94</td>
<td>.00</td>
</tr>
<tr>
<td>O. A by B by C by D</td>
<td>.96</td>
<td>.32</td>
<td>4, 29</td>
<td>.86</td>
<td>.04</td>
</tr>
</tbody>
</table>

Self-Efficacy fluctuated significantly during the five measures. However, it is important to interpret these fluctuations within the context of the Independent Variables in the study. The significant effect of game 1 outcome was presented in the previous section. The significant \( p = .031 \) affect of game 2 outcome is presented in Figure 6.
Figure 6. Mean values outcome of game 2.

Winners of game 2 exhibited stronger self-efficacy $M = 756.46$ than losers ($M = 690.05$), resulting in $ES = .45$. The measure by experimental condition is shown in Figure 7.

Figure 7. Mean values for self-efficacy by condition and measure.
Players in the talk-silent condition steadily decreased in self-efficacy from measure one to measure four \((ES = -.64)\). However, immediately after players were given the opportunity to make their trash talk choices (for themselves and their opponents) in “Game 3”, there was a sharp increase in self-efficacy from measure four to measure five, \(ES = .46\). Players in the silent-talk condition showed lower initial self-efficacy in contrast to the talk-silent condition \((ES = -.68)\). Self-efficacy increased in the silent-talk condition between measures two and three \((ES = .45)\) after players were informed they would be permitted to talk for game 2. After players were instructed to make their choices before “Game 3” across both conditions, there were noticeable increases in their fifth and final self-efficacy scores (Silent-Talk \(ES = .35\); Talk-Silent \(ES = .46\)). With the exception of the first two measures differences in self-efficacy scores by condition were negligible. The measure by outcome (Game 2) is shown in Figure 8.

![Figure 8. Mean values for self-efficacy by outcome (Game 2) and measure.](image)

Players winning the second game showed a slight decrease in self-efficacy between measures one and two, but the overall trend showed a discernible increase \((ES = .68)\) from measure 2 to 5. However, this was followed by a steady increase through measures two to five \((ES = .68)\). Measure four was scored immediately following the game they had just won, and measure five was taken immediately after they had made their trash talk choices prior to “Game 3”. Self-efficacy was comparable following measures one, two, and three for winners and losers. However, measure four immediately
after losing game 2 resulted in a considerable self-efficacy decrease compared to winning ($ES = -1.0$). However, after players losing game 2 were given the opportunity to make their trash talk choices for “Game 3,” their self-efficacy increased from measure four to measure five ($ES = .55$). When comparing measure five across both conditions, players who were victorious in the second game scored significantly higher ($ES = .71$) than their losing counterparts.

Positive Affect (3-Phase Hypothesis)

Phase 1. Initial Impact of Experimental Condition

Phase 2. Impact after Game 1, and after Instructions for Game 2

Phase 3. Impact after Game 2, after trash talk choices were made, prior to “Game 3”

Phase 1. Initial Impact of Experimental Condition

Similar analyses to those applied for self-efficacy were performed for positive affect (PA). The hypotheses in this study was that players who were initially denied the opportunity to talk in the first game would report lower PA than players permitted to talk in game 1. This hypothesis was tested through a univariate ANOVA utilizing the composite PA scores as a dependent variable and experimental condition as a between-subjects variable. Although PA resulted in non-significant experimental condition effect ($p > .05$), mean score differences did occur. Initial mean PA differences (ES = .32) between the two experimental conditions are shown in Figure 9.

Figure 9. Positive affect mean ratings for the first measure in two experimental conditions.
Players permitted to talk in the first game displayed higher mean PA than players prevented from talking, though non-significant.

**Phase 2. PA Immediately Following Game 1 and After Instructions for Game 2**

It was hypothesized that player’s composite PA scores would increase following a winning performance in game 1, but would be reduced following a loss. Experimental conditions, (i.e., changing from talk to silence or vice-versa) in the second game was hypothesized to influence PA scores for both experimental conditions. These hypotheses were tested using a Repeated Measures ANOVA. The analyses findings are presented in Table 5.

Table 5

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ λ</th>
<th>F</th>
<th>df</th>
<th>ρ</th>
<th>η²</th>
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<tbody>
<tr>
<td>A. Measure</td>
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<td>.001</td>
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<tr>
<td>B. Condition</td>
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<td>1, 36</td>
<td>.052</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>C. Outcome (Game 1)</td>
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<td>1, 36</td>
<td>.127</td>
<td>.06</td>
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</tr>
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<td>D. A by B</td>
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<td>35.96</td>
<td>2, 35</td>
<td>.001</td>
<td>.67</td>
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<td>E. A by C</td>
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<td>2.94</td>
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<td>.066</td>
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<tr>
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<td>.48</td>
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<tr>
<td>G. A by B by C</td>
<td>.84</td>
<td>3.31</td>
<td>2, 35</td>
<td>.048</td>
<td>.16</td>
</tr>
</tbody>
</table>

Three significant ($p < .05$) effects pertaining to PA were obtained following game 1 and the instructions given prior to game 2. These effects were measure, measure by condition, and measure by condition by outcome. The 3-way significant ($p = .04$) interaction encompasses the broadest amount of information related to PA differences integrating all the effects of measure, condition, and outcome. The 3-way interaction is shown in Figure 10.
Figure 10. Mean values for positive affect by experimental condition, outcome, and measure.

The 3-way interaction shown in Figure 10 illustrates several trends, which collectively contribute to its significant effect. These trends are summarized below:

(a) Players who won the first game in which they had to remain silent and subsequently were informed they could talk in game 2 reported a slight increase in PA ($\text{ES} = .17$).

(b) Players who lost the first game, and were enforced to be silent showed a small decrease in PA across the first two measures ($\text{ES} = -.19$). However, when these same players were informed the second game would allow talking, PA
increased considerably ($ES = .66$). Winners compared to losers in the silent-talk condition exhibited clear differences in PA after game 1 ($ES = .48$).

(c) Players permitted to talk in game 1 showed relatively higher initial scores when compared with players enforced to be silent (A). However, even when players won their first game in which they could talk during they still reported reduced PA scores. This decrease was even more pronounced when players learned they would not be permitted to talk in the second game ($ES = -.82$). There was a large discrepancy ($ES = .88$) between players who won the first game and could talk in the second (A), compared to winners subsequently instructed to be silent.

(d) Players who lost the first game, but were permitted to talk during it showed a sharp decrease in PA between measure one and two ($ES = -1.01$). This decrease continued ($ES = -.47$) when players were informed there would be no talking permitted in game 2, albeit less pronounced than between measures one and two. There was a substantial difference between losers PA scores permitted to talk in game 2 (B), and losers who had to remain silent in game 2 ($ES = 1.625$).

Measure by condition effect ($p < .05$) on PA is shown in Figure 11.

*Figure 11.* Mean values for positive affect by experimental condition and measure.
Players in the Silent-Talk condition showed an increase from measure 1 to measure 3 ($ES = .32$), whereas players in the talk-silent condition exhibited a sharp decline ($ES = 1.15$) from measure 1 to 3 after being informed they must be silent in game 2. The largest difference between silent-talk and talk-silent was displayed at measure 3 ($ES = 1.25$) after players were informed of talk conditions prior to game 2.

**Phase 3. Impact after Game 2, after trash talk choices were made, prior to “Game 3”**

To further examine the effect of experimental condition and game outcome on PA measures throughout the five measures used in this study, Repeated Measures Mixed ANOVA was performed. The results are shown in Table 6.
Table 6

*RM ANOVA for Positive Affect Rating by Measure(5), Experimental Condition, and Outcome(win/loss)*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ λ</th>
<th>F</th>
<th>df</th>
<th>ρ</th>
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<td>B. Condition</td>
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<td>1, 32</td>
<td>.23</td>
<td>.04</td>
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<td>C. Outcome (Game 1)</td>
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<tr>
<td>D. Outcome (Game 2)</td>
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<td>E. A by B</td>
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<td>I. B by D</td>
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<td>1, 32</td>
<td>.58</td>
<td>.01</td>
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<tr>
<td>J. C by D</td>
<td>3.48</td>
<td>1, 32</td>
<td>.07</td>
<td>.01</td>
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<tr>
<td>K. A by B by C</td>
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<td>1.38</td>
<td>4, 29</td>
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<td>L. A by B by D</td>
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<td>4, 29</td>
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<td>M. A by C by D</td>
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<td>1.09</td>
<td>4, 29</td>
<td>.38</td>
<td>.13</td>
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<tr>
<td>N. B by C by D</td>
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<td>1, 32</td>
<td>.86</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>O. A by B by C by D</td>
<td>.89</td>
<td>.94</td>
<td>4, 29</td>
<td>.46</td>
<td>.12</td>
</tr>
</tbody>
</table>
Positive Affect scores changed numerous times throughout the five measures used in the study, resulting in significant \((p = .001)\) measure effect. There were three additional significant \((p < .05)\) effects; measure by experimental condition, measure by condition, and measure by outcome (Game 1). The measure by experimental condition is shown in Figure 12.

![Figure 12. Mean values for positive affect by experimental condition and measure.](image)

Players in the Silent-Talk condition displayed fluctuations in PA across measures 1 to 5, the largest of which was from measure 3 to 4 \((ES = -.55)\) immediately following game 2. Players in talk-silent showed a sharp decline from measure 1 to measure 3 \((ES = -1.13)\). However, this was followed by another increase from measure 3 through 5 \((ES = 1.12)\) after game 2 and the choices made prior to “game 3.” The most prevalent difference \((ES – 1.21)\) between conditions was measure 3 immediately prior to game 2 after instructions were provided regarding the ability to talk or not. The measure by outcome (Game 1) effect is shown in Figure 13.
Players who won the first game showed a consistent PA across the first three measures. However, a decrease in PA was noted from measure three to measure four (ES = -.53) immediately after the second game. However, after players were given their trash talk choices before “Game 3” a considerable PA increase was evident (ES = .61). Players who lost the first game showed an early decrease in PA (ES = -.5) from measure one to two. This PA level remained approximately equal through measure 3, at which point there was another increase to measure four, which could have signified improved performance or enjoyment in game 2 of competition. The sharpest increase (ES = .55) for losers in the first game was between measure four and five, when players were informed of “Game 3” and given their opportunity to make trash talk choices concerning their personal usage, and the decision whether to allow opponents to talk or not. The largest divergence (ES = .71) between winners and losers was immediately following game 1 (measure 2).
Negative Affect (3-Phase Hypothesis)

Phase 1. Initial Impact of Experimental Condition

Phase 2. Impact after Game 1, and after Instructions for Game 2

Phase 3. Impact after Game 2, after trash talk choices were made prior to “Game 3”

Phase 1. Initial Impact of Experimental Condition

Players completed the same PANAS schedule for which produced a negative affect (NA) score for the five measures utilized in this study. It was hypothesized that players who were initially denied the opportunity to talk in the first game would report greater NA than players permitted to talk in game 1. This hypothesis was tested through a univariate ANOVA utilizing the composite NA scores as a dependent variable and experimental condition as a between-subjects variable. Although NA showed a non-significant ($p > .05$) experimental condition effect, mean NA differences were obtained (ES = .53). Players permitted to talk in the first game displayed lower NA than those forced to be silent. These differences are shown in Figures 14.

![Figure 14](image_url)

*Figure 14.* Negative affect mean ratings for the first measure in two experimental conditions.
Phase 2. PA Immediately Following Game 1 and After Instructions for Game 2

The hypothesis for NA at this stage of the procedure was that a loss in the first game would result in increased NA, but decrease following a win. The switch in experimental condition (talk or silence) following game 1 and immediately prior to game 2 was assumed to influence NA scores, resulting in an increase in NA for the silent condition, and a decrease in NA when players were permitted to talk in game 2. To test these hypotheses a Repeated Measures ANOVA was performed. The statistical analysis is presented in Table 7.

Table 7
RM ANOVA for Negative Affect Rating by Measure(3), Experimental Condition(2), and Outcome(win/loss)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’ λ</th>
<th>F</th>
<th>df</th>
<th>ρ</th>
<th>η₂</th>
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<td>2, 35</td>
<td>.001</td>
<td>.44</td>
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<td>B. Condition</td>
<td>.31</td>
<td>1, 36</td>
<td>.58</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>C. Outcome (Game 1)</td>
<td>5.70</td>
<td>1, 36</td>
<td>.02</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>D. A by B</td>
<td>.83</td>
<td>3.58</td>
<td>2, 35</td>
<td>.04</td>
<td>.17</td>
</tr>
<tr>
<td>E. A by C</td>
<td>.64</td>
<td>9.87</td>
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<tr>
<td>F. B by C</td>
<td>1.15</td>
<td>1, 36</td>
<td>.29</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>G. A by B by C</td>
<td>1.0</td>
<td>.06</td>
<td>2, 35</td>
<td>.94</td>
<td>.00</td>
</tr>
</tbody>
</table>

Four significant (p < .05) effects were identified in association with NA after the first game and instructions pertaining to game 2, i.e., measure, outcome, measure by condition, and measure by outcome. The outcome (win/lose) effect of the first game resulted in significant NA means following a win ($M = 1.43, SD = .37$) versus a loss ($M = 2.06, SD = .65$); $ES = 1.03$). The 2-way interaction for measure by condition is presented in Figure 15.
The 2-way interaction for NA by experimental condition resulted from a discrepancy between the initial NA score ($ES = .46$), with the Silent-Talk condition producing stronger NA scores. However, in measures 2 and 3 the two experimental conditions (Silent-Talk/Talk-Silent) resulted in similar NA. The outcome of game 1 had a direct impact on NA in measure 2, whereas measure 3 reflected players’ reactions to the condition (talk or silent) they would be experiencing in game 2. Figure 16 shows the mean values for NA by outcome and measure.

*Figure 15. Mean values for negative affect by experimental condition and measure.*

*Figure 16. Mean values for negative affect by outcome (Game 1) and measure.*
NA scores for the winning players remained consistent through measures one to three. Losing players, however, recorded more fluctuating scores for NA across the three measures. From measure one to measure two (measure two being immediately after game 1) losing players NA scores increased considerably ($ES = 1.16$), before decreasing ($ES = -0.69$) in measure three after instructions (talk or silence) were given before game 2. A large difference ($ES = 1.24$) was observed for measure 2 across both conditions following game 1 outcome.

**Phase 3. Impact after Game 2, after trash talk choices were made, prior to “Game 3”**

To further examine the effect of experimental condition and game outcome on NA measures throughout the five measures used in this study, a Repeated Measures Mixed ANOVA was utilized. The results are shown in Table 8.
Negative Affect fluctuated significantly during the five measures. The significant ($p = .001$) effect of game 1 outcome by measure was presented in Figure 16. The significant ($p = .01$) effect of game 2 outcome by measure is presented in Figure 17.
Winners NA remained relatively consistent across measure 1 to measure 5. Losing players showed a large increase (measure 4) in NA immediately after being defeated in game 2 ($ES = .94$). Losers NA dropped substantially (measure 5) after players were given their trash talk choices prior to “Game 3” ($ES = -.94$). The biggest difference ($ES = 1.42$) found between winners and losers occurred in measure 4 following the respective outcome of game 2.

Performance Measures

Overall performance measures were calculated for each player and each game played in each experimental condition. Total performance measures were considered the total score, yards rushing (running), and yards passing (throwing). It was hypothesized that performance would improve for scoring, rushing and passing as a function of the capability to trash talk an opponent (i.e., talk games), resulting in significantly higher totals for all performance measures in the games allowing trash talking. However, as Table 9 shows, overall performance measures (for both talk-specific and silent-specific games) were descriptively very close.
Contrary to expectations at the inception of the study silent games resulted in very similar levels for scoring ($ES = .03$), rushing ($ES = .05$), and passing ($ES = .05$). In addition, performance scores for each player in silence and talk conditions were correlated. The correlations for scoring, rushing and passing were, .64, .79, and .75, respectively. These correlation magnitudes indicate that within players’ variability in the two conditions were analogous.

One-way ANOVAs by experimental conditions (silent-talk and talk-silent) on overall performance measures revealed no significant effects for Score $F(1, 32) = .066, \ p = .80, \ \eta^2 = .002$; Rushing $F(1, 32) = .103, \ p = .75, \ \eta^2 = .003$; and Passing $F(1, 32) = .072, \ p = .79, \ \eta^2 = .002$. Although no significant effects ($p < .05$) were found for experimental condition and overall performance measures, winners differed from losers on these variables.

As Table 10 illustrates, winning games in both conditions resulted in significantly better performance measures for both games 1 and 2 in Scoring, Game 1: $F(1, 32) = 7.27, \ p = .01, \ \eta^2 = .19$, and Game 2: $F(1, 32) = 12.74, \ p = .001, \ \eta^2 = .29$. There were no significant differences in rushing for Game 1, $F(1, 32) = .126, \ p = .73, \ \eta^2 = .004$. However, Game 2 did result in significant differences between winners and losers across both conditions for rushing yards, $F(1, 32) = 4.33, \ p = .04, \ \eta^2 = .12$. Finally, outcome had a significant effect on passing yards for both games: Game 1, $F(1, 32) = 4.99, \ p = .03, \ \eta^2 = .14$, and Game 2 $F(1, 32) = 5.49, \ p = .03, \ \eta^2 = .15$. 

Table 9

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
<th>Rush</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Talk</td>
<td>14.43</td>
<td>8.76</td>
<td>64.85</td>
</tr>
<tr>
<td>Silent</td>
<td>14.63</td>
<td>7.07</td>
<td>68.43</td>
</tr>
</tbody>
</table>

Contrary to expectations at the inception of the study silent games resulted in very similar levels for scoring ($ES = .03$), rushing ($ES = .05$), and passing ($ES = .05$). In addition, performance scores for each player in silence and talk conditions were correlated. The correlations for scoring, rushing and passing were, .64, .79, and .75, respectively. These correlation magnitudes indicate that within players’ variability in the two conditions were analogous.

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---

Table 9

*Overall Performance Means for Scoring, Rushing and Passing for all Players by Talk or Silence Game*

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
<th>Rush</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td>Talk</td>
<td>14.43</td>
<td>8.76</td>
<td>64.85</td>
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<tr>
<td>Silent</td>
<td>14.63</td>
<td>7.07</td>
<td>68.43</td>
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</tbody>
</table>
Only rushing yards in game 1 failed to result in significant differences between winners and losers, indicating rushing yardage score was not indicative of a player emerging as a winner. However, passing yards appear to feature as a crucial aspect of the overall game. As expected, winning scores were significantly higher for winners than losers across both silent-talk and talk-silent conditions.

**Trash Talk Choices**

It was hypothesized that all players in the study would choose to be permitted to talk in “Game 3”, and all players would choose to enforce their opponent to be silent in “Game 3.” A cross-tabulation between the four outcome combinations for each player and the two possible choices they could make for themselves (talk or silent) was performed, followed by non-parametric Chi-Square ($\chi^2$), Likelihood Ratio (LR), and association index (phi = $\phi$) statistics. Players’ decisions on whether they chose to talk or remain silent in “Game 3” following games 1 and 2 are presented in Figure 18.
Figure 18. Percent of players choices to talk following game outcomes.

Non-parametric statistics $\chi^2 (df = 3; N = 40) = 3.91, p = .27, LR = 4.40, p = .22, \phi = .31$ indicated that regardless of outcome (win/loss) or specific condition (talk-silent or silent-talk) almost all of the players chose to be able to talk in “Game 3.” The only players (14.3%) who chose to be silent in “Game 3” were players who won both games 1 and 2.

Players’ decisions on whether they chose to permit their opponent to talk or remain silent in “Game 3” following games 1 and 2 are presented in Figure 19.
Non-parametric statistics $\chi^2 (df = 3; N = 40) = 1.91, p = .59, LR = 1.90, p = .59, \phi = .21$, indicated a non-significant relationship between players’ choices regarding whether they would allow their opponent to talk or not in “Game 3,” and the various outcome possibilities of the games played. Of players losing both games, 57.1% chose to enforce their opponents to be silent in “Game 3.” 33.3% of players involved in scenarios featuring winning and losing alternate games chose to enforce an opponent to be silent in “Game 3.” Of the players who won both games, 35.7% chose to enforce an opponent to be silent.

Players’ decisions on whether they chose to talk or remain silent in “Game 3” following game (1 and 2) outcomes by experimental condition are presented in Figure 20.

The non-parametric statistics, $\chi^2 (df = 7; N = 40) = 4.04, p = .78, LR = 4.45, p = .73, \phi = .32$ revealed non-significant relationships between experimental condition, outcome (win/loss) of games 1 and 2, and player choices regarding their decision to talk or not in “Game 3.” The two players who chose to remain silent in “Game 3” were victorious in both games played in the study. The remaining 38 players chose to be able to talk in “Game 3,” which resulted in non-significant findings.

Figure 20. Percent of players choices to talk following game outcomes by condition. *S-T = Silent-Talk Condition; T-S = Talk-Silent Condition
Players’ decisions on whether they chose to permit their opponent to talk or remain silent in “Game 3” following games 1 and 2 by experimental condition are presented in Figure 21.

![Opponent Choice](image)

**Figure 21.** Percent of players’ choices to permit opponents to talk or remain silent following game outcomes by experimental condition.  
*S-T = Silent-Talk Condition; T-S = Talk-Silent Condition

Non-parametric statistics; \( \chi^2 (df = 7; N = 40) = 11.01, p = .14, LR = 13.33, p = .06, \phi = .53 \) resulted in non-significant interactions related to players’ choices made for their opponents regarding whether they should be permitted to talk or be silent in “Game 3” following game outcomes and by experimental condition. However, there is a trend towards significance in comparison to the self-choices by game outcome and experimental condition, particularly the Likelihood Ratio \( (p = .06) \).

When players made choices for opponents’ capability to trash talk or not, there were distinctly more silent choices made for both experimental conditions and combinations of win-loss when compared to the self-choices. The only scenario in which 100% of players chose for their opponent to be silent was the talk-silent condition; the first game resulting in a loss, but the second game (immediately prior to trash talk choices) had been won. In the silent-talk condition, players who lost the first game in which they had to remain silent, but then won the second game in which they and their opponent could talk chose 100% to allow an opponent to be permitted to talk in “Game3.” However, this result was reversed for players in the talk-silent condition who
won the second game in which they remained silent; they chose 100% in favor to enforce silence upon their opponent in “Game 3.” The talk-silent condition also displayed mirror-image results for players who won both games and players who lost both games. Players who lost both games chose 75% of the time to enforce silence on opponents, whereas players winning both games were 75% in favor of allowing opponents to talk. Overall, players in the silent-talk condition were more likely to allow an opponent to talk. The exception to this trend was for players who won both games; in this case the talk-silent players chose to allow an opponent to talk (75%) more than in silent-talk (50%)

*Trash Talk Survey*

The trash talk survey was designed to elicit additional information about players’ attitudes towards trash talking in the context of Madden™ NFL 08. The postulation was that players would perceive the freedom to trash talk as extremely important when playing the game, would identify trash talk as a motivating tool in competitive encounters, and would use trash talk in physical sports environments away from videogaming. The opening question in the survey asked players to rate how important it was for them to have the freedom to trash talk during Madden™ NFL 08 games using a Likert-type response format ranging from 1 (*not at all*) to 6 (*extremely*). Players responded overwhelmingly in support of the importance of trash talk freedom ($M = 5.55$, $SD = .63$). Players also supported (on the same Likert-type scale) the notion of trash talk as a motivating tool ($M = 5.27$, $SD = .68$). Of the 40 players included in the study, 95% confirmed that they used trash talk in physical sports environments away from videogames. The final element of the trash talk survey was a forced-choice question rating whether players believed their enforced silence in the Madden™ NFL 08 games helped, hindered, or had no effect on their opponent. Figure 22 shows players responses by outcome (game 1 and 2) and experimental condition.
Figure 22. Percent of players responses to perceptions of forced silence whilst playing Madden™ NFL 08.  
* S-T = Silent-Talk Condition; T-S = Talk-Silent Condition  

The non-parametric statistics, $\chi^2 (df = 14; N = 40) = 18.60, p = .18, LR = 21.52, p = .09, \phi = .68$, indicated no significant relationships between outcome (win/loss), experimental condition, and players perceptions of their enforced silence when playing Madden™ NFL 08. The assumption was that players would perceive enforced silence as a considerable disadvantage when competing in games, and thus an advantage to their opponent (‘Helped’). Relatively few players believed their silence actually hindered their opponent, the strongest (33.3%) category being players who had won both games in the silent-talk condition. Of the three categories which featured hindrance as the response, two featured winners in the silent games played. Players who claimed their enforced silence had no effect on their opponent were victorious in the silent games in four of five categories. Two categories (combinations of win/loss and talk/silence) represented 100% of players asserting that enforced silence had helped their opponent; in both cases players had lost the game in which they were instructed to remain silent.  

Qualitative Analysis  
During each ‘talk’ game of Madden™ NFL 08 across both conditions all verbalizations were transcribed and coded. Coding focused on the frequency of the talk, and the type of trash talk used. There were three coding categories used: (i) primer script
(S), (ii) other trash talk (O), and (iii) not trash talk (NO). Representative responses for each code are shown in Table 11.

Table 11
Trash Talk Codes and Representative Responses across Experimental Conditions

<table>
<thead>
<tr>
<th>Code</th>
<th>Representative Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash Talk Primer Script</td>
<td>“That’s it right there, just perfect, look at that throw, top plays Sportscenter” “Oh! Interception! That’s game, right there!” “Yes, 7-0 here we go, to a W”</td>
</tr>
<tr>
<td>Other Trash Talk</td>
<td>“Are these teams set on the same level??” “We could play all night and I wouldn’t complete a pass” “I’d say you were just lucky I stopped playing for a second”</td>
</tr>
<tr>
<td>Not Trash Talk</td>
<td>“Yes” “No” “Again”</td>
</tr>
</tbody>
</table>

Trash talk used in the games was driven from (i) the trash talk primer script being used in the study, (ii) was another form of trash talk (which was in line with the definition outlined previously in the context of this specific study), or (iii) verbalizations which were coded as not constituting trash talk at all. Table 12 shows the coding frequencies for the silent-talk condition, in which players were permitted to talk in the second game played.
Table 12
Trash Talk Coding Frequencies for Silent-Talk Condition (Talk Game)

<table>
<thead>
<tr>
<th>Player Pair</th>
<th>Game Score</th>
<th>Winner S</th>
<th>Winner O</th>
<th>Winner NO</th>
<th>Winner Total Trash Talk</th>
<th>Loser S</th>
<th>Loser O</th>
<th>Loser NO</th>
<th>Loser Total Trash Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17-7</td>
<td>20</td>
<td>4</td>
<td>4</td>
<td>24</td>
<td>10</td>
<td>8</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>28-7</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>33-24</td>
<td>25</td>
<td>18</td>
<td>14</td>
<td>43</td>
<td>16</td>
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<td>8</td>
<td>10</td>
<td>26</td>
<td>12</td>
<td>7</td>
<td>11</td>
<td>19</td>
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<td>5</td>
<td>21-14</td>
<td>16</td>
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<td>18</td>
<td>11</td>
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<td>14</td>
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<td>5</td>
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<td>22</td>
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<td>6</td>
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<td>19</td>
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<td>27</td>
<td>7</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>10</td>
<td>10-0</td>
<td>14</td>
<td>3</td>
<td>4</td>
<td>17</td>
<td>4</td>
<td>9</td>
<td>6</td>
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<tr>
<td>Totals</td>
<td></td>
<td>151</td>
<td>54</td>
<td>88</td>
<td>205</td>
<td>117</td>
<td>68</td>
<td>129</td>
<td>185</td>
</tr>
</tbody>
</table>

*S = Trash Talk Primer Script, O = Other Trash Talk, NO = Not Trash Talk

Winners in the silent-talk (talk game) condition used more trash talk overall than losers, noticeably more (29%) in the Trash Talk Primer Script. Losers had significantly more (46.5%) verbalizations coded as Not Trash Talk. Of the 10 games played, 80% of the winners used more total trash talk than the loser. In the silent-talk condition 100% of games featured some verbal reference to game 1 (silent game). Representative quotes included “you saw what I had first game, it’s just more of the same” and “no repeat of the first game son, I can tell you that, it’s my game this time.” Table 13 shows the coding frequencies for the talk-silent condition, in which players were permitted to talk in the first game played, but not in the second.
Table 13
Trash Talk Coding Frequencies for Talk-Silent Condition (Talk Game)

<table>
<thead>
<tr>
<th>Player Pair</th>
<th>Game Score</th>
<th>Winner Total Trash Talk</th>
<th>Loser Total Trash Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>1</td>
<td>28-7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>28-17</td>
<td>9</td>
<td>4</td>
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<td>3</td>
<td>21-7</td>
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<td>21-7</td>
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</tr>
<tr>
<td>10</td>
<td>20-10</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

Totals      | 83  | 42  | 60  | 125 | 59  | 44  | 70  | 103 |

*S = Trash Talk Primer Script, O = Other Trash Talk, NO = Not Trash Talk

Winners in the talk-silent (talk game) condition used more trash talk overall than losers, particularly in the Trash Talk Primer Script (41%). Losers once again exhibited more (16%) verbalizations coded as Not Trash Talk, which mirrored the findings in the silent-talk condition. Of the 10 games played, 70% of the winners used more total trash talk than the loser. Comparing the volume of trash talk across both conditions, silent-talk revealed 58% more coded trash talk when compared to the talk-silent condition.

With winners categorically using more trash talk overall and in individual games than losers it is important to highlight the percentage of talk which surrounded scoring in the games played. Calculated frequencies for trash talk (Trash Talk Primer Script and Other Trash Talk) revealed that scoring incidents motivated 35% of the trash talk in the silent-talk condition, and also 35% in the talk-silent condition. The two themes representing scoring and winning positions were Talk-The-Talk-Walk-The-Walk and Sing
*When You’re Winning.* Representative quotes included “you’ll need 3 touchdowns this time round” and “7-0, can you see the scoreboard?”
CHAPTER 4

DISCUSSION

The purpose of this study was to examine the impact of trash talk use on self-efficacy, affect, and performance in a competitive setting. To the author’s knowledge, this is the first experimental study, to isolate the phenomenon of trash talk as the pivotal component under investigation. Although anecdotal evidence is abundant on trash talk in sport, the scientific rigor necessary to establish a solid conceptual framework for the topic is conspicuously absent. Previous research in sport sciences has revealed a myriad of verbal interactions (e.g., aggressive, norm-breaking) in the competitive sport environment, featuring aspects of what could be classified under the rubric of trash talk (Guilbert, 2006; Hanegby & Tenenbaum, 2001; Kavussanu et al., 2006; Long et al., 2006; Maxwell & Moores, 2007). However, none of these studies have exclusively focused on the trash talk phenomenon. Rather, research has scrutinized more general areas of interest, such as moral reasoning and anti-social behavior, which include facets of trash talk behavior.

In an attempt to replicate as closely as possible the competitive nature of a sports environment, the nationally acclaimed Madden™ NFL 08 Football computer game (which has inspired a reality television show “Madden Nation”) was chosen as the mode of competition for the study (Chalifoux, 2006). The format of the game allows players to interact face-to-face and play-by-play in a design, which simulates a game of American Football, and all the associated highs and lows of that emotive sport-specific context. An imperative feature of the study was a configuration which stimulated direct competition in an action-based scenario facilitating a myriad of ‘talking points’ between competitors. The study was devised to research whether the ability to utilize trash talk impacts self-confessed trash talk users’ emotional state/mood and their belief in their ability to organize and execute courses of action in the context of Madden™ NFL 08 Football. The first section of the discussion is structured in line with the three distinct phases of the study adhered to in both the method and results sections.
Phase 1. Initial Impact of Experimental Condition

Phase 2. Impact after Game 1, and after Instructions for Game 2

Phase 3. Impact after Game 2, after trash talk choices were made prior to “Game 3”

PHASE 1: Immediate Impact of Trash Talk Instructions

All players in the study were screened prior to the experimental portion of the study to ensure they used trash talk always or almost always when they competed in games of Madden™ NFL 08. This was an important prerequisite for participation in the study, and led to the first important finding. Immediately after players were informed whether they would be permitted to talk or were to remain silent in the first game of competition they were asked to provide measures of self-efficacy, positive affect (PA) and negative affect (NA). There was an impact of the specific condition (Silent-Talk/Talk-Silent) to which players were assigned which was evident from players’ scores across all the variables of interest.

Prior to the players knowing anything about each other’s ability levels, playing style, or even trash talking capabilities, the players in the silent-talk condition exhibited lower self-efficacy scores, lower PA and higher NA. Self efficacy judgments can be specifically related to what one thinks one can do, not what one has actually accomplished (Bandura, 1997), and self-confessed trash talkers who lost the ability to talk in the first game were markedly affected before any game-play had even transpired. Bandura (1997) argues that the incapacity to influence (i.e., random assignment in this study) events and social conditions (or in this case, experimental conditions) can lead to feelings of despondency and increased anxiety. At this initial stage of the experiment it was apparent that all three variables being measured had been impacted by the inability to talk in the upcoming game for the silent-talk condition. Previous research has established that individuals can alter their emotional states through strong efficacy beliefs. However, this is most predominant when people feel they have some form of control (Bandura, 1992). The random assignment to conditions denied players the ability to control their trash talking behaviors. This scenario produced abrupt results for players who ostensibly came to play Madden™ NFL 08 primed to exercise their expansive trash talking prowess.
PHASE 2: Reaction to Game 1 and Instructions for Game 2

Personal accomplishments are the most important source of efficacy information because they are firmly grounded in an individual’s own mastery experiences (Bandura, 1997). This cognitive processing of mastery experiences began immediately after game 1 in the current study. Game 1, regardless of condition, produced a winner and a loser, and the subsequent re-assessment of efficacy beliefs followed immediately. For the winners in game 1 the efficacy scores remained relatively consistent, because no mastery experience (win/loss) had contradicted initial self-efficacy beliefs. However, the order of games had a negative impact for winners in the talk-silent condition. After previously winning a game with the utilization of trash talking abilities, players reacted negatively to instructions to remain silent in game 2. Presumably players who had been formerly successful through utilizing trash talk felt their superiority was threatened when their trash talking capabilities were expunged.

All the losers in game 1 reported decreased efficacy scores immediately following their loss. However, players in the silent-talk condition showed a significant increase in efficacy upon learning they would be permitted to talk in game 2. For self-efficacy beliefs to be prominent a certain level of autonomy of performance appears to be necessary (Bandura, 1997). Players who lost in the first game could assuage the impact of this loss on their efficacy beliefs by rationalizing that they would be permitted to talk in game 2. It is also reasonable to assume that at least some of the losers in game 1 were searching for some rationale for their loss. The fact (and perhaps the excuse) that they could not use trash talk provided the self-serving bias answer, which they utilized to rebuild faltering efficacy strength (Miller & Ross, 1975).

Affect, both PA and NA showed dissimilar patterns to self-efficacy across the first three measures. As expected, PA was initially higher for measure 1 in the talk-silent condition, but decreased slightly in this condition for winners following game 1 – but significantly more for losers. It is conceivable that some of these PA scores were impacted by winners who won their first game relatively easily and were bored, or had a negative trash talk experience in the first game which decreased overall PA. Hanin (2007) has discussed the importance of evaluating situations from a stand point, which acknowledges how a specific situation (Game 1) is experienced by an individual (meta-
Therefore, although winners in game 1 were expected to report higher PA, their experience in game 1 could have impacted their post-game scores. This might also occur in winners of game 1 having used cruel or abusive trash talk, and subsequently feeling guilty about such behavior resulting in reduced PA scores.

Losers in the talk-silent condition showed a consistent downward trend in PA immediately following game 1, and prior to game 2 in which they were to remain silent. Lazarus (2000) argued that distinctive content and intensity of emotions can dramatically increase their potency. For losers the decrease in PA was dramatic, and could be related to distinctive content and intensity of the emotions they experienced across measures 1 to 3. For losers in the talk-silent condition there were the synergistic effects of (i) losing a game, (ii) being instructed to remain silent in game 2. Winners in the silent-talk condition exhibited a gradual increase in PA across the three measures as expected. Losers showed a slight decline after losing game 1 but a marked increase after being instructed to talk in game 2. The opportunity to get revenge in game 2, with the added bonus of being able to use trash talk could have operated as a mediator to prevent dramatic decreases in PA.

There was an increase in NA for both winners and losers after game 1, but it was more pronounced for losers. Players in both conditions and losers demonstrated a meaningful increase in NA after game 1. Both conditions also showed a decline in NA after instructions were given for game 2. However, winners maintained a similar NA score, with only a marginal increase before game 2. This combination of results highlights the propensity of individuals to evaluate what their meta-experience was during both successful and unsuccessful performances (Hanin, 2004). Meta-experiences reflect athlete’s feelings about their past, present, or anticipated emotional experiences. Players in the study develop emotional experience as they progress through the measures taken and the games which were played. The perceived impact of these emotional experiences on performance and general well-being could influence the NA and PA of players as their meta-experience is molded during participation in the study (Hanin, 2004).

Across all variables assessed in this study, the hypotheses reflecting simplistic predictable reactions from players in terms of emotion and affect as a function of experimental condition or outcome proved incorrect. The hypotheses stated that positive
and negative affect scores would follow predictable patterns (positive affect increasing for winners and players imminently playing a talk game; negative affect increasing for losers and players imminently playing a silence game), which would be accentuated for individual players who combined both losing and an upcoming silent game, or winning and an upcoming talk game. Self-efficacy was more consistent and conventional across all three measures for winners and losers, and by condition. The measure of self-efficacy focused players on the execution of specific skills in a specific context (Bandura, 1997). Task self-efficacy involves the individual assessing certain explicit capabilities (Maddux, 1995).

However, unlike these defined objective measures for self-efficacy, and the completion of a task, emotions can remain unpredictable even when the outcomes or conditions are seemingly optimal (Boutcher, 1993; Robazza, Bortoli, & Nougier, 1998). The action-oriented mode of influence purports that efficacy beliefs regulate emotional states through encouraging effectual courses of action to change a situation (Bandura, 1992). If this had occurred in the current study, as self-efficacy scores increased due to winning and specific conditions being participated in, both negative and positive affect scores would reflect exactly the same patterns (increases for PA, inversely decreases for NA) as self-efficacy. This would have resulted in all players exhibiting increased PA (decreased NA) after winning game 1 regardless of condition, and increasing PA for all players in a silent-talk condition but more by winners, and increasing NA for all players in a talk-silent condition, but more for losers. However, players in the talk-silent condition who won the first game reported reduced positive affect immediately following the game, and players in the talk-silent condition did not report increased negative affect scores as suspected before game 2 was played, in fact negative affect decreased. These are two examples which highlight the idiosyncratic nature of emotional responses across a multitude of individuals (Hanin, 2000).

**PHASE 3: Game 2 Reaction & Trash Talk Choices**

The final two measures in the study were administered after game 2 had been played (measure 4), and then immediately after players had made their choices regarding trash talk use (for themselves and their opponent) before the bogus “Game 3” (measure 5). Self-efficacy measures revealed results consistent with the hypotheses for this study.
There was a sharp increase in self-efficacy scores after game 2 and immediately prior to “Game 3” after trash talk choices had been made. Self-efficacy increased both by silent-talk and talk-silent conditions and by outcome (win/loss) after game 2. Although players who lost the second game (some of whom also lost game 1) decreased significantly after game 2 following the loss – their self-efficacy beliefs were significantly bolstered after making their choices before “Game 3.”

As previously argued, personal autonomy is a crucial aspect of self-efficacy beliefs (Bandura, 1997), and individuals must think confidently in order to enhance their chances to perform optimally (Duda & Treasure, 2001). The choices which players made before “Game 3” regained a level of autonomy over their performance situation, which resulted in increased self-efficacy scores for all combinations of outcome (win/loss) and conditions. All players were in control of at least one feature of their performance environment for “Game 3,” and this was reflected in self-efficacy scores overall. The interesting question was whether this spike in self-efficacy would be replicated in the measures of affect. Previous research has postulated that high self-efficacy expectations can be accompanied by higher intrinsic motivation and increased positive affect (Feltz & Lirgg, 2001; McAuley & Mihalko, 1998).

Considerable differences in PA measures taken after instructions were given for game 2 were reduced noticeably after game 2. Both silent-talk and talk-silent resulted in a significant increase in PA after trash talk choices were made before “Game 3.” This was mirrored for winners and losers who both reported elevated PA scores after their trash talk choices had been made for “Game 3.” An interesting observation showed how winners PA fell sharply after winning game 2. One possible explanation for this was an element of boredom, perhaps due to a substandard opponent who did not provide a challenging level of competition. There was a level of synergy between these PA scores and the NA scores for winners, which compounded this change in mood showing an increase in NA after the trash talk choices had been made.

Losers in the study maintained relatively stable scores for all variables (positive affect, negative affect, and self-efficacy) throughout, exhibiting the only noticeably acute fluctuations immediately after losing game 2. However, after the choices were made before “Game 3” losers showed discernible increases in self-efficacy and positive affect.
scores, and a significant reduction in negative affect. The relative robustness of losers scores could be a paradoxical effect – in that they remain invested in games due to the opportunity to get revenge, or perhaps even when losing, their performance had instilled a sense of achievement and by their own parameters had been ‘successful.’ This would concur with Hanin’s (2007) assertion that the most significant emotions are invariably personal relevant, regardless of tangible outcomes.

Performance Measures

The hypotheses in this study stated that performance would be improved for all facets of the Madden™ NFL 08 game (Scoring, Rushing, and Passing) as a function of the capability to trash talk an opponent. The expectation was significantly higher totals for all performance measures for the games featuring trash talk. However, the study disproved this rationale, revealing that silent games were equally productive across all performance measures used. For players to score points and gain yards in the Madden™ NFL 08 game a player is required to operate a relatively complicated game controller and execute numerous complicated plays, whilst defending an opponent who is trying to do the same thing. In the talk games, players are not simply playing the game – they are talking and interacting evoking a variety of emotions and feelings.

Perhaps performance measures would be enhanced for the specific talk games if players could effectively trash talk their opponent without using limited necessary resources required for successful execution of the game. The resource-matching hypothesis states that even the most routine task (playing a game of Madden™ NFL 08) can become more complex if specific resources are unavailable, or an individual cannot draw on them proficiently (Hanin & Stambulova, 2004; Ruiz & Hanin, 2004). The hypothesis relates to optimal emotional content and intensity, and the possibility that depending on the specific situation and task being performed, wide variations can exist in the performance outcomes of specific individuals. It seems reasonable to suggest that individuals’ available and primed resources are not identical each and every time they engage in an activity or competitive situation. Perhaps in specific competitive situations when resources are unavailable, it would be prudent for some players to simply play the game, rather than expending resources on trash talking behaviors.

Self-confessed trash talkers continue to use trash talk even though performance
results prove there is no tangible improvement in measures across all facets of Madden NFL 08 when talking is permitted in competitive games. This discrepancy can be attributed, to some extent, to the self-serving bias phenomenon (Miller & Ross, 1975). Self-serving bias occurs when people are more likely to claim responsibility for successes than failures. It may also manifest itself as a tendency for people to evaluate ambiguous information in a way beneficial to their interests. Due to self-serving bias, athletes may have been prone to perceive their use of trash talk as effective, while denying any substantial impact on their cognitive and affective states when experiencing trash talk.

The only non-significant performance measure across silent-talk and talk-silent was rushing yards for game 1 for winners and losers. This reflects a common scenario in sports, in which a team can be dominant within a game, but fail to convert this dominance or pressure into actual points, or scores. The scenario in game 1 shows winners did not outperform losers significantly in rushing yards, but still emerged victorious. It appears that a good passing yards performance can offset a mediocre rushing yards performance, perhaps because the rewards for a long pass are often exponentially higher (i.e., a touchdown pass). As with actual sports arenas, it is necessary to perform well in many areas of competition if a winning outcome is sought, but the final execution and killer thrust is often what separates the winners from the losers.

*Trash Talk Choices*

The assumption in this study was that all players would choose to be able to talk in “Game 3,” and would also enforce silence on their opponent in order to gain a tangible advantage. However, results elucidated trash talk choices (made personally and related to opponents) were frequently dependent on the outcome of the two games played and the specific condition experienced by each individual player, though this observation is not conclusive. The overwhelming majority of the study chose to be able to talk in “Game 3” with the exception of two players. These players won both their games by considerable margins, and perhaps felt embarrassed, or awkward, with any talk at all due to the convincing manner in which they were beating their opponent. However, without directly asking the two players, their rationale for choosing to play in silence remains speculative.

The unforeseen scenario which developed across both conditions was discovered when players made the choice of whether to allow their opponent to talk or to remain
silent in “Game 3.” Contrary to the assumptions made in this study numerous players chose to allow their opponent to be able to talk in “Game 3.” Although several players did choose to enforce silence on their opponent as expected, the initial hypothesis was disproved. The most common scenarios in which players chose to make an opponent be silent in “Game 3” were when they had won in the silent game played, or they had lost both games. It seems plausible to assume that players in the desperate position of having lost both games would be highly motivated to change this outcome in the ‘third game’ by any means necessary. The enforced silence upon their opponent was conceivably their last desperate attempt to gain some semblance of an advantage and finally win a game!

**Trash Talk Survey**

The importance of trash talking to Madden™ NFL 08 game players was patently obvious when observing their responses to a Likert-type response format ranging from 1 (*not at all*) to 6 (*extremely*). Independent of condition, or game outcomes, players rated the freedom to be able to trash talk when playing Madden™ NFL 08 as critical, and this was augmented by players’ contention that trash talk was a motivational tool which drives them to continue to play hard when engaged in competition. It was also interesting to note that 95% of the players in the study admitted to using trash talk behaviors away from video games in physical sports environments. The responses in the survey reveal the strong attitudes related to trash talk behavior. Even though many of the players in the study were beaten by far superior players, they still believed that trash talk behavior was an important aspect of the competition, and probably returned home to play a friend with their best trash talking boots on ready to rock and roll.

The final part of the survey was a forced-choice question dedicated to the players’ perceptions of whether they believed their enforced silence in the silent game had helped, hindered or had no effect on their opponent. The majority of players felt that their enforced silence had *helped* their opponent. This was not specific to winning or losing conditions, which again raises the questions about players’ perceptions of trash talk use regardless of outcomes. Several players who won the silent game in their condition still believed their enforced silence had helped their opponent. These players could have felt they could have beaten their opponent by more, or potentially even won with more style had they been given the opportunity to talk. There were three categories which featured
100% of players responding one way or another. Players who lost the silent game in a win/lose scenario (winning one game and losing the other) responded trash talk had helped their opponent, and players who had won their silent game answered their enforced silence had no effect on their opponent. Once again the assumption of the study was refuted in that there was a wide array of answers from the players across both conditions, and not all believed that their enforced silence had helped an opponent.

**Qualitative Insight**

The qualitative portion of this study exposed a fascinating aspect to the experimental design, which had not previously been considered. The order of the games, talk-silent or silent-talk significantly impacted the amount of trash talk used in the ‘talk’ games, with silent-talk having considerably more (58%) more coded trash talk than talk-silent. There appears to be two reasons for this finding. The first reason is that players could reference the first game played in the silent-talk condition, when they began the second game, and in 100% of the games there was some verbal reference to game 1. The second reason is somewhat linked to the first in that the talk-silent condition put two strangers together and expected them to begin freely trash talking each other.

Although players were aware that they were participating in an experiment they could not be sure that the individual they were playing was psychologically sound, and might not turn around and punch them if they used controversial trash talk. The silent-talk condition at least allowed the players to become somewhat familiar with each other during a game of Madden™ NFL 08 before they were given the opportunity to trash talk this individual. Research by Berger and Calabrese (1975) outlined the ‘Uncertainty Reduction Theory,’ which sought to predict and explain relational development (or lack thereof) between strangers. The theory focused on the initial entry stage of interpersonal interaction, and argues there are several stages which operate when strangers initially meet. This study did introduce players to each other, but could have benefitted from having a warm up game or some form of ice-breaker to negotiate what Berger and Calabrese label the *entry stage* of relational development. Coding frequencies clearly show that when the initial game was a talk based game players were far less likely to engage in copious amounts of trash talk.

It is also interesting to note that losers used significantly more verbalizations
coded as Not Trash Talk in both conditions. The reason was simply the responses were often single word expletives, or lamenting another score conceded rather than proactively trash talking an opponent. The results also detail the importance of scoring in the games and for volume of trash talk used. Not only is scoring a catalyst to be able to talk trash, but the trash talking can continue for several minutes after the scoring incident has taken place. For instance, one particular player after scoring a touchdown waited several minutes until bringing up his touchdown once again and telling his opponent he was only here to make the experiment work, “you’re like a lab rat, that’s all you are!”

Overview

This study attempted to isolate trash talk as the central component in an experimental design assessing its potential impact in a competitive setting. Results confirmed that the ability and freedom to be able to trash talk in a competitive setting is considered extremely important by Madden™ NFL 08 video-game players. Players were adamant that trash talking was a motivational tool which they used when competing in the game, and almost all (95%) players admitted to using trash talk in physical sports environments outside the milieu of computer-gaming.

Self-efficacy, affect (both positive and negative), and performance were affected to some degree by trash talk manipulations, but not necessarily as expected at the initiation of this study. The freedom to trash talk impacted players’ beliefs in their ability to execute certain courses of action and their positive and negative affect scores. However, the nuances involved in the specific scenario experienced (i.e., meta-experience) by an individual player mediated some of the impact of the ability to be able to trash talk or not in the games played. Winners and losers reacted differently, and sometimes unexpectedly (winners with reduced positive affect); players in silent-talk and talk-silent conditions behaved in contradictory manners, some players were radically affected through the loss of trash talking ability, whilst others were seemingly unperturbed. These various differences were reflected in their responses to the study’s variables of interest.

In summation, this study has contributed to the development of a more comprehensive contextual foundation through which future researchers can expectantly cultivate innovative ideas and research. The results overall prove that trash talk (or lack
thereof) has the potential to conspicuously impact individuals’ attitudes, beliefs, and mood in a competitive setting. The unexpected findings are viewed as a serendipitous platform from which an entirely new catalog of questions has emerged and begin to resonate even before this study is completed. The opportunities to move forward with trash talk as an area of research potential seem boundless, the challenge appears to be isolating the specific area which is of most interest, and to that question only the reader has the answer.

Limitations

This study used a homogenous sample of self-confessed trash talkers. The trash talkers were also specific to one environment, the Madden™ NFL 08 Football game. A more comprehensive study should incorporate non-trash talkers to provide a more holistic picture of the impact of trash talk, if any.

This study is grounded in the research and theories of sport psychology. However, the vehicle used for this study, although heavily based in sports culture and replicating a sporting encounter, was ultimately a computer based game. The study has some ecological validity for the Madden™ NFL 08 players in the context of this specific game, but should be viewed with caution when generalizing to the athletic domain.

Future Directions

This study has served as an intriguing venture into the world of trash talking – but it has served to raise more questions than it has answered. However, these questions and the multitude of ideas which are developing with every new perspective on the potential of trash talk behavior is an exhilarating opportunity for the sport psychology field. The major challenge for future research is to devise an experimental design, which can isolate trash talk interactions and their potential effects in a sport-specific context without compromising the ecological validity of the sports milieu being investigated. As technology becomes ever more sophisticated, it is conceivable that recording ‘real-time’ trash talk interactions will be a scientific reality in the near future. Although players in professional sports have previously been audio-recorded for entertainment purposes’ (i.e., ESPN), the sports science community has yet to investigate trash talk interactions utilizing such cutting edge resources.

To gain an understanding of trash talk behavior at the most elite levels would be
invaluable insight into a topic which is currently under the radar from a research perspective. Anecdotal evidence has shown that much of the trash talking, which is done on a professional level, is often very subtle, and frequently clandestine, especially to the media and potentially to researchers as well. What is even less rarely acknowledged is the impact trash talking has had on the recipients of such behavior. Often we are oblivious to the impact of trash talking until after an event has taken place. In Beijing this summer arguably the most successful Olympian of all time Michael Phelps said nothing about trash talking. He certainly never mentioned Alain Bernard the French swimming star who said he was going to ‘smash’ the Americans in China (Crouse, 2008). However, when Phelps finished his final event, and gave his first interview to NBC Sports, he directly referenced the trash talk from the French and stated "trash talking is extra fuel, it makes you want to prove someone wrong, show them you can do it" (Phelps, 2008). If trash talk has the potential to motivate one of the most phenomenal athletes of all time, it surely is worth pursuing as a topic of research in sport psychology.

This study also revealed an unexpected outcome in the experimental conditions. When players were forced to be silent, they found a myriad of creative ways to express themselves through body language as opposed to speaking, especially when scoring points in the game. Previous research in sport has argued that body language can be manifested and have a significant impact in the sports arena (Guilbert, 2006; Hanegby & Tenenbaum, 2001). Players in this study displayed a wide variety of behaviors, including standing up and staring at an opponent, nodding in an exaggerated manner, tapping someone on the shoulder after scoring, and putting the controller down to show your work is done. It would be interesting to isolate the games in which talking is prohibited, or players can be disciplined, and how trash talking or lack thereof impacts performance and behaviors.

It is also intriguing to understand the particulars of trash talk as it relates to specific sporting environments. It seems unlikely that trash talking in American Football and Basketball would be akin to trash talking in Badminton, and not merely because of proximity and opportunity, but culturally as well. In this study the “Madden Nation” has endorsed a culture which celebrates trash talking behaviors. It is conceivable that some aspects of competitive gaming or sport do not encourage or tolerate trash talking. For
instance chess would in all likelihood frown upon trash talk, although even chess had
Bobby Fischer! Perhaps if we delve deep and look closely enough under the skin of any
of today’s sports and gaming milieus, we’ll find someone, somewhere, who just cannot
resist a little taste of trash.
APPENDIX A: TRASH TALK SCREENER & DEMOGRAPHIC INFORMATION
Trash Talk: Screener & Demographic Information

Age:

Ethnicity:

Madden™ NFL Football Game Playing Experience (Years):

Please answer the following questions in the context of Madden™ NFL 08.

Q.1 How often do you use trash talk when playing Madden™ NFL 08?

☐ Never
☐ Hardly ever
☐ Sometimes
☐ Almost always
☐ Always

Q.2 Do you believe trash talk is an acceptable part of playing Madden™ NFL 08?

☐ Yes
☐ No
APPENDIX B: SILENT GAME INSTRUCTIONS
Silent Game Instructions

In following game of Madden™ NFL 08 you are about to play you will NOT be permitted to TRASH TALK at all. Under no circumstances must you TALK during the entire course of the game. There are NO EXCEPTIONS to this rule. Regardless of what your opponent may or may not say whilst the game is being played you must remain completely SILENT. If you break this rule, you will forfeit the following game and you will be withdrawn from the raffle to win the Madden™ NFL 09 game. There are no exceptions to this rule.

PLEASE REMEMBER:

- REMAIN SILENT THROUGHOUT THE ENTIRE GAME
- THERE ARE NO EXCEPTIONS TO THIS RULE
APPENDIX C: TALK GAME INSTRUCTIONS
Trash Talk Game

In following game of Madden™ NFL 08 you are about to play you **WILL BE** permitted to TRASH TALK if you choose to do so. There are no restrictions on volume of talking, type of talking, or quantity of talking. You have complete freedom of speech in the impending game.
# Trash Talk Primer Script

<table>
<thead>
<tr>
<th>Trash Talk Theme</th>
<th>Representative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talk the Talk-Walk the Walk</td>
<td>• “I’ve got a pretty good feeling about this game”</td>
</tr>
<tr>
<td></td>
<td>• “Really going to be tough to beat me today I think”</td>
</tr>
<tr>
<td></td>
<td>• “Actually, I don’t think I’ve lost a game of Madden this year”</td>
</tr>
<tr>
<td></td>
<td>• ‘I’ll be honest, you have no chance.”</td>
</tr>
<tr>
<td></td>
<td>• “I’ll let you pick, you want me to run it in or throw?”</td>
</tr>
<tr>
<td></td>
<td>• “I honestly amaze myself sometimes”</td>
</tr>
<tr>
<td></td>
<td>• “I honestly don’t think I’m giving up a touchdown today”</td>
</tr>
<tr>
<td>Sing When You’re Winning</td>
<td>• “More points for me! What is the score?”</td>
</tr>
<tr>
<td></td>
<td>• “Yes Yes Yes – I’m making this look easy right?”</td>
</tr>
<tr>
<td></td>
<td>• “Not much time for a comeback now”</td>
</tr>
<tr>
<td></td>
<td>• “I deserve to be winning though right?”</td>
</tr>
<tr>
<td>Distraction</td>
<td>• “Watch the safety. He’s coming!”</td>
</tr>
<tr>
<td></td>
<td>• “Are your hands slipping on the controller?”</td>
</tr>
<tr>
<td></td>
<td>• “Can you see the screen properly from where you are sitting?”</td>
</tr>
<tr>
<td></td>
<td>• “Am I going to blitz? Be ready for it!”</td>
</tr>
<tr>
<td></td>
<td>• “Looks like I’ll be going deep this time?”</td>
</tr>
<tr>
<td>Incisive</td>
<td>• “You might want to try running the ball”</td>
</tr>
<tr>
<td></td>
<td>• “I’d try a different formation if I were you”</td>
</tr>
<tr>
<td></td>
<td>• “You might want to try throwing the ball”</td>
</tr>
<tr>
<td></td>
<td>• “I know this defensive scheme you’re running here, and how to beat it”</td>
</tr>
<tr>
<td>Fun</td>
<td>• “That was pretty”</td>
</tr>
<tr>
<td></td>
<td>• “How good are my players?”</td>
</tr>
<tr>
<td></td>
<td>• “Can you say…dynasty!? ”</td>
</tr>
<tr>
<td></td>
<td>• “I’m like the Michael Jordan of Madden!”</td>
</tr>
</tbody>
</table>
APPENDIX E: MADDEN™ NFL 08 SELF-EFFICACY SCALE
Madden™ NFL 08 Self-Efficacy Scale

A variety of Madden™ NFL 08 skills are described here. On the items below, please rate your confidence that you can execute these game-playing skills successfully. PLEASE REMEMBER THE GAME YOU ARE ABOUT TO PLAY IS PROGRAMMED AT 3 MINUTE QUARTERS. Please rate your degree of confidence by recording in each of the blank spaces a number from 0 to 100 using the scale below.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

|   | 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|----|----|----|----|----|----|----|----|----|----|     |
|   | Cannot do at all | Moderately certain can do | Highly certain can do |

(0-100)

1. Pass for 200 yards or more  
2. Run the ball for 100 yards or more  
3. Score 4 or more touchdowns  
4. Sack the opposing quarterback 3 or more times  
5. Force 2 or more turnovers  
6. Hold your opponent to less than 100 yards rushing  
7. Hold your opponent to less than 200 yards passing  
8. Average 25 yards or more per kick-off return  
9. Hold your opponent to less than 25 yards per kick-off return  
10. Perform all the skills necessary to win the game
**PANAS SCALE**

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you feel this way at the present moment.

Use the following scale to record your answers.

(1) = Very slightly or not at all  (2) = A little  (3) = Moderately  (4) = Quite a bit  (5) = Extremely

<table>
<thead>
<tr>
<th></th>
<th>Very slightly or not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Interested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>Distressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Excited</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>Strong</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>Guilty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>Scared</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>Hostile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>Enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>Proud</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>Irritable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>Alert</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>Inspired</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>Determined</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>Attentive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Active</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>Afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX G: TRASH TALK SURVEY
Trash Talk Survey

Q.1 Do you think the freedom to be able to trash talk during games of Madden™ NFL 08 is important?

Not at all  A little  Moderately  Quite a bit  Very much  Extremely
1..........................2..........................3..........................4..........................5..........................6

Q.2 Is trash talk a significant factor in helping motivate you to continue to play hard during a competitive encounter?

Not at all  A little  Moderately  Quite a bit  Very much  Extremely
1..........................2..........................3..........................4..........................5..........................6

Q.3 Do you think your enforced silence helped, hindered, or had no effect on your opponent?

☑ Helped
☑ Hindered
☑ No Effect

Q.4 Do you use trash talk when engaging in physical sports environments away from video games?

☑ Yes
☑ No
APPENDIX H: PERFORMANCE MEASURES GAMES 1 & 2
## Performance Measures

<table>
<thead>
<tr>
<th>Game 1</th>
<th>Overall Points Score</th>
<th>Total Yards Rushing</th>
<th>Total Yards Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 1</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Player 2</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Game 2</th>
<th>Overall Points Score</th>
<th>Total Yards Rushing</th>
<th>Total Yards Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 1</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Player 2</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>
APPENDIX I: TALK CHOICES – “GAME 3”
Talk Choices – ‘Game 3’

Q.1 In the third and final bonus game you have the choice to be able to trash talk or to remain silent, which do you choose?

☐ Trash Talk
☐ Silent

Q.2 In the third and final game, do you choose to enforce your opponent to be silent, or be allowed to trash talk?

☐ Trash Talk
☐ Silent
Human Subjects Approval Memorandum

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 7/14/2008

To: Oliver Conmy

Address: 4612 Autumn Woods Way
Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
TRASH TALK IN A COMPETITIVE SETTING: IMPACT ON SELF-EFFICACY, AFFECT, AND PERFORMANCE

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 7/10/2009 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Gershon Tenenbaum, Advisor
HSC No. 2008.1482
Informed Consent Form

I freely and voluntarily and without element of force of coercion, consent to be a participant in the research project entitled “Trash Talk in a competitive setting: Impact on self-efficacy, affect and performance.”

This research is being conducted by Ben Conmy, who is a graduate student in the department of Educational Research and Learning Systems at Florida State University, and is majoring in sport psychology. I understand that the purpose of this exploratory study is to better understand the phenomenon of trash talk in a competitive context. I understand that if I participate in the study I will be asked questions concerning my experiences as a trash talk user.

I understand I will be asked to complete a variety of different forms, related to self-efficacy, affectivity and trash talk in sport. I understand that I will be asked to participate in video game play which will be audio recorded whilst playing. The total time commitment will be approximately 1 hour in one sitting. I understand that the information obtained in the course of this study will remain confidential, to the extent allowed by law. I understand that all information obtained in the experiments will be kept in a locked cabinet, of which only the researcher, Ben Conmy, has access.

I understand that my participation is totally voluntary, and I may stop participation at anytime. All answers will be kept confidential and identified by a subject code number. My name will not appear on any of the results, and I understand that if I wish to obtain a copy of the results I will notify the researcher.

I understand that there is very minimal risk involved with this study, which is no more than taking an hour examination for school. I understand I will be providing educational and athletic professionals with valuable insights into the trash talk phenomenon. This knowledge can assist them in providing educational and athletic assistance to better serve athletes.

I understand that this consent may be withdrawn at anytime without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask any questions pertaining to the study and questions, if any, have been answered to my satisfaction.

I understand that I may contact Ben Conmy, Florida State University, Department of Educational Research-Sport Psychology, (850) 222-2265, for answers to questions about this research or my rights, alternatively I may contact Dr. Gershon Tenenbaum, Department of Educational Research-Sport Psychology, (850) 644-8791. The Human Subjects Committee can be contacted, 2010 Levy Ave Bldg B Suite 276, Tallahassee, FL 32310, with any grievances. Results will be sent to me upon request.

I have read and understand this consent form.

_______________________________   _______________
(Subject)      (Date)

REFERENCES


BIOGRPAHICAL SKETCH

Oliver Benjamin Conmy

Born 26th September 1975 ‘Friday’s Child’

‘Ben’ Conmy began his educational journey with an undergraduate degree (2:1) in Manchester, England from UMIST (University of Manchester Institute of Science and Technology). A wonderful institution which was stand alone when Mr. Conmy attended it, but has since merged with Manchester University which is a bit of a shame really, but I’m sure it made ‘business sense.’ The first degree was a Bachelor of Science in ‘International Management with American Business Studies’ or ‘IMABS.’ This was a four year degree involving one full academic year in the United States studying business techniques and procedures. Ben spent this year at the University of Florida, Gainesville, achieving a 3.94GPA for his troubles. This was also the year the Florida Gators won the National Championship with Danny Wuerffel (this will be relevant when factoring in Ben’s Masters and PhD). Whilst at UMIST, Ben won the Shell International Prize for outstanding work in Psychology, for which he gratefully received a cash reward and much kudos from the University. Ben then worked in London for the multinational Unilever – he was wasting their time and his. It was critical to make a real decision, because after all we only go round once on this insane journey – Ben resigned after much deliberation. Ben sat under a tree in London while ‘working from home’ one afternoon in London to decide the course of his future. After several pages of text, quotes, lamentation, a tipple of Irish Whiskey and a rather large slice of soul searching, (thank you Mr. Frankl) Ben landed upon the two key elements of his life – People and Sport.

The initial decision had been made – Ben was to return to University and complete his PhD in Sport Psychology, an exciting, burgeoning, and innovative field. Ben completed his Masters and PhD at Florida State University in Tallahassee (GO SEMINOLES – I was never a Gator in my heart). Ben has presented at several professional conferences on his pioneering work focused on ‘Trash Talk’ in sport (which is what you should have just finished reading!). Thank you for reading this work, and I hope you found a little something in this document which tickled your fancy, and if not, that’s fine too, it’s what makes the world go round, right? Goodbye dear reader, I’m off to work on developing some deeper latent robustism, I’ll keep you posted.