

'Money' Free Throws: Understanding Clutch Performance Under Pressure from
the Free Throw Line

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Abstract

This study attempted to explore the phenomenon of free throw shooting under pressure. The participants in the study were 10, Division III college basketball players who agreed to take part in an interview centered around free throw shooting. The data were gathered from the responses of the players, using a semi-structured interview, developed by the researcher with the suggestions and approval of an expert basketball panel, comprised of sport psychology professors, NBA sport psychologists, basketball coaches, and former players. Four of the interviews were done in person, while the other six were done over the phone.

The interviews were transcribed and coded using a constant comparative method described by Boeije (2002). This entailed a process of open coding, which resulted in 65 codes. Of these 65 codes, 57 codes were assigned into eight categories during a process of axial coding. These categories were as follows; routine, practice, focus, pressure, pressure management skills, confidence, clutch factors, and non-clutch factors. Confidence was technically a sub-category of clutch factors, but was deemed large and separate enough to be its own category. The coding of interviews went through a process of inter-rater reliability via an independent coder. The independent coder and the researcher agreed on over 86% of the coded responses. The disagreements were discussed and a mutual understanding was established.

Players emphasized the importance of a pre-shot routine, especially under high-pressure circumstances. Players discussed the importance of practice in

preparation for high-pressure free throws. Players gave their level of focus on task-relevant and task-irrelevant stimuli when attempting free throws, both under normal circumstances and under pressure circumstances. Players revealed pressure management strategies that they used to aid in the performance of attempting high pressure free throws. Possible links to clutch performance were explored by the researcher.

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CHAPTER 1

INTRODUCTION

The free throw is a unique phenomenon: it is one of the few situations in sports where the process is the same every time, and there is no defense being played. Players approach the free throw line knowing they will attempt an uncontested shot 15 feet away from the basket. They see their teammates and their opponents lined up along the sides of the restricted area of the paint. Players receive the ball from the referee, and have 10 seconds to engage in their pre-shot routine. Players have the advantage of knowing practiced free throws will be virtually the same as in-game free throws, except, of course, for the pressure. Free throws become seemingly more difficult for some due to the perceived pressure of the game situation. This pressure tends to be heightened in the last minutes, and especially seconds, of close games. The pressure of the situation can affect a routine and movement that has been executed thousands of times, potentially leading to a word that makes people of sport cringe: choking. There are, however, athletes who seem to overcome the obstacle of pressure in these instances, and perform admirably. They are labeled as clutch free-throw shooters.

The free throw is particularly interesting to study because it is the only instance in basketball where one player's efforts, independent of the nine other players on the court, can add to the score of the game, and in high-pressure situations, directly impact the outcome of the game. In a high-pressure situation, we often look to see who can deliver. However, if an elite defensive player

guards an elite offensive player in the closing seconds of a close game, and both players perform admirably, they essentially cancel out each other's performance in the clutch. In this situation, the defensive player or offensive player may deliver a great performance, while the other delivers a sub-par performance, or one player may choke, while the other player performs well, and in the end, it can muddy our perception of who actually delivered a great performance when the game was on the line. With the free throw, many of these confounding variables have been removed from the equation, which lends itself nicely to research of sport performance under pressure.

The NBA, on their website NBA.com, defines clutch as any play that occurs when the outcome of the game is "in doubt". "In doubt" means when no team is ahead or behind by more than 5 points, and there are 5 minutes or fewer left in the game. There are other "definitions" of clutch; Bleacher Report defines it as no team being ahead by 5 or more points, but with 2 minutes or fewer left (<http://bleacherreport.com/articles/2384632-the-most-statistically-clutch-nba-player-at-every-position>). My definition of clutch is inside of 90 seconds, or in overtime, with no team ahead or behind by more than 2 points. With less time and a tighter score, the impact of the free throws more directly influences the final outcome of the game, thus increasing the pressure of the situation.

In order to better understand this phenomenon of performance under pressure from the free throw line, I will gather data from the past season (2014-2015) for a chosen team. These data would include all the attempted free throws during the "clutch window"; 90 seconds or fewer left and no team ahead or

behind by more than 2 points. Players from the past season who attempted clutch free throws would answer a series of interview questions formulated by the researcher with the assistance of an expert panel, based upon theories of performance under pressure and research conducted centered around free throw shooting. These interview questions would be an attempt to delve into the mindset of these players, to see if they can take the me back to that game, and to see how they prepare for those situations in general. Some of the theories I will use in the design of my interview questions are the processing efficiency theory, attentional control theory, explicit monitoring theory, self-focus theory, and distraction theory, as these have all been studied in terms of performance under pressure. I will also assess psychological skills being used by the shooters in preparation for and while attempting “clutch” free throws. These will include goal-setting, imagery, arousal control techniques, self-talk, and pre-performance routines.

My aim in conducting this qualitative research is to identify some commonalities among the players who delivered clutch performances, as well as some commonalities from the players who were unable to deliver in the clutch (e.g., who choked). Additionally, delving into the mindset and approach of these players who have found themselves in these situations many times could further shed light on this phenomenon. My goal is to be able to devise a mental skills workshop to help free-throw shooters maintain their focus and perform admirably under the pressure of the situation.

Statement of Problem

The purpose of this study is to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. When faced with the pressure of sinking a free throw that can directly impact the outcome of a game, how are some players able to deliver a “clutch” performance, instead of falling susceptible to a “choke” performance? Coming through in the clutch is no easy feat, and the added pressure of the moment poses a problem to most players at one time or another over the course of their career. While no one can deny that certain performances in sports are clutch, the existence of clutch performers is one that has garnered much discussion. The focus of this thesis, however, is how a player managed the pressure in an individual instance of clutch performance. Highlighting what worked for players in these individual instances could serve as building blocks that ultimately help sustain clutch performance over the course of a career.

Research Questions

The pressure that an athlete faces on the free throw line during a close game can be debilitating to his or her performance, or can be overcome on route to a successful and often memorable performance. The following research questions were examined in regards to pressure from the free throw line:

1. What do players focus on when attempting free throws? How does this focus change under pressure?
2. What do players do to help manage the pressure of the situation?
3. How do players prepare for a situation that will be pressure-filled?

4. How does one player perceive the pressure of the moment differently from another?
5. What are some factors related to clutch performances?

Limitations

The following limitations are present in this study:

1. Players' recall of the specific instance of pressure free-throw shooting from the past season may not have been especially vivid.
2. The openness or willingness of the player to reveal what may have been his "secrets" to overcoming the pressure of a certain situation, or even just to talk about managing pressure in general.
3. Confirmation bias on the part of the player being interviewed may have been present, in that he may have believed he remembered certain aspects of his performance that fit with his own definition of clutch or choke performance.
4. My presence during the interviews could have potentially influenced how the players' answer certain questions.
5. The players, for one reason or another, may have not been forthcoming nor honest with their answers.

Delimitations

The following delimitations are present in this study

1. The selection process of the players to be interviewed was a delimitation. For the purposes of my study, I only interviewed players who, during the 2014-2015 season, attempted at least one free throw in a game during which no team was

- ahead or behind by more than 2 points, with 90 seconds or fewer left in the game.
2. The players were male collegiate basketball players in a Division III basketball conference comprised of colleges located in the United States.
 3. I avoided use of the word “choke” in the interview process. Because of the negative connotation of the word in the sporting world, use of the word might have elicited defensive or closed-off responses.

Definition of Terms

Choke Performance: the occurrence of sub-optimal performance under pressure conditions (Baumeister & Showers, 1986).

Closed skills- Skills that take place in a stable, predictable environment. The performer knows exactly what to do and when. Closed skill activities can be performed in open skill sports, like the free throw in the game of basketball (Boutcher & Rotella, 1987).

Clutch Free Throw Window: Definitions vary. For the purpose of this study, it is any free throw attempted in the last 90 seconds of a game where no team is ahead or behind by more than two points.

Clutch Performance: any performance increment or superior performance that occurs under pressure circumstances (Otten, 2009).

Free Throw: the privilege given a player to score one point by an unhindered attempt for the goal from a position directly behind the free throw line. This attempt must be made within 10 seconds (“Rule Definitions”, NBA.com)

Performance pressure: an anxious desire to perform at a high level in any given situation (Hardy, Mullen, & Jones, 1996).

Pressure: the presence of situational incentives for optimal, maximal, or superior performance (Baumeister & Showers, 1986).

CHAPTER 2

LITERATURE REVIEW

Background

The purpose of this study is to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. My research will involve the interviewing of athletes who have experienced being clutch under pressure, as well as those who have performed less than optimally in pressure situations. The idea of being clutch is somewhat abstract, though it involves performing at one's best when the magnitude of the situation is at its highest. Was an athlete's performance clutch because it was in front of 50,000 crazy, rabid fans, or in front of one scout? What makes a situation clutch is entirely dependent on the individuals and how they perceive the situation, which makes it unique to human experience.

There has been much debate over whether clutch ability exists. I am not out to prove its existence or that there is one singular truth about being clutch. In simply trying to understand what goes into different clutch performances, I actually might be able to discover something unique about clutch performances. Namely, there may be some themes in the strategies that the players use to manage the pressure of the situation and deliver clutch performances. Quantitative researchers claim that they have statistically disproven the existence of clutch performers. They acknowledge the existence of clutch performance, but claim that it is a product of circumstance whether an athlete happens to rise to the occasion on a given night. That is to say, no athlete is more "clutch" than

another athlete because the statistics disprove any significant differences in performance. The statistics, however, don't say how loud the crowd was cheering or jeering. The statistics don't say whether or not it was a crucial game against an in-state rival, and the winner of the game made it into the next round of the playoffs, and the loser went home to face a long offseason. The statistics don't allow for what was going through the mind of the athlete in the heat of the moment. The athletes themselves, however, can provide in-depth insight about all of the above scenarios. This is why I am taking a qualitative approach to this study, through the use of interviews.

Performing Under Pressure

There are a number of theories concerning performance under pressure. One, the implicit versus explicit theory of learning, is that a performer who relies on implicit knowledge of a skill versus explicit knowledge performs better under pressure. Implicit knowledge is defined as knowledge acquired largely independently of conscious efforts to learn. Explicit knowledge is rule-based, available to consciousness, and verbalizable (Reber, 1993). Explicit monitoring theory, or self-focus theory, suggests that pressure raises levels of self-consciousness and anxiety about performing correctly, which in turn increases the attention given to skill processes and their step-by-step control (Beilock & Carr, 2001). Often times, these processes have been automatized and the conscious attention given to them actually inhibits the performance. An example of a thought that may occur in an athlete, which fits the model of the self-focus theory, is "am I doing this right?" Distraction theory proposes that pressure

creates a distraction environment, which causes a shift in focus to task-irrelevant cues (Wine, 1971). These task irrelevant cues could be who is watching, the consequences of execution or mis-execution, or an internal dialogue. According to the attentional threshold model, a decrease in performance is linked to an exceeded threshold of attentional capacity. This threshold for attention can be affected by both self-focus and by distractions, thus combining the two models (Cox, 2012). Under pressure, the number of stimuli that an individual attends to increases, according to this theory, and leads to depleted attentional resources to devote to what is relevant to the task.

According to the processing efficiency theory, anxiety due to the pressure of the situation causes a reduction in the storage and processing capacity for the working memory system available for a task, as well as an increase in conscious effort and activity designed to improve performance (Eysenck & Calvo, 1992). This extra conscious effort, as one might imagine, is unneeded and usually ends up diminishing performance. Attentional control theory, an extension of the processing efficiency theory, assumes that anxiety impairs efficient functioning of the goal-directed attentional system and increases the extent to which our stimuli-driven system affects our processing, specifically towards those stimuli which are threat related (Eysenck, Derakshan, Santos, & Calvo, 2007). An example of a threat-related stimulus in the situation of high-pressure free throws is the threat of losing the game if the free throws are missed.

The theories of why performance can diminish under pressure circumstances has been examined by researchers. One type of pressure

situation, prevalent in the field of sport, is competition. Competition increases levels of arousal, due in part to three factors; the presence of rivalry, the presence of an audience, and the presence of other competitors (Wankel, 1972). One study had participants first complete tasks without any of these competitive aspects; however, the researcher intentionally manipulated the levels of self-focus experienced by the individuals while engaging in the activity. The individuals with the higher levels of self-focus during the execution of the task performed worse on the task. Moreover, subjects who had a low disposition of self-consciousness to begin with performed significantly worse when instructed to engage in self-focus (Baumeister, 1984). This is likely due to the fact that the increased self-focus was not a familiar feeling for the low disposition of self-consciousness participants.

Additionally, the researcher had participants complete tasks with pressure manipulations; in one manipulation, participants completed a practice trial of a task. Then, they were set up against a competitor, who was actually a confederate, and informed that their competitor had completed the task and had scored either higher or lower than that participant's practice trial. The participant was then told to perform the task, that it would count this time, and the confederate was invited in to watch the participant perform. Participants performed worse when they were told before performing that their practice scores had been beaten by the confederate. Moreover, participants low in dispositional self-consciousness performed significantly worse in this condition, presumably because the increased pressure of the situation led to increased self-

focus. In a second manipulation, subjects were offered money for exceeding their performance in their practice trial of the task. This led to an external source of pressure, the monetary incentive, that led to similar performance decrements, especially in individuals who were low in dispositional self-consciousness (Baumeister, 1984). These experiments suggest that overt self-focus impairs performance, and that pressure seem to be linked to increases in self-focus. One could assume that the ability to shift focus from the self to the task is a key skill in performing under pressure.

Otten (2009) attempted to study clutch ability from the free throw line by having participants shoot foul shots in basketball. Participants who drew upon explicit knowledge in high-pressure circumstances were calling upon finer motor skills and thus saw their performance drastically decrease. Athletes who call upon implicit knowledge, however, had an automatic gross motor skill response to the pressure situations and therefore see their performance increase. This study raises some valid points; the reinvestment of attention seems to diminish performance in high-pressure scenarios. Reinvestment is defined as purposefully endeavoring to run a skill with explicitly available knowledge of it. Conversely, the belief that one is in control seems to enhance performance. This perception of control seems to stem from the implicit knowledge of the task, which allows the athlete to focus less on the step-by-step processes of the task.

To further investigate reinvestment of attention, researchers had participants complete the Reinvestment Scale to determine whether they were more or less prone to reinvesting attention. First, the researchers taught the

participants two dart-throwing focus strategies; internal focus, where the focus was on the movements of their body, or external focus, where the focus was on the effects of their movements. Then, the researchers had them complete a baseline dart-throwing task, and then a subsequent dart-throwing task where they were asked to change their focusing strategy used from the baseline test. The group that switched from external to internal focus performed worse on the second task; moreover, individuals who were high on the reinvestment scale performed significantly worse (Weiss, 2011).

An interesting perspective on performance is offered by researchers who believe personality traits affect performance, particularly the narcissistic personality trait. Wallace and Baumeister (2002) placed participants in different performance tasks with different self-enhancement opportunities accompanying each task. One of the tasks was a dart-throwing task; the participants were told that if they performed well, they would receive a cash prize. They were also told that if they performed poorly, that it would indicate they were the type of person who chokes under pressure, which is an undesirable trait. There was a low-pressure condition where neither a cash reward nor the possibility of “having the undesirable trait of choking” was explained by the researchers. The results of the study showed that people who scored high on the Narcissistic Personality Inventory performed better in the high-pressure condition than low narcissists, and worse in the low pressure condition than low narcissists. The researchers credit this to there being an opportunity for self-enhancement; to showcase that one did not possess the choking trait, and to receive that recognition from others.

A lot of what makes a situation in sports a clutch situation is the pressure of performing in front of others, and thus proving that when the spotlight is on, / will be the one to come through and receive the glory, not anybody else.

A case for the ability to perform admirably under pressure may very well lie in the product of a study conducted by Yerkes and Dodson (1908). They placed rats in a maze and used electrical shocks as a stimulus to see if they would complete the maze faster with more electrical shocks. They did, but only up to a point. Then, the electrical shocks became too stressful rather than a motivator to finish the maze quickly, and actually increased the time it took for the rats to complete the maze. This led to the Yerkes-Dodson law; under-arousal results in low performance, as does over-arousal. The optimal level of arousal for maximum performance is somewhere in the middle; not bored, not stressed, but focused. So, one could theorize that clutch performers in sports are individuals who respond with a moderate level of arousal to high-pressure situations.

Existence of Clutch

There has been a debate in baseball for many years about the existence of clutch hitters. Chen (2013) cites the studies of “sabremetricians” who have looked extensively at career long correlations between career performances as a whole and career performances in late inning situations. Chen quotes James Click, the head of the Tampa Bay Rays analytics department, as saying “clutch hits exist, clutch hitters do not” (p. 1). Elias Sports Bureau is one of the leaders in providing statistical analysis of the history of sports. There is a telling quote from Elias; “We cannot prove that clutch hitters do not exist, only that they do not

exist as defined by Elias” (Brooks, 1989, p. 1). Similarly, David Grabiner studied batters who had at least 250 at bats in late innings of close games. The statistics did not show a significant correlation between past and current clutch performance. This suggested there isn’t a significant clutch hitting ability, otherwise the same players would be good clutch hitters every year. (Weisinger & Pawliw-Fry, 2015). In a more relevant example, researchers looked at free throw shooting performance of all NBA players over a 3-year span. Their parameters were free throws taken in the last minute of games where the point differential was 5 or less. They found that in those situations, the league as a whole made 69% of free throws, as compared to a 76% league-wide average for free throws taken outside of their designated parameters. It can be concluded here that everyone performs slightly worse under pressure (Worthy, Markman, & Maddox, 2009).

An argument could be made here that the clutch ability just hasn’t been taught properly yet, if it exists. Clutch plays in sports, whether they happen by chance or not, still occur. Are they just pure luck? Or are they things that can be done by an athlete to help prepare him or herself to be in the right frame of mind when the big moment arises? Elias and other statistical gurus have used quantitative methods like statistical analysis and have gotten nowhere in proving that clutch athletes exist. This is why I feel a qualitative approach is the most appropriate method of research for this particular topic. A new perspective on this age-old debate may prove to be insightful and beneficial.

In individual sports, clutch situations may be easier to identify because the spotlight is on the individual athlete. In team sports, a lot of variables come into play, namely, the athletes teammates as well as their opponents. Wise (2010) discussed the issue of attempting to identify clutch performances and whether they actually existed or not. He said, especially in team sports, that it is difficult to determine clutch ability because elite athletes are pitted against other elite athletes who face the same pressure. Two excellent “clutch” performers against each other might result in an average performance. I’d really be interested to hear a recount of a clutch performance that actually did not result in a win, or two athletes who were pitted up against each other in high-pressure situations and essentially, cancelled out each other’s superior performances. Perhaps the definition of clutch performance could even be expanded if the stories of different athletes in these types of scenarios are heard.

Strategies for Performing Under Pressure

There has been some research into potential strategies for enhancing performance in pressure situations. Hendrie Weisinger and J.R Pawliw-Fry, in their book titled *Performing Under Pressure*, outline a number of strategies that can be used to potentially boost performance in high-pressure scenarios. Some of these strategies includes: viewing a task as a challenge as opposed to a threat, downsizing the importance of the moment, focusing on the process as opposed to the outcome, affirming one’s self-worth, flashing back to previous successes, tuning into one’s senses, focusing on the controllable aspects of the task, using holistic cue words to guide performance, practicing under simulated

pressure, developing a pre-routine, and regulating one's breathing. One could see how all of these pressure management strategies could be utilized when the task is shooting free throws that occur in a high-pressure situation.

The adaption and utilization of different pre-performance routines has been studied to determine their effectiveness at managing pressure. Researchers had a group of rugby players perform a task relevant to their sport under low and high pressure conditions. Participants were either given aspects of a pre-performance routine to focus on, or a more comprehensive pre-performance routine that included all of these components. These components were deep, diaphragmatic breathing, a cue word, and temporal consistency within the routine. The comprehensive combined all three of these into the implementation of a routine. The results showed an improvement under pressure when adapting any of these routine components, with the most significant improvement resulting from the comprehensive pre-performance routine (Mesagno & Grant, 2010). The pre-performance routine provides task-relevant cues for the performer to focus on, which can decrease shifts in focus to pressure related stimuli that can debilitate performance.

Utilizing the psychological skill of imagery prior to performance has been studied in terms of its effectiveness towards preventing choking. One study had novice and expert golfers perform a putting task. Novice golfers that utilized third-person imagery and expert golfers that utilized first-person imagery just prior to performing the putt performed better under pressure (Krawietz, 2013). Third-person imagery has the performer imagine watching themselves perform the task

successfully from a different vantage point, while first-person imagery has the performer imagine themselves performing the task from the perspective they would actually have while performing.

The technique of practicing while experiencing mild anxiety can be used to prevent choking in a pressure situation. Researchers had some participants practice a dart throwing task while being suspended from a climbing wall in order to evoke mild anxiety in the participants; other participants practiced with no added anxiety. Then, the researchers had these groups complete the dart throwing task in three trials with increasing monetary incentive, and value of the last dart thrown, in each of these trials. The group that practiced with mild anxiety saw no drop-off in performance under the increasingly anxiety-provoking conditions, while the control group saw their performance dropped as the pressure increased (Oudejans & Pijpers, 2010). This idea was adopted by Roger Reid, the newly appointed head coach of Southern Utah University in 2007. At the time when he took over, SUU ranked 217th in free throw percentage. Coach Reid integrated pressure into practice by randomly selecting players to shoot free throws that would decide whether they had to run a sprint or not. By 2009, the team ranked first overall in free throw percentage (Weisinger & Pawliw-Fry, 2015).

Certain behavioral aspects have been linked to higher performance under pressure. One of these is optimism, a skill that can be learned, according to Dr. Martin Seligman. In his book titled *Learned Optimism*, Dr. Seligman references how when athletes' explanatory style is changed from pessimistic to optimistic,

they should win more, particularly under pressure. Explanatory style is how an individual, or in this case, an athlete, explains to himself or herself why events occur. There are three dimensions to an explanatory style, which Dr. Seligman outlines as permanence, pervasiveness, and personalization. The permanence spectrum represents the degree to which one believes that events persist and affect his or her actions. The pervasiveness spectrum represents the degree to which one applies universal explanations for the occurrence of events. Finally, the personalization spectrum represents the degree to which an individual credits the occurrence of events as stemming from his or her own actions. Events can, subjectively, either be “good”, or “bad”. An optimistic explanatory style says “good” events have a permanent, pervasive, and personal nature, while “bad” events have a temporary, situation-specific, and impersonal nature.

To analyze whether an athlete’s explanatory style is related to his or her performance under pressure, Dr. Seligman analyzed the content of NBA players’ responses to why certain events occurred during a game. One of the teams analyzed had an optimistic explanatory style of events, while the other team did not have an optimistic explanatory style for these events. For example, when asked about a particularly low-scoring quarter, a player from the team with the optimistic explanatory style responded, “The crowd was very dead”. Notice how the player attributes a bad event to an impersonal factor out of his control, as well as a very temporary factor: he didn’t say “Our crowd is always dead”. This is compared to the team that did not have an optimistic explanatory style; when asked why his team lost a playoff game, a player’s response was “We are all

missing everything". Notice how the bad event is directly linked to their actions, how the response is phrased in such a way that implies the event continues to persist, and how the struggles were not attributed to one specific area, but to everything.

What Dr. Seligman realized was that these differing explanatory styles were linked to how these players would respond to a pressure scenario. In this case, the pressure scenario was the game following a loss. One could assume that following a loss, there is increased pressure to reverse the performance trend of losing, due to the fact that in the NBA format, a certain number of losses leads to elimination from the regular season, or the playoffs. Following a loss, the team consisting of players with optimistic explanatory styles beat the point spread on their following game 68.4% of the time in one season. Following a loss, the team consisting of players with pessimistic explanatory styles beat the spread 37.8% of the time during the same season.

A few strategies have been researched about performance under pressure in relation to a basketball free throw shooting task. One of these strategies has to do with how a certain performance skill is acquired. One group of researchers examined the effects of being taught a skill in one of two ways; either explicitly, or by analogy. One set of participants was taught how to shoot a basketball with a list of explicit instructions, including how to hold the ball, where to position parts of the arm at different times, and how to release the ball and follow through. The second group was given the analogy to "shoot as if you are try to put cookies into a cookie jar on a high shelf". Both sets of participants

performed equally well in a low pressure condition, but in a pressure condition, with a “basketball expert” watching and monetary incentives, the group that received explicit instruction had a decrease in performance (Lam, Maxwell, & Masters, 2009). It can be postulated that the analogy in effect reduced the likeliness of “overthinking” the pressure situation, while also freeing up other attentional resources to be devoted towards the performance task.

Visual training has also been shown to improve performance under pressure. Visual training can effectively trigger attentional mechanisms which in turn allow us to use working memory resources to execute an action. A specific method of visual training used is called Quiet Eye Training. The quiet eye is defined as the final fixation or tracking gaze that occurs prior to the final movement towards performing an action (Vickers, 2009). The quiet eye is measured using a mobile tracking device that calculates quiet eye onset, offset, duration, and location.

Researchers trained sixteen novice participants to utilize quiet eye techniques as a part of a pre-shot routine, in comparison to a control group, who was just taught to adopt the pre-shot routine without the quiet eye techniques. Pressure was manipulated by using monetary incentives, as well as the researchers informing the participants that their results would be used as part of a presentation to fellow students. Finally, after completion of a 40 shot retention task to test whether they were properly performing the pre-shot routine without instruction, participants were informed that their scores on the retention task put them in the bottom 30% of the group and unless they improved on the next trial,

their data would be insufficient. The group that received the quiet eye training performed better in the pressure manipulation compared to the control group (Vine & Wilson, 2011). The impact of the quiet eye is not only that it gives the player an external task relevant stimulus to focus on, but the specific duration of focus on the target seems to trigger an automatic response that can free a player from performance deterrents under pressure.

Psychological Skills and Free Throw Shooting

Anytime you see a free throw attempted by a skilled player, a free throw routine precedes their free throw shot. The importance of the pre-shot routine has been investigated by researchers. In one study, researchers examined the effect of alternating between the use of a pre-shot routine and the prohibition of a pre-shot routine for free throw shooting under competitive stress. 25 male high school basketball players attempted 50 free throws. For every 10 that they took, they had to alternate between using of their pre-shot routine and shooting without it. Subjects in the pre-shot routine condition made significantly more free-throws than when they were not allowed to utilize the pre-shot routine (Gayton, Cielinski, Francis-Keniston, & Hearn, 1989). According to Robert Nideffer (1992), the objective when performing closed skills is to efficiently focus attention on task-relevant cues, while ignoring irrelevant cues. The purpose that a pre-performance routine serves is to provide a task relevant cue for the performer to focus his or her attention upon.

Based on this information, one might assume that deviating from a practiced routine at the free throw line could lead to a decrease in free throw

performance. Researchers examined the free throw routines of professional basketball players during the 2006 NBA playoffs and coded their routines based on specific behaviors exhibited by each of the players during the pre-shot routine. These behaviors included a dribble, a ball spin, a pause, and a movement category, which could include movement with the ball (i.e wrapping it behind one's back) or a movement without the ball (wiping sweat from the forehead). The researchers established what behaviors regularly preceded a player's free throw, and then found that when players kept these dominant behaviors of their routine consistent, they made 83.77% of their free throws. However, when players deviated from the dominant behavioral pattern found in their pre-shot routine, the percentage of made free throws dipped to 71.43%. A deviation in routine behavior could include a deep breath being taken when one was not usually present, an omitted ball spin, or a switch in the order of dominant behaviors in the routine (Lonsdale & Tam, 2008). One could speculate that increased pressure could lead to deviation from routine, as task irrelevant stimuli could be perceived as more salient and interfere with focus on the routine.

As previously mentioned, visual training, specifically quiet eye training, can enhance performance in closed skill activities like free throw shooting. The positive performance effects of the quiet eye have been shown not only in novice basketball players, but in highly skilled players as well. Researchers trained a university basketball team in quiet eye techniques to be used as a part of their free throw shooting routine. This training went on for two seasons. After one season, the team showed improvements in quiet eye duration and shooting

accuracy, and in the second season, these skills translated to a 22% increase in team free throw shooting percentage (Harle & Vickers, 2001). The following instructions were given to players to incorporate the quiet eye training into their routine:

1. Take your stance on the line with your head up and direct your gaze to the hoop. Bounce the ball three times, repeating the phrase slowly “nothing but net.”
2. Hold the ball in your shooting stance and maintain quiet eye focus on a single location on the hoop for approximately 1.5 seconds. Keep your gaze stable on the one location, accompanied by the words “sight, focus”. You may fixate on either the front, middle, or back rim. Regardless of the location fixated, maintain quiet eye on only one location prior to beginning the final upward phase of the shot.
3. Shoot quickly using a quick, fluid action. The ball should move up through the center of your visual field, occluding the target. During this time, there is no need to maintain your gaze on the hoop as you shoot (p.7)

Incorporating a specific target into the player’s pre-shot routine could be used to counter any self-focus experienced by the player, as the target draws their focus outward. A potential key factor also appears to be how long the player’s gaze is directed toward that target.

Most free throws occur immediately after a sequence of high-exertion physical activity. Thus, the heart rates of players are likely going to be elevated upon being fouled and when they step up to the free throw line. Researchers examined the phenomenon of heart rate and how it affects free throw performance. Participants attempted free throws at resting heart rate, at 50% of their maximum heart rate, and at 80% of their maximum heart rate. At 80% of the maximum heart rate, there was a significant drop in free throw accuracy (Padulo et al., 2015). This suggests a pre-performance routine that

involves a technique to slow down the heart rate, such as utilizing deep breaths, could be beneficial for improving free throw accuracy.

A deep breath may have other benefits aside from slowing down the heart rate. Deep breathing, specifically a centering breath, allows the player to reduce their arousal and increase their attentional capacity to a task. Haddad and Tremayne (2009) provide the following example:

If an athlete is suddenly aware that a selector has entered the arena a certain amount of self-doubt and irrelevant thoughts related to the selector's entry may be preventing the athlete from focusing on the task. By taking a big breath and focusing on the physiological aspects of the breath, that is, inflation of the lungs, expansion of the rib cage, the filling up with air of the abdominal cavity, the athlete interrupts previous thought processes and focuses only on the breath. At the end of the breath the athlete is able to focus on the task. In other words, the centering breath acts as a conduit whereby thoughts concerning the selector are interrupted by focusing on the breathing. Attention is then able to be redirected back to the task (p. 121).

The researchers tested the effectiveness of the centering breath in young athletes and found that the implementation of the centering breath into the free throw routine led to an increase in free throw percentage, as compared to a free throw percentage scored by each participant prior to the intervention of being taught the centering breath (Haddad & Tremayne, 2009). Thus it appears that the breath can be a tool not only to reach the right state of physiological arousal, but can also be a task-relevant stimulus to focus on if incorporated into the free throw routine.

Mindfulness is a practice that has received a lot of attention recently in the field of sport psychology, in relation to how it can potentially enhance sport performance. Mindfulness is defined as "attention to the present moment

experience without conceptual elaboration or emotional reactivity” (Jha & Haberl, 2015). A high degree of mindfulness would seem to counter the effects of performance detriment under pressure, namely high self-focus or attending to distractions, by engaging in the present moment and being able to acknowledge, but not react emotionally to, or attempt to conceptualize, task irrelevant cues, and then switch the focus back to the task at hand. Researchers had men’s college basketball players from Division I of the NCAA complete constructs in mindfulness, and found that high scores in mindfulness were significantly positively correlated to free throw shooting percentage over the course of a season. The researchers used a mindfulness regression model to indicate that with one standard deviation increase in mindfulness score, game free throw percentage would increase 5.75 percentage points (Gooding & Gardner, 2009). This finding suggests that training in mindfulness could be beneficial for a basketball player looking to improve his or her free throw shooting percentage.

Imagery is a poly-sensory recreation or creation of an experience using one’s mind. If practiced properly by an athlete, they should not only see themselves performing a desired action, but also hear, feel, and even smell, and taste sensations that are involved with the performed action, if all of these senses are applicable. Imagery has been shown to enhance performance across a number of sports. Researchers decided to test the effects of an imagery intervention with a basketball team to see if it would lead to increased free throw performance. The team was taught an imagery exercise involving the process of making a free throw, which was encouraged to be practiced off the court, but

directly employed prior to half of the team's games. The results showed that the team made a significantly higher percentage of their free throws when the imagery exercise was part of the pre-game routine for the team (Post, Wrisberg, & Mullins, 2010). Imagery is a skill that can be incorporated off the court, right before the game, and even during the free throw routine to enhance performance.

Goal-setting is a skill that can be beneficial towards performance. It is dependent on factors such as how difficult the goal is, how specific the goal is, and the timeline for achieving the goal. One study demonstrated the effects of a goal-setting program on free throw shooting performance. Researchers randomly selected two groups of students, with one group receiving goal-training, and the other group receiving no goal training. Each group's members subsequently attempted 20 free throws per week for a period of 5 weeks. Interestingly, there was no significant difference in the performance from the free throw line of either group. However, the key difference was in each group's perception of success and self-efficacy. The group that received the goal-training reported higher perceptions of success and higher belief in their ability to successfully perform the task (Miller & McAuley, 1987). Higher perceptions of success and belief in one's own ability could certainly factor into high-pressure situations: seeing as there was no pressure manipulation in this study, the results of a similar study that does include a pressure manipulation could provide further insight into how a player's perceptions of his or her ability factor into high-pressure situations at the free throw line.

Dr. Tom Amberry, the Guinness world record holder for consecutive free throws made, highlights some of the above skills as integral parts of his approach. First, Dr. Amberry preaches routine. He highlights his 7-step routine:

1. Feet square to the line.
2. Bounce ball three times with the inflation hole up.
3. Thumb in channel, third finger pointing at the inflation hole.
4. Elbow in
5. Bend your knees.
6. Eyes on the target.
7. Shoot and follow through

There appears to be a very precise consistency to Dr. Amberry's routine. Dr. Amberry cites the importance of a routine for the following reasons: it gives players something to focus on other than the pressure they may be under, brings players back into the present moment, triggers muscle memory, and eliminates the need to make decisions.

Dr. Amberry also used an imagery technique as part of his pre-shot routine. He had an imagery technique taught to him by a sport psychologist. Dr. Amberry imagines his arm being 15 feet long, and sees his hand dropping the ball through the basket. He holds this image in his mind and it is the last thing he does before he shoots. Dr. Amberry noticed a decrease in his anxiety and removal of doubt at the free throw line after utilizing this imagery technique.

Dr. Amberry also cites a technique of visual focus that sounds quite similar to the quiet eye. He references players who take an extra moment of staring at the target to, as he puts it, "make sure" that the shot goes in. He says this actually leads to the vivid image of the target in your brain fading. He stresses the importance of shooting when "the first flash of the target is blazing in your

mind (p. 67). Additionally, he references goal-setting for improvement. He talks about setting a goal just out of reach of what a player thinks he or she is capable of: achievable, but high enough so that the idea of achieving it excites the player. One of his goals was to see improvement in free throw shooting, so he started out with the goal of making 10 in a row. This gradually increased to 25 in a row, then to 50, and then to 100. These were short-term goals towards his overall goal of becoming one of the best over 70-year-old free throw shooters in the country. He described these short term goals as “rungs on a ladder, taking me to new heights, one step at a time” (p. 101).

CHAPTER 3

METHODOLOGY

The purpose of this study is to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. The methodology is presented in the following sections: Research Design, Participants, Instrumentation, Procedures, Data Analysis, and Bias Statement.

Research Design

Although the free throw, as its name implies, should be an opportunity for “free” points, since there is no defense being played, some players struggle to make free throws, especially in high pressure situations. The design of this study is qualitative, phenomenological, and interview-based, in that the intent is to delve into the phenomenon of having attempted free throws in a pressure situation by interviewing those who have directly experienced this phenomenon.

Participants

The participants in the study were Division III Men’s Basketball players who played in the 2014-2015 season, and attempted free throws in the last 90 seconds of a game where no team was ahead or behind by more than two points. Thirty-two such players from a Division III Men’s Basketball conference qualify to be a part of this study based on these criteria. Twenty-four players attempted just one set of free throws in this “clutch” window, while eight players attempted multiple sets of free throws in the clutch over the course of the past season.

Instrumentation

The instrumentation used was a set of semi-structured interview questions (see Appendix A), developed by the researcher and reviewed by an expert panel (see Appendix B). The expert panel was comprised of nine individuals with an array of backgrounds from academia, basketball coaching, basketball playing, and sport psychology consulting. This semi-structure allowed for the interviewer to modify or elaborate on questions if deemed necessary. The interviews were tape-recorded and later coded for themes within the answers. The questions were developed using theories of performance under pressure. Questions related to performance under pressure were related to methods used in the Weisinger Pressure Assessment and Inventory (Weisinger & Pawliw-Fry, 2015). The other questions were related specifically to free throw shooting and were based on the literature surrounding free throw shooting, with the intention being an in-depth look at how each player approaches the art of free throw shooting.

Procedures

The procedures were as follows: Division III Men's coaches were contacted and asked if they would allow certain members of their team to participate in this study. A short description of the study was provided. Coaches then contacted the players on their team who met the qualification of having attempted clutch free throws in the past season, as identified to them by the researcher. Upon the players agreeing to participate in the study, the researcher made face-to-face contact with the players to interview them with a set of questions regarding their free throw shooting experiences. A consent form was

given to each player who agreed to participate. Confidentiality was maintained by numbering the players based on how many were chosen and elected to participate.

Data Analysis and Coding

The raw data were coded and organized into categories by using a version of what is known as the constant comparative method. The constant comparative method is a continuous, ongoing procedure that compares separate data within a study. The data were similarly coded by comparing one section of data with a previous section of data, to ensure consistency of coding within the study. Upon conducting and transcribing the interviews, the researcher used what is called open coding, to initially organize the data. In the process, similarities and differences between interview responses were noted and comparisons were made. The similar responses were grouped into categories. Then, the researcher used axial coding, which is grouping the categories together into larger themes (Boeije, 2002). Two independent coders classified information into the set categories to determine inter-rater reliability. This measure of reliability is known as percentage agreement (Gorden, Skills, Itasca, & Peacock, 1998).

Bias Statement

It was the intramural basketball playoffs in college, and the team I was playing for wasn't very good. However, we had advanced past the first round in a surprising victory, and we were hanging tight in the quarterfinals, our second round game. We were up by one point with less than a minute to go in the game.

I had the ball, and got fouled trying to run the clock. I stepped up to the line for a one and one. As the ref passed me the ball, I suddenly felt very uncomfortable. I rushed through my routine, and got really distracted, because players on the opposing team were talking back and forth on the opposite blocks of the paint. My focus shifted back and forth from inward to the external distractions. I put up the shot and the result was embarrassing: airball. I remember I got a few puzzled looks from some teammates; I was probably our second best player. Clearly, this shot has stuck with me for a while. I recall being a good foul shooter in high school, and I believe I made clutch free throws, although no instances stick out in my head. I do remember hitting a game tying three-pointer in overtime as the buzzer expired to send the game to double overtime. I had wanted the ball in that moment, and didn't feel any pressure. Why had I folded under the pressure in my college days? Why had I experienced this pressure in the first place? This is where my fascination with the topic began. This strong memory may also fuel my bias towards the topic; it may be that other players who have experienced either making or missing clutch free throws in the last 90 seconds of the game won't clearly remember the sequence of events and won't be able to recall specific details. Due to my vivid memory of the moment, I can certainly empathize with players who have experienced a phenomenon similar to this, and am intrigued by the ones who were able to deliver clutch performances from the free throw line in high pressure situations.

There is the debate of whether clutch performers exist, rather than just clutch performances. The intention of my study isn't to prove or disprove the

existence of clutch performers or, more specifically, clutch free throw shooters. My aim is for enlightenment into the phenomenon of how certain athletes handle pressure in a situation where the performer is in total control of a successful outcome (making free throws). Having said that, some of my potential bias for conducting this research is that I do believe there is a certain type of player who has the ability to deliver admirable performances in really big moments. I believe this player isn't afraid to fail, has the ability to block out distractions and focus on the moment, and responds to the spotlight by blooming, not receding to the shadows.

I am aware of the potential bias that a player's performance may have on how I go about coding their interview responses. For example, if one of the players I interview went 0-2 from the free throw line in a pressure situation, I may look for themes that best fit his responses that are in line with the literature surrounding performance decrements under pressure. However, having another independent coder to assess the themes that come about from the interview will help to reduce or eliminate this potential bias.

CHAPTER 4

RESULTS AND DISCUSSION

The purpose of this study is to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. A version of the constant comparative method was used to analyze the transcribed interviews, specifically, the open coding and axial coding techniques. The semi-structured interview format allowed for additional ideas to be explored, differing from the researcher's hypotheses. Overall, there were 65 unique codes that were derived, during the process of open coding, from the players' responses to the interview questions. Some of these codes, like "previous successes", were referenced by every player in a response given to one of the interviewer's questions. Every player at some point during his interview referenced how he had experienced previous success in situations at the free throw line.

Some codes were unique to just one player, but were still deemed as relevant and important by the researcher. Additionally, some lengthier responses garnered two codes. During the process of axial coding, 57 out of the 65 unique codes were assigned to more over-arching categories. The eight categories are as follows: routine, practice, focus, pressure, confidence, pressure management strategies, clutch factors, and non-clutch factors. Within the category of pressure, there were two sub-categories, pressure perceptions, and factors leading to pressure. Within the category of pressure management strategies, goal-setting was broken down into sub-themes.

In the table below, categories are bolded and capitalized. Underneath each category are the individual themes that make up each category

Table 1: Response Themes and Categories

<p style="text-align: center;">ROUTINE</p> <p>Specific Eliminate variables/simplicity Consistent Comfort Second nature Specific target Deep breath</p>	<p style="text-align: center;">PRACTICE</p> <p>Measurable Consistent Self-induced pressure-in practice Team/coach induced pressure Simulating reality</p>
<p style="text-align: center;">FOCUS</p> <p>High focus Medium Focus Low Focus Outcome focus Process focus Focus Shift External Focus Strategic Focus Internal Focus</p>	<p style="text-align: center;">PRESSURE</p> <p>(Perceptions) -physical indicator of pressure -psychological indicator of pressure (Factors) -Expectations -Importance/Rigidity -Self-induced pressure -Distractions -Results</p>
<p style="text-align: center;">PRESSURE MANAGEMENT SKILLS</p> <p>Positive self-talk Relaxation technique Reducing importance/expectations Imagery Proprioception/rhythm Body awareness Goal-setting</p>	<p style="text-align: center;">CONFIDENCE</p> <p>Preparedness External confidence Previous Success Control</p>
<p style="text-align: center;">CLUTCH FACTORS</p> <p>Expected success Externally directed action Approach Success-internal Failure-External Acknowledgement of task irrelevant cues Value-Driven</p>	<p style="text-align: center;">“NON-CLUTCH” FACTORS</p> <p>Routine deviation Relief Failure-Internal Failure-permanent Resisting pressure Previous failures Self-induced pressure-in game</p>

Players were asked to rate their level of focus on a scale of 1-10 in regards to a number of stimuli when attempting a free throw. 1 represented a low degree of focus, and 10 a high degree of focus. If a player, for example, responded “2 or 3”, the focus level given was a 2.5.

Table 2: Focus Levels when Attempting Low-Pressure Free Throws

	Routine	Crowd	Players in Front of you	Specific spot on rim	Follow Through	Outcome
P1	9.5	2.5	0	7	9	10
P2	10	5	6	8	8	9
P3	4	1	0	9	7	0
P4	9	7	0	10	5	6
P5	7.5	3	1	9	8	8
P6	8	0	2	7	10	4.5
P7	10	5	1	5	2	9
P8	8.5	2.5	2.5	8	8	10
P9	4	6	6	8.5	8.5	5
P10	8.5	1.5	1	5	7	8

A number of questions later, players were again asked to rate their level of focus on a number of stimuli, but this time, when attempting a free throw that took place in a high pressure scenario.

Table 3: Focus Levels when Attempting High-Pressure Free Throws

	Routine	Crowd	Players in Front of you	Specific spot on rim	Follow Through	Outcome
P1	10	5.5	0	8	10	10
P2	10	8	8	9	9	10
P3	6.5	7	0	9	6	10
P4	10	8	0	10	9	0
P5	7	5	2	9	9	8
P6	7.5	0	1.5	8.5	10	6
P7	10	7.5	1	5	4.5	9.5
P8	9	3	3	9	9	10
P9	6.5	4	10	10	10	10
P10	5	2	1	5	7	9

The table below compares Tables 2 and 3. First, the the focus scores assigned for each stimulus during low-pressure situations were added up. Then, the focus scores assigned for each stimulus during high-pressure situations were added up. Finally, the stimuli that received the greatest change in focus from the player during high-pressure situations was identified.

Table 4: Comparison of Low-Pressure and High-Pressure Free Throws

	Low-Pressure Total	High-Pressure Total	Most Impacted Stimulus Under Pressure
P1	38	43.5	Crowd (+3)
P2	46	54	Crowd(+3)
P3	21	38.5	Outcome(+10)
P4	37	37	Outcome(-6)
P5	36.5	40	Crowd(+2)
P6	31.5	33.5	Specific spot on rim(+1.5), Outcome(+1.5)
P7	32	37.5	Crowd(+2.5), Follow Through (+2.5)
P8	39.5	43	Specific spot on rim (+1), Follow through(+1)
P9	38	50.5	Outcome(+5)
P10	31	29	Routine(-3.5)

Routine

The importance of routine was highlighted by the players who participated in this study. Every player described specific elements of their routine. Multiple players spoke about lining up their feet to start their routine: “I line my foot up with the nail” (player 1), “I put my left foot on the hole, and then when I get the ball, I put my right foot forward” (player 2), “I put my toe on the nail that’s hammered on the floor” (player 5), “I’ll take my right foot, and line it up with the nail hole that’s on every floor” (player 6). Several players talked about hand placement: “I line my fingers up with the lines that go horizontally across the ball” (player 8), “I find the seams with my right thumb” (player 9), “I put my hand on one of the straight seams” (player 2). Every player mentioned dribbling as part of their routine, though Player 7 and Player 8 did not mention a specific number of dribbles as a part of their routine, while the rest did. A few players mentioned spinning the ball; one player, Player 4, mentioned that he would “roll the ball behind my back, around my waist”. Players 1, 3, 5, 6, 7, 9, and 10 specifically mentioned taking a deep breath as part of their routine.

Some unique, specific elements of routines were detailed. Player 1 described an action before taking the shot: “I get my shot ready but I stop it right here (holds hands up next to face) in the shooting pocket, next to my face, right in front of my right eye. Player 3 referenced a specific visual tactic: “I come up, pause for a little bit as I stare at the rim, probably about a second or two”. Player 7 described a technique of centering his shot towards the basket: “Always with my right foot... because I’m a right handed shooter... I put it (his right foot) right

in line with the center of the basket and then I rotate my shoulders at like, 10 o'clock." Player 8 synchronizes his dribbles with knee flexion: "I always do like a, three just a "tap, tap, tap" solid dribbles...and as I'm doing those three, I'm lightly bouncing in the knees with each dribble." Player 9 focuses on a part of his body during his routine: "I focus on my toes too, that's something that's a little different, I focus on my toes making sure I'm getting up on my toes... I always remind myself, and I used to ask my teammates too, to remind me to get up on my toes." Player 10 describes a particular formation he strives for with his shooting arm: "I really try to focus on getting the ball in the L, that L shape so the ball (is) sitting right in front of my right eye in the L, and then go straight up into my shot... by getting the ball in an L, so if my elbow, you know, my forearm and my bicep (make) a 90 degree angle in that L shape, I found that led to the most success because then I'm not bringing it down and up. It was starting in that 90 degree angle, then I would just bend my knees and go straight up from there and that didn't lead to any inconsistency in my shot."

Some of the players have had these routines since high school or earlier, while some developed or changed their routine in college. Once established, the players' every intentions were to keep these routines consistent regardless of the situation with the exception of one player: Player 4. Player 4 had a separate routine depending on the outcome of the first free throw occurring within a two shot foul.

If I made it, I'd do the same thing (his original pre-shot routine). If I missed it though, as soon as I got the ball I shot it. So that was the one thing that a lot of coaches from the outside would look at and say that is not the right way to do things...you're supposed to, when you shoot free throws, keep

everything as succinct as possible, make sure you keep the same routine and you get comfortable in that spot. But my approach was, I always had the “if it isn’t broke don’t fix it” (mentality), and for me, if I missed the shot that meant it was broken.

Though he changed his routine dependent on whether he made or missed the first free throw, his “routine number 2” after missed free throws stayed consistent each time, so in a way, there was consistency within his situation-dependent routines.

Several players identified focusing on a specific target around the rim as part of their routine when attempting free throws. Player 3: “The very front rim, I try to get it right over that front rim”. Player 4: “Most gyms you go to, if it’s a pretty well lit gym, will always shine a light on the front of the rim. So you’ll see an orange rim, but you’ll see a white glare right at the front, and that’s where I focused on every time.” Player 5: “...If you look at the rim you can see 3 of those rings that hold the net...facing you no matter where you stand. I shoot for the middle one and follow through with my hand pulling at that and placing the ball on the rim.”

One theme that came up with a pre-shot routine was that it felt comfortable, or even second nature. Essentially, the process had been done so many times, the players’ bodies had automatized it. For example, Player 1 said, “I was a lot more comfortable at the free throw line because of all the free throws I took in the offseason. I was shooting I think 100 a day, and it just became second nature at that point.” Player 4 discussed an aspect of his routine helping him to feel comfortable: “So if you were to see any tape of me, my heads down the whole time, I go behind my back and I do my dribbles, and once I spin the

ball, I get my eyes on that bright spot and I sit there for a while...it's just like a comfort thing... if there's anything that stays consistent, it's definitely that part, keeping my eye on the rim." Player 9 became comfortable with a new technique: "I grip the ball differently too. My entire thumb is on the seam. I changed it, in the really late stage of my career, but I was comfortable with it. My shooting percentages increased because I think I was able to find the seams quicker". This degree of comfort likely reduces self-focus, as the task does not feel novel. As Player 8 said, "...it's autopilot, and you just let muscle memory take over, empty your mind, and let it go".

Simplification was something many of the players identified as a key factor in establishing their routines. Some players called this "eliminating variables." Player 7 talked about tinkering with his routine: "I tried different ways. I tried spinning the ball before, it didn't really work out. I tried a couple dribbles, seemed too excessive...So one dribble, center myself - short and simple". Player 2 referenced how a longer routine left too much time for thinking: "I used to take 4 dribbles, until after my freshman year and then I changed it because it took too much time... too much going through my head." Player 9 talked specifically about he controlled for potential variables in his shot: "Eliminating variables is so big with my shot, so I don't bend my elbows too much, I don't bend my knees that much, it really just comes down to my wrist." Player 1 talked about eliminating unnecessary movement as he attempted the shot: "If you start it (the shot) low by the waist, there is a lot more room for error. So if you start in the shooting pocket by the face, there is no room for error." Eliminating variables and simplifying

routines likely gave players a greater sense of control of the outcome of their shot, and likely contributed to their overall comfortability with their routine.

Practice

The players in this study stressed the importance of practice in regards to free throw shooting. Some players incorporated a consistent practice routine into their free throw shooting preparation. The practice was kept consistent because it was measurable: for example, “After every single practice, that I would do by myself or with the team, I would make 50 free throws before I left the gym” (Player 5). Players differed in how many free throws they would shoot when practicing free throws.

A number of players would put themselves under pressure when practicing free throws. Self-induced pressure ranged from assuming imaginary consequences, like Player 1: “When I’m practicing, I’ll try to think of things in my head...For example, if I have a girlfriend. “If I don’t make this, my girlfriend is going to break up with me”, to real consequences, like Player 8:

I would go in the gym and do a run...10 times up and down the length of the court in under a minute, to get myself tired, and tell myself that, just convince myself that we’re in this situation, in this game, against this particular opponent who’s so much trouble, it’s a 1 and 1, and basically just put myself in that scenario as much as I could, and just shoot those free throws like that, and if I missed it then I’d run twice as much, and just keep going until I made a certain number in a row.

Six out of the ten players engaged in some form of putting pressure on themselves when practicing free throws on their own. Additionally, seven out of ten players reported that their coaches organized practices to incorporate

pressure into free throw shooting. Player 5 spoke about practice drills being interrupted by his coach:

Sometimes, in the middle of drills, if we were just running scrimmages or doing box out drills, he (coach) would randomly line us up along the baseline and we would have to come out one by one and we would have to all shoot and we would have to make a certain percentage as a team, that was one of the drills. So that put a little pressure on us and if we didn't make it, we had to run a line drill, which is down full court and back full court.

Another element of practicing free throws was adding a realistic element to it. The aforementioned running drill used by Player 8 assured he was feeling some fatigue and was out of breath when stepping up to the line, which would likely be similar to a game situation. Player 9 talked about moving in between practicing free throws: "I'll take a step back, to simulate game situations, because you're not going to stand there (in the same spot) and shoot 300 in a row". Some players spoke about coaches placing them in simulated game scenarios during practice. This element of reality is aimed at emulating what will transpire in an actual game. In the words of Player 4, "I've been here before, I know I can make these free throws".

Focus

Players described what they were focusing on when attempting free throws. As shown in Tables 2 and 3, the players' focus differed depending on the stimulus, and the focus level on these different stimuli changed when pressure was introduced into the scenario.

Players identified both internal points of focus as well as external points of focus. Previously discussed external points of focus include the routines and the

specific targets on the rim. For internal focus, the aforementioned Player 9 would focus on his toes. For Player 3, focus on the breath was the most important. He referenced when he would focus on his breathing multiple times throughout the interview:

I focus on my breathing the most"... "Deep breaths help a lot and I'd always try to shoot it after I released the breath"... "I stop thinking about making it or missing it and just focus on my breathing more"... "Walking to the line you think about a lot of different things but then once you get to the line you're just going to focus in on the action of breathing..." "I really don't think the crowd affected me too much, I never really paid attention to them. Obviously in high-pressure situations at away games it could be pretty tough but you've got to tune them out and go back to thinking about – for me, my breathing, I'm just thinking about my breathing and just go right up and shoot it.

For Player 3, the focus on the breath served as an important bridge between different stimuli. He used the release of his breath as a cue to engage in his shot. He also used the breath as a tool to switch his focus from task irrelevant cues, including making or missing the free throw, numerous thoughts when walking up to the line, and the crowd. This ability to switch one's focus was present in other players as well. Player 2, in response to how he handles an unwanted thought during a pressure situation, replied: "That would be the mantra that you have, just going through your mind that day. I'd focus in and use that mantra to block everything else out." Player 6 talks about changing to a strategic focus in between taking free throws: "The only focus that I have is just seeing who comes in substitution-wise for our team, because sometimes that may affect what defense we're in, or what position of the floor I run, or the player coming in runs"

This strategic focus comes up again in multiple players, during one situation in particular; when an opposing coach calls a time-out before or in between free throw attempts, in an effort to “ice” the shooter. Player 3 describes this process during a time-out:

I would just listen to my coach - see what he has to say, what our game plan is for whether I make it or miss it, because usually in those situations you're saying if you make it this is what we're doing, if you miss it this is what we're doing. It all depends on what the score is, who's winning, how much time is left, so I'm focusing on that and then once I get back to the line my mind goes blank.

Notice again, that the player switched his focus upon returning to the free throw line: from a focus on the strategy called upon by the situation, to a blank mind.

Pressure

Every player answered that they had experienced pressure at the free throw line at different times in the course of their playing career. Players' differed in what they attributed to causing the pressure of the situation, as well as their experience of the effects of pressure. Some players identified being aware of a physiological response to a pressure situation: “I definitely think there's an increase in heart rate” (player 1), “you get a little tight” (player 8), Others talked about a psychological response to the pressure situation: “I would get a little nervous” (player 5), “I think the doubt in your mind starts to increase” (player 10).

Players offered several explanations for what caused the pressure of the situation. Some attributed feeling pressure to the expectations of others. Said Player 7: “I guess it's just the idea of letting your team down. If you're in a tie game or down by 1 with all the work you guys put in together you just want to help them out” By not living up to his teammates' expectations, Player 7 felt he

would disappoint his teammates. Player 8 talked about the expectations of the crowd: “if you know someone in the crowd, and they’re your home crowd, it’s kind of like they’re expecting you to make it, they want to cheer after you make the free throw, so you’re thinking, okay I have to make this shot so that I can give them something to cheer about” For Player 10, that specific individual in the crowd was his dad: “...it was more of my dad. I knew my dad had worked with me on my foul shots a long time and I knew it frustrated him just as much if not more than me when I miss a foul shot so that kind of weighed in if I missed one.”

The perceived importance of the situation also caused pressure in the minds of some players. This perceived importance was often accompanied by a certain type of rigidity: an inflexibility of what was to happen in that situation. This rigidity was exemplified by phrases like “need to”, “have to”, “must”, indicating no room for error. Player 4 talked about how this rigidity affected him:

I’m extremely competitive. I was under the belief that I needed to make every single shot I took. I think that was weakest part of my game, um, the fact that I wanted to be so perfect all of the time, so when I met the inevitabilities of like, “failure”, it crushed me.

Player 6 described his perception of the importance of the situation:

Over the course of a game, as a shooting guard, I’ll get 12 shots, if I make 5 or 6, then that’s pretty good, so there’s room for error and misses...when it’s late game free throw situations with two seconds left and the game is tied, it’s pass or fail, if you make them then you’re passing, you give your team a better chance to win, there’s that immediate gratification of being successful, when you miss, alright, now you’re team is losing, you just lost yourself the game, there’s that immediate dissatisfaction...over the course of the game, you know you’re going to make some shots, you’re going miss some shots...you keep working and keep playing because your turns will come up next, but with foul shooting... in terms of where pressure comes from, it’s pretty black and white, you either get the job done or you don’t, and that’s hard.

The use of the phrase “pass or fail” signifies how rigidity can set in. Some players talked about the outcome, or the ultimate result of the game, as a source of pressure. Player 8 talked about how his desire to win caused some pressure:

You definitely feel some pressure, at times, and I think what causes it is obviously just, you know, you really, really want to win, and you try to win, and depending on the situation, some situations more than others, whether or not you make your free throws is directly correlated to how much of a chance your team has of winning the game, so if it's a close game, and its tight down the stretch, you feel a little bit a pressure.

Player 2 identified a number of different distracting stimuli as sources of pressure: “...how the crowd has been all game. How the players are, some days they'll be getting on you - depending how you've been shooting that day... how your teammates have been shooting at the line.” Finally, some players put additional pressure on themselves in situations where pressure already existed. This differs from the practice technique of putting pressure on oneself in that, in the practice environment, there is presumably no other source of pressure. For example, Player 5 talked about how he puts pressure on himself in during a game:

If I missed 2 (free throws) before, then I'll be pressuring myself to make 1. If I'm, say, 0 for 2, or If it's tied up, and in that game, if it's in overtime, I'd put a little pressure on myself to make them...I would put pressure on myself if I'm shooting bad that day in that particular game I would put pressure on myself...if I'd already missed 2 I'm a point guard I need to make this next one, it probably wouldn't be as big of a deal in everyone else's eyes but in my eyes, I have too big of an ego to miss another one, you know (laughs). So I'm putting pressure on myself.

This is also an example of a response that would have been coded twice. He identifies himself as a point guard, and therefore “needs” to make his next free throw. This reflects a certain rigidity in his thinking, in that no other outcome

can precede two missed free throws, especially from the position of a point guard.

Pressure Management Techniques

As previously mentioned, every player reported experiencing some degree of pressure, presumably many times over the course of their playing career.

Thus, the players had developed or been taught different strategies for managing the pressure occurring at the free throw line. Most players engaged in a technique known as positive self-talk- directing encouragement or affirmation of worth towards themselves. Player 1 found himself in a tie game with 2 seconds left and was fouled attempting a 3-point shot. After missing the first free throw, he said to himself, "Alright, you're fine, you still have two more." Player 4 incorporated positive self-talk into his routine: "I always just said "this is going in". I actually read that in a book once, like those positive affirmations, so, every time I went to the free throw line, it sounds weird but I would literally think to myself, this is going in." Multiple times, Player 6 referenced actually speaking to himself, inwardly, in the 3rd person, followed by short, positive phrases:

I might say a few things like, "Alright Player 6, just relax, be confident, step up and knock it down"..."On the court, stepping up to the line, usually if its tied, I do a little bit of self-talk its like, "Hey Player 6, relax, just step up and knock it in"..." So with those foul shots, I was just really, really relaxed, just said "Player 6, you got this, step up, knock them in" and I ended up making both of those.

Notice how the self-talk is positively phrased; Player 6 is talking about what he *wants* to do, step up, and knock it in, not what he doesn't want to do, for example, something like "Don't be nervous, don't mess this up."

Relaxation techniques were used by a number of players. The most common relaxation technique used to deal with pressure in the moment was a deep breath. Players found the deep breath helpful in managing pressure in that “it clears your head a lot” (Player 1), or it “slows down the heartbeat” (Player 3). Other relaxation techniques included releasing tension. Said Player 7: “sometimes you tense up a little and for that, you take a step back and say relax, and you, kind of, shake your body out. It helps you relax and loosen up” This physical act of releasing tension was echoed by Player 8: “I would just bounce my shoulders up and down if I felt like I was getting tight”.

Another strategy for managing the pressure of the situation was to reduce the perceived importance of the situation. Player 1, thinking back on a situation where he was being “iced”, found his coach to be helpful in that respect:

I remember in the huddle, Coach said “After Player 1 makes free throws...”, you see that in a bunch of movies, like Hoosiers, like after Ollie makes both, so he was like, “After player 1 makes these free throws, we’ll just play defense, no fouls...”, he was kind of like, downgrading the foul shots.

Player 4, in a similar situation of being “iced”, would joke around with a favorite assistant coach of his during the time-out:

Me and him would just go talk, and I don’t know if you want to put this on there, but he’d pull me over and be like “Dude there’s a hot girl in the crowd, you’d better make this free throw!” We would joke about it a little, and that was his way of keeping my mind off of it.

Player 9 appreciated a method used by one of his teammates to help reduce the importance of a high-pressure situation:

Whenever I was really stressed or worked out, or if it was a big moment, my teammate used to say- it’s kind of like a sport psychology thing, like people are trained to look at things to relax, he would actually say

hippopotamus, because it's such a ridiculous word, completely out there, it kind of just takes you out of the moment, instinctually you're just kind of like, what the heck, hippopotamus? That was something that we tried and it worked, like, in these big moments, hippopotamus made us take a step back, me and one of my teammates.

Adding levity to a situation can reduce the perceived importance and help alleviate some of the pressure felt by a player.

Imagery was a technique used by the players to provide an image of their desired performance. Imagery is not only referencing a visual aspect of the performance in one's mind, but other sensory aspects of the performance as well. For example, Player 3 used a form of imagery following a missed free throw: "I would think about the way it feels when I make it". Player 4 talks about how he used imagery to help take some of the pressure off of bigger moments:

I would like go back, and especially with bigger games, I would go back to a time where I was successful in that moment, and I would replay that and that was my confidence boost, that took the edge off right there, it's like, "you've been here before, don't worry about it." So yeah, just the mental image of the success I have had in the past.

Player 7 specifically remembered using imagery in an NCAA tournament game when he attempted free throws with 14 seconds left in a one possession game.

I remember we had a pretty big crowd that day...once the ref handed me the ball I just reverted back, because we had practiced the day before and we did some pressure drill situation so I just reverted back to that. I knew I made them in practice so I knew if I could do it then, I can just knock 'em down now. Yeah actually, I kind of just envisioned myself being at practice, like my buddy's rebounding, and it's just me and him there. So when you knock 'em down it's him rebounding instead of the ref.

Player 9 associates a perfect free throw with a specific sound:

...you know how some rims, when you shoot your free throw, it doesn't hit the rim but it hits the little like, support underneath it, and it's a swish, and

it makes like, the most beautiful noise in the world. Whenever I have a perfect free throw, that noise goes through my head, and I hope I hear that noise...that's literally what pops into my head, because it's my favorite thing in the world, and I hope it happens whenever I have a perfect free throw in my head, so it's literally what's going through my head when it feels really good, every single time, I love that sound.

The purpose of the imagery is two-fold; it triggers muscle memory, and serves as a point of focus to block out task irrelevant stimuli.

Clutch Factors

When the outcome of an important game is hanging in the balance, and there is considerable pressure to perform, what factors seemed to be linked to clutch performances? One such factor was the idea labelled "expected success". Player 4 described a game where he had made a number of free throws in a row, on the road in a hostile environment, and expands on this phenomenon of expected success:

I think you get to a point where you make so many shots in a row, you don't expect to miss, so that's a key point, like, not wanting to miss, and not expecting to miss, are two completely different things, so I think, again, I've said this maybe hundred times, the confidence that comes with not expecting to miss as opposed to being- or as opposed to wanting to be so perfect that you are scared to miss, those things play a big key in whether or not you go on a hot streak or a cold streak.

Player 6 credits his work ethic and the process of his mechanics as for why he expects free throws to go in:

I trust myself because I've worked on it so much over the (years) especially since sophomore year of high school when I sat down with this routine, so there's a confidence level of the work that I put in, for those high-pressure situations. (There's) that feeling like, if everything is mechanically good, my legs and my arms are working together, going up on my toes, my follow through is being held, you kind of have that definite feeling. Like, yeah that feels good, and if any of those kind of mechanical parts feel out of wack, then you feel like "eh, once it comes off, you might

make it, you might not” but a good free throw, that you know, you feel good about coming off your hand, is definite.

In order to perform admirably in a pressure situation, players have to be willing to put themselves in those situations. This was labelled as an “approach” mentality. As Player 1 puts it, “I like being put on the spot in close games. I’d love to have the ball in my hands every time when we’re in a close game.” Player 8 described how an approach mentality helped him prepare for free throws in high-pressure moments:

I think what’s really important is if you’re in the last minutes of the game, and you want the ball going into those moments, you know that your team depends on you to make a play to win or lose the game, depending on what happens, I think that if you want the ball to begin with and you’re willing to take the shot and do whatever you can to make sure that your team wins, I think that in itself, that mindset in itself, prepares you for those eventual free throws.

An approach mentality entails being able to flirt with the idea of failure, which Player 4 describes:

I wanted so badly to quiet crowds, or like completely dominate situations, that I would take that chance of failure, because it’s a risk and reward thing, I’m going to take the chance of failing, but the reward was so much greater, that it never ever really phased me. I’ve been in situations where I wasn’t expected to be that guy, or to succeed, so failing is nothing new, like I’ve done it already, I’ve felt that pain already.

This response was coded twice, as it not only contains an approach mentality, but also the idea of directing action externally: in the case of Player 4, silencing crowds, and dominating situations. This idea of an action that is intentionally directed outside of oneself appeared multiple times in high-pressure scenarios. This is the idea that the intentions of players’ actions impact something

outside of themselves, and this is held in higher esteem than how their action impacts themselves. This was labelled “externally directed action” Player 10 was faced with 2 important free throws with less than 10 seconds left in a one score game. Here, he outlines the intention of his action of making the free throws:

I think the biggest thing was I knew if we made both I could put this game away. There was very little chance that they were coming down and as long as we didn't do something stupid on the defensive end, we were winning that game if I knocked both of them down which would put us at ease. I also didn't wanna put my team in that kinda situation... Just take the pressure off everyone else where we don't need to rely on someone missing a shot or work our tails off to get a defensive stop. If I make these 2 we're good.

The external receiver of the action here is the team, and the action is putting them at ease, with his free throws. Player 9 had to deal with some hecklers during a close game. Instead of letting their distractions add pressure to the situation, he decided to direct his action towards them:

I made the first free throw, and I just like, looked at the two or three kids right in the front row, and I gave them this quizzical look, just like, really? Come on. And then I made the second one, and it was just like, that was my middle finger (laughs).

The external receivers of the action here are the hecklers, and the action is, well, giving them the metaphorical bird, with his free throws. Player 6 bore in mind how his free throws affected the other team:

Definitely in those late game situations, knowing that you're going to get the ball, and knowing that you're the one representing your team at the line with the game on the line, you have to have confidence and skill like “hey, I'm gonna knock this down”, and now you're putting pressure on the other team to have to make a play.

The external receiver of the action here is the other team, and the action is putting the pressure on, with his free throws. This may deflect some of the pressure

a player is feeling by focusing on how he could flip the pressure onto the other team.

Players acknowledged that there were task-irrelevant cues during high-pressure situations. The key is that acknowledging is different from focusing on these task irrelevant cues. In line with a mindfulness-based approach, it simply meant accepting that they were there. Player 8 referenced this idea in dealing with a trash-talker attempting to add pressure at the free throw line:

Every once in a while, you will be against a guy who is talking trash, or talking to you while you're at the free throw line, so at that point, inevitably, because you're hearing him, you do notice that he's there, but you're still not really paying attention to him.

Player 9 knows that his heart rate will go up in those high-pressure situations, and he has a unique way of acknowledging that:

Yeah, that's when my heartbeat goes nuts, and to kind of regulate it, I'm a Philly guy, I do the Tug McGraw thing, you know, where he does the, you know like, his heart is going crazy so you put your hand over your heart and tap it a couple times to simulate that your heart is fluttering...you just kind of take it and go with it, I guess, there's not a whole lot you can do except settle back into the game situation.

By acknowledging, and not over-focusing on, this sensation, Player 9 is able to settle back into the present moment situation. Player 5, conversely, admitted to struggling with pressure situations:

Some people are really good at handling it but I, I feel pressured sometimes and I try to push it out of my mind but it's still there.

Player 5, instead of acknowledging the pressure he feels, attempts to resist the pressure. It may be that attempting to resist the pressure has a paradoxical effect of making the pressure of the situation even more present.

In line with the research on optimism done by Dr. Martin Seligman, a player's optimistic explanatory style may come into play during high pressure situations. One of the dimensions of the optimistic explanatory style is the personal nature of success. Player 8 describes how he reminded himself in pressure situations why he was good:

So what I would do in those situations, first I would just try to empty my mind completely, and then just a confidence, just fill my head up with positive thoughts, not like, not to be egotistical or anything, but just tell myself that "you're good, you're a really good free shooter you're a good player, you're going to make these," things like that.

Why does the shot go in? Player 8 attributes his success in those situations to the fact that he is a good player, not, for example, that "the rim is forgiving." Where does attributing success to a personal nature derive from?

Player 4 talked about how he achieved that mentality:

Basketball is so mental, and like, I didn't learn that until I got to college, you know, because I'm not tall, I always thought that skill was going to be it, if I wasn't good enough to do it on a skill level, I would never be able to do it. If I wasn't tall enough, if I didn't jump high enough, like I never thought I would be able to do it. But once I got to college my mentality changed, it was like, I know I'm good, even before I did it, and you get that confidence from working out, you don't just show up and say "I'm going to be great." You put the work in first, and you validate it in the gym, and then you get that confidence and you bring it to the court.

For Player 4, the ability to attribute success to personal factors came from the process of working out and training to become that great player.

Confidence

Perhaps the ultimate factor linked to clutch performance for these players was confidence; so where did this confidence come from? For every player,

previous successes built confidence. It could be previous success providing short-term confidence, as Player 3 describes it in relation to free throws on a two-shot foul: "Once you make that first one, at least for me, my confidence skyrockets and the 2nd one becomes a lot easier." Previous success can also take place within a game. Player 6 describes the source of his confidence in a tie game with 1 minute left as he stepped up to the free throw line:

I'd been struggling that game shooting the ball from the outside, but free throws are really something that really help me out scoring for our team, so I was pretty glad to be at the foul line, especially at that point, because I had that confidence of knowing that I'd already made a couple free throws earlier in the game.

For Player 6, seeing his free throws go in earlier in the game gave him confidence as he attempted crunch-time free throws. Additionally, this was coded twice; notice his optimistic explanatory style. Though he had been struggling from the outside, this failure was not pervasive and as such, did not translate to his free throw shooting. Previous success can stem back to a moment in practice. Player 7's use of imagery was highlighted previously, but this as well was double coded. He flashed back to the success he had during a pressure drill in practice the day before as he lined up to attempt in-game high-pressure free throws. Previous success can also come from repeated exposure to a situation. Player 8 talked about how performing well in past high-pressure situations gave him confidence:

Over the years, if you're in the spotlight, and you do well then, and you know that you were able to do your part in a big moment to help your team win, and you're comfortable in that position, then that's something you definitely want to be aware of if you can, because that means that you were directly responsible, and you play a significant role in helping your

team win, and if you're confident in yourself, I think you definitely want to be in that situation.

Another derivation of confidence was preparedness. The degree to which the player felt able to perform under pressure was related to how they prepared for those moments. Player 10 described a practice routine to help him prepare for free throws:

So to begin every workout I always started with form shooting and worked my way back to foul shots... and then any time that I did a drill throughout the workout - whatever it was - I was going full speed, and I always ended with shooting some kind of foul shots when I was fatigued to get that experience of being in a game. If you're going up and down hard and you get fouled you don't have time to sit for 5 minutes and then take a foul shot.

Here, the practice technique of simulating reality ultimately led to a feeling of preparedness for similar situations in a game. Player 5 explains why he ended all of his practices with making 10 free throws in a row:

I think it just helps me get more reps up to where I'm confident in myself. With 10 in a row I feel like, if you make 2 in a row in a game then that's what you're hoping for, so 10 in a row, I'm doing that 5 times.

Player 5 prepared for the act of making two free throws with a volume based approach: making sure he knew he had the ability to make 2 in row, 5 times over. Player 4 talked about by preparing for success, he was able to reduce the importance of coming through in the clutch:

I think you get put in situations where you have to make shots so often, I'm saying in practice, where you have to make x amount of shots in a row, where you have to make x amount of shots before you leave, you get put in the situation where success is mandatory so often, that you become numb to it. And I think is, I think that's a larger part of the success than, you know, the actual training, its just getting comfortable with being in that position so many times, and I think that is why a lot of guys have trouble, you know, sealing the deal with free throws is because they don't get put in that situation often enough.

A few players talked about having a sense of control at the free throw line, and that accounting for confidence. As Player 4 put it, “if I can get myself to the free throw line as often as possible, that’s the only shot in basketball that never ever changes. There’s never any defense, and it’s from the same spot every time... every single variable can be accounted for at the free throw line.” One of these variables includes the pre-shot routine. Player 10 had an element of his routine, keeping his arm in the shape of an L, that inspired confidence due to his perception of control over his shot:

After I really made that change to focusing on the L in my sophomore year, I felt like if I got it to that point and went straight up from there, and did not dip down or anything like that, I felt really really confident that it would go in.

Confidence could also be derived from external sources. In a sentiment echoed by many of the players, Player 2 appreciated the trust his teammates had in him by looking to get him the ball at the end of close games. He said, “When they’re behind you, their confidence will rub off on you.” Player 8 talked about how watching one teammate succeed inspired confidence in him to do the same:

My junior season, in the conference championship game, our starting center was a senior, he was a big guy like myself, a post player, and he was a good, but not great free throw shooter, I don’t know what his exact percentage was, but we were playing on the road in the conference championship game, and it was a big moment, in their gym, I think we were up 1 or 2 points, and he went to the line, he got a rebound and they were forced to foul, and he went to the line, and obviously not the guy our team would have picked, like for instance, if it were a technical, but he got the rebound, he got fouled, he went to the line and drained both like it was nothing, so that kind of showed me like, wow, he’s a senior, he’s a captain, he wasn’t the best free throw shooter, but he stepped up when it mattered. So just seeing him do that, kind of, put this idea in my head that, okay, I’m a senior now, I’m also a captain, I’m going to do a similar type of thing this year in this game.

Within a supportive team environment, confidence can certainly become contagious. A skill to help develop and maintain confidence is proper goal setting. All the players were asked what goals they set for themselves in regards to free throw shooting and why. Many of the players set relatively high goals for themselves. As Player 1 put it, "The loftier you set it, the better you're probably going to do." This "aim small, miss small" mentality was identified by other players as well. Player 2 talked about goal-setting in relation to confidence: "It's easy to measure - you know if they're going in, you're confident."

Non-Clutch Factors

There were times when players missed a key free throw down the stretch of a close game. One of the factors associated with these misses was deviation from the pre-shot routine. Player 4 talks about a time, in a 1-point game with 20 seconds left, where he engaged in a behavior inconsistent with his usual pre-shot routine at the free throw line:

I got to the free throw line and I was talking to this kid, which I don't ever do, I don't talk to kids on the line. At least not before the shot. So before the shot, you know, my confidence kicked in terms of, I've been here before, I know I can make these free throws, and that's why I talked to that kid... I shouldn't have. I kind of got lackadaisical and I missed that first free throw. I remember when I let it go I was like, oh no, this is not going in.

The idea of players putting added pressure on themselves was previously mentioned. This can also be seen as a mental deviation from the routine, if self-inducing pressure is not a part of the routine. Player 5 talks about this, after missing the first shot of a two-shot foul:

If I missed the first one, it would probably put my chances a lot lower for the second one, that just seems like it was the way it always worked out. I kind of put pressure on myself when I miss...I put too much pressure instead of just doing the same routine and shooting it.

This response was coded doubly, as well, for a non-optimistic explanatory style. Here, Player 5 has a permanent explanation for failure, saying that if he missed the first one, his chances for making the second one were a lot lower, because "it was the way it always worked out". This non-optimistic explanatory style may also be linked to non-clutch performances. A similar response came from Player 7:

Free throws are pretty much all mental, because I know from just playing college basketball I could knock down a shot from like 15 feet, but sometimes you get something in your head where you miss 2 and in your head, you're like "ah man, I'm done for the next 8.

Here, Player 7 is attributing a lasting, more permanent, negative effect, at least during the span of one game, to missing initial shots taken in the game.

Another example of a non-optimistic explanatory style was given by Player 1 when asked about the difference between shooting free throws at home versus on the road.

I think there's a lot more pressure at home, like when everybody is silent. It's literally, everybody is dead silent, everybody is watching you at the end of the game, its just, there's nothing else happening. At least on the road there's other factors, everybody is trying to distract you, so in that case, you at least have an excuse for why you missed it, but at home, when there's nobody making noise, it's a little different.

Here, Player 1 actually has an optimistic explanatory style for why he might miss on the road; there are a lot of distracting factors, and the failure is not of a personal nature. But at home, when none of these distractions are present, according to Player 7, there is no excuse for missing. The failure here, as Player

1 explains it to himself, can only be of a personal nature. One could conclude this may lead to added unnecessary underlying pressure in crunch-time situations at home, which could affect Player 1's performance in these situations. Similarly, Player 10 internalized the failure in accounting for cold streaks he went through:

I definitely went through cold streaks for sure. It's hard to say I went through hot streaks because what most people would consider hot is what I consider like what should be happening - but with my cold streaks I think it had a lot to do with form and confidence, or a lack thereof.

Player 10 attributes being cold to qualities within himself, thus attributing a personal nature to the failure. Additionally, instead of attributing a personal nature to the success of his hot streaks, he attributed it to "what should be happening" which implies a certain amount of an impersonal nature to his successful shooting.

Another theme that came up was the feeling of relief. Player 9 sums up this feeling when attempting a pair of high-pressure free throws with 30 seconds left and his team trailing by one point. He made the first, but ended up missing the second free throw:

It's senior day, it's our rival, and I just remember thinking to myself like, I'm the senior captain, I'm the go to guy, and it's up to me to hit the free throws, so yeah, I remember feeling, after making the first free throw, just a really big sense of relief, and more so than almost any other free throw, maybe than I've ever taken in my career. I'll never forget that, after I made the first one, I really, really didn't want to let everyone down, and I didn't want to let myself down, on the day that I knew -and I game I knew I would never forget, it was close the whole way too, and I made the first one, and I missed the second one (laughs), and I think that's what kind of hurt me on the second one.

A sense of relief after making an important free throw may be a natural response for some players. However, according to the arousal theory, a

moderate level of arousal is linked to optimal performance. Relief flooding in before taking the second free throw may affect these arousal levels to the point where focus can be lost, as Player 9 referenced thinking about how important the game was and how he felt so relieved for not letting everyone down, including himself, after making the first free throw.

Discussion

So, does the age-old debate over the existence of clutch performers carry on? I believe it does. I believe it does, because no one is Superman or Superwoman. The system that is the game of basketball is so complex, with so many moving, inter-related parts; often times, the game can be on the line, literally “hanging in the balance.” If one imagines that visual, it takes just the tiniest bit of influence to bring about the tipping point, where we either have the pleasure of seeing a gritty, heroic, clutch performance, or a cringe-worthy, non-clutch performance. And with pressure as the moderator, these interviews allow for a glimpse into that significant moment, what led up to that point, how the moment is perceived, and how the pressure is overcome, or succumbed to.

1. *What do players focus on when attempting free throws? How does this focus change under pressure?*

Tables 2, 3, and 4 provide the details of what players said they were focused on when attempting a free throw under normal circumstances, as well as a free throw that took place in a high pressure situation. The average focus level on the routine was at a 7.9 out of 10 when attempting a free throw in general, and an 8.2 out of 10 when attempting a free throw that specifically takes place

under high pressure circumstances. The average focus level on the crowd was a 3.3 out of 10 when attempting a free throw in general, and a 5 out of 10 when attempting a free throw in a high-pressure situation. The average focus level on the players lined up in front of the free throw shooter on either side was an average of 1.9 out of 10 under general circumstances. Under pressure, the average focus level on the players in front of the shooter was a 2.7. The average focus level on a specific spot on the rim was a 7.6 out of 10 under general circumstances. Under pressure, the average focus level on a specific spot on the rim was an 8.3 out of 10. The average focus level on the follow through was a 7.2 out of 10 under general circumstances. Under pressure, the average focus level on the follow through was an 8.3 out of 10. The average focus level on the outcome of the free throw was a 6.9 out of 10 when attempting a free throw in general. Under pressure, the average focus level on the outcome rose to an 8.3 out of 10.

These numbers are in no way meant to be scientific, but they raise an interesting idea. Assume that as humans, we have a limited amount of focus that we can allocate. Let's also assume that different tasks we attend to require differing amounts of focus. Under pressure, in all but two of these players, the focus allocated to different stimuli increased, and taken as an average between all of the players, every stimulus received more focus under pressure. Of the two players who did not allocate more overall focus, one player, player 10, actually would focus less on his routine during a high pressure scenario, even though routine is in this case task relevant. The follow through and the specific target are

also task relevant, but some of these stimuli are task irrelevant, like the crowd, the players in front of you, and the outcome of the free throw. It is interesting to posit that under pressure, a form of multi-tasking can take place: that is, attending to multiple stimuli and allocating a limited reserve of focus to these stimuli, which ultimately can lead to less efficiency directed toward the relevant stimuli of the primary task at hand. This seems to support the attentional threshold model (Cox, 2012), which links decreased performance under pressure to an exceeded threshold of attentional capacity.

It should be noted that some players offered explanation for why they did or did not focus on what most would say are task-relevant or task irrelevant stimuli. For example, Player 9 explained that he focused on the players in front of him because he often asked them to remind him to get up on his toes. Player 4 explained why a focus on his follow through wasn't important, if he were to miss his first free throw:

Not important, not for me. Again, it was a part of a carefree mentality that I had on the misses. So when I missed my first shot, once I got to the second shot, my eyes were already locked in, because I'm like, aw man I missed a shot let me get going, so I'm already looking at the rim, as soon as I catch it, it's going up and I'm getting back on defense. And a lot of that is confidence more than technique. So, if I can go up there with a carefree mentality, shoot it, and you know, have a mannerism of, oh I know that's going in, and it goes in, that makes me completely confident for the next time I get to the free throw line.

2. What do players do to help manage the pressure of the situation?

Numerous strategies were employed by the players to help manage the pressure of the situation. These strategies included positive self-talk, relaxation techniques, namely taking deep breaths, reducing the importance of the pressure

moment, imagery, especially of previous successes, focusing on the routine and other task-relevant cues. These themes are consistent with the research that has been done on performing under pressure. In their book *Performing Under Pressure*, Weisinger and Pawliw-Fry (2015) list the following as some of what they call “pressure solutions”: “Use a variety of encouraging and confidence building statements (p.126),” “Regulate your breathing (p.147),” “Depressurize the moment by minimizing its significance (p.116),” “Flash back to your previous successes (p.123),” “Create and practice a pre-routine (p.144).” One can see the similarities between the pressure solutions and how the players managed the pressure of a situation.

Essentially, what all of these pressure management techniques have in common is that they take the focus off of what could go wrong, while providing additional benefits. Positive-self talk reassures the player and helps to minimize anxiety felt in that moment. Relaxation techniques, such as deep breathing, have the benefit of providing a physiological release of tension and lowering arousal (Paul, 1969). Additionally, focus on the breath distracts the mind from performance-debilitating thoughts. Reducing the importance can counter some of the distorted thinking caused by pressure and take the edge off of a pressure-packed moment. Imagery provides the mind with an image that is task-relevant, can trigger muscle memory, and can inspire confidence by flashing back to previous successes. The pre-performance routine, highlighted as important by every player, gives the mind a relevant task to focus on, can trigger muscle

memory of an action performed many times, and can be a source of comfort and familiarity in what may be an uncomfortable and hostile pressure situation.

3. How does one prepare for a situation that will be pressure-filled?

Preparation in the form of practice was a key component of being able to perform under pressure for the players. All players practiced free throw shooting in some capacity; some were placed in situations during drills by their coaches that enabled them to practice free throw shooting, and others practiced free throws individually on their own training time. Many did both. Often this practice was measurable and consistent, so that players could get a gauge on their performance and what they were striving for as the season progressed. This practice also led to a feeling of preparedness, which likely helped fuel their confidence.

The act of practicing with some pressure could be a factor in players feeling even more prepared to succeed in a high-pressure situation. Players put pressure on themselves, for example, by delineating a number of free throws that had to be made before they could leave the gym, or engaging in some sort of conditioning if they didn't make a desired number of free throws. This served as a form of goal-setting; it gave the players an achievable challenge, that when they succeeded, boosted their confidence in their ability to perform in pressure situations. Coaches similarly introduced drills in practice that simulated game situations and some of the pressure that may be experienced during those situations.

Sometimes, the preparation took place moments before the free throw was taken, in the situation of being iced. In this situation, players often focused on what the coach had to say during the huddle. They switched to a strategic focus. This provided a task-relevant point of focus that also blocked their mind from potentially unwanted thoughts about the upcoming pressure free-throw. Alternatively, some players engaged in a technique to take their mind off of the upcoming free throws and what could potentially go wrong. The key was that when the time-out ended and the player went to the line to attempt the free throws, they were able to shift their focus to what was relevant in that moment; namely their routine.

4. How does one player perceive the pressure of the moment differently from another?

Pressure was experienced by all the players, but their perceptions surrounding the pressure differed. Some players were aware of a physical sensation that arose during pressure situations, like an increased heart rate, or some tightness and tension experienced in the body. Others were aware of a psychological effect that pressure had on them, resulting in feeling nervous, of having self-doubt.

For some, other situational factors played in to how they would view a pressure moment. For example, Player 10 talked about how his mindset could potentially differ if the opposing coach tried to ice him.

There were a couple times during my hot streaks where I would laugh at that. Like, you really think that's going to make a difference? During my cold streaks though, yeah it probably is making me think more about it. I'm thinking, "Man, I missed. I'm 3 for 7 in this game and now I've got this big

one can I do it?" I think it really depends on the moment, and how I was shooting the previous couple games.

Players had differing beliefs about what they thought caused pressure to enter a situation. For some, it was the expectations of those around them. Teammates, the opposition, coaches, a girlfriend in the crowd, the entire home fan-base; for some players, the idea of not living up to their expectations, or letting someone down, in the case of a supporter, was what caused the pressure. For some players, it was the importance of the situation. Inherently, in a close game down the stretch, the outcome is still uncertain, which leads to the free throws being taken having a more immediate impact on the outcome of the game. Thus, it is likely natural to consider these free throws more important. Add to that it's the conference championship game against an in-state rival, and the perceived importance of the situation can lead to feeling some pressure.

In these situations, a sense of "do-or-die" may kick in. Thinking can become rigid, and the phrases "need to" or "have to" signify no room for error. It is interesting how the perceived inflexibility of the situation, however real that may be, can parallel the inflexibility in thinking that often accompanies high-pressure situations. That is, getting stuck on one thought, like how important the upcoming free throws are, and the inability to move from that thought to a task-relevant cue.

Some players become very focused on the outcome or the results during a high pressure situation. These are the "what if..." scenarios that can pop up into a player's head. Weisinger and Pawliw-Fry (2015) identify pressure traps, and identify polarities on which an individual can fall. One of these polarities is

the “not wanting to lose, versus having to win” polarity. Here, the focus is on the ultimate result, instead of the task-relevant process towards attaining that result.

One player talked about distractions as a cause of pressure in a situation. A loud crowd, the opposing players engaging in trash talk, and a player’s performance in comparison to the performances of teammates at the free throw line are not directly relevant to the task of shooting free throws. However, as sources of distraction, they can put additional pressure on a player when attempting free throws. Distraction theories propose that pressure creates a distraction environment, which causes a shift in focus to task-irrelevant cues (Wine, 1971). The player’s description of how these task-irrelevant cues become more salient under pressure is in line with distraction theories of performance under pressure.

Finally, some players’ perception of a pressure situation caused them to put more pressure on themselves. Likely, these situations don’t call for additional pressure- a tie game in overtime, for example, is inherently pressure-packed. While adding some pressure to a practice situation that is devoid of any pre-existing pressure can be a useful tool to help a player feel more prepared for an encounter with a pressure situation, adding pressure to a game situation, where pressure already exists, likely leads to over-arousal and overthinking. Player 1 describes this phenomenon:

If I miss the first one, then... I kind of start worrying a bit in the back of my head. Because... I *hate* missing two foul shots like, free points, no one should ever miss two foul shots. Then I start to put a little more pressure on myself and start thinking like, alright what do I have to do. Like coach said that- he knows that I do this, if I’m not shooting well, I try to find out like what’s wrong, what I have to fix, am I not bending my legs, did I not

follow through...I get in the back of my head a little bit trying to figure out what went wrong, and a lot of times I don't really have to do that.

Notice here how Player 1, by putting more pressure on himself, is deviating mentally from his routine. This increased self-focus can take away from focus on the relevant task, his practiced routine, by turning his attention inward to the skill processes underlying performance. This step-by-step attention to execution can lead to performance decrements, despite the ability and incentives for good performance (Baumeister, 1984). It is common to see players try to “troubleshoot”, as Dr. Tom Amberry refers to it, when under pressure at the free throw line; in a pressure situation, if the first one is short, the next one will likely be shot too hard, in a sense overcompensating for the first miss (p.87).

5. What are some factors related to clutch performances?

Several themes emerged from the responses of players describing optimal performances under pressure, as well as sub-optimal performances under pressure. The most commonly talked about theme associated with coming through in the clutch was confidence. Confidence was one of the four core traits that was associated with performing admirably under pressure, according to Weisinger and Pawliw-Fry (2015). In terms of rating confidence, they cite “asserting your beliefs even though you know others are sure to disagree” as well as “taking risks to get ahead or make things better” (p. 164). A recount of a clutch moment by Player 4 in his career highlights both of these confidence ideals:

I'll take it back to my freshman year, first game of my freshman career, I'm playing with a two-time All-American on my team, phenomenal player... So the game comes down to the wire, and the play was to get the ball to the All-American, and I said, well I didn't tell the team this, but I said to myself like, this is my chance, like, I've been irrelevant in high school, you

know, I've got the opportunity to put myself on the map. If I fail, I'm just that freshman that failed. But if I succeed, I'm that freshman that, you know, won the game when it was his first game ever. I get out of the huddle, I know to myself I'm not passing this ball, and I swear to you, my heart was in my throat, um, it got to the point where you know, where I was dribbling it over half court, and I had to pause to bit, because I was so nervous, but then I hear the crowd, and then you see the teammates, and it's like, I can do something that can change a lot of things for me right now, and like I said, it's a risk reward thing, and the reward was so much greater than the risk of failing, that I went for it. So I drive to the rim, throw up a prayer, (laughs) and I made the game winner, I made the game winner in my first game. So that fueled a confidence that I don't think I would have had otherwise. So, I don't think my career goes as well as it did if I don't make that shot on my very first game of my career.

One of the mindsets, conscious or not, for succeeding under pressure was the idea of a player directing his action with the intention of having it affect something outside of himself. In his book entitled *Trying Not to Try: The Art and Science of Spontaneity*, Edward Slingerland (2014) offers an explanation of why this may be:

Similarly, regardless of level of expertise, focusing on the environment and effects one wishes to have upon it is more effective than focusing on one's own bodily movements or internal states. For instance, swimmers told to focus on pushing the water back as opposed to pulling their hands backwards swim faster, and this effect has been shown in a large variety of domains. There are various hypotheses about why directing one's attention out, rather than in, is more effective in learning and performing a physical skill, but it seems likely that it has to do with wu-wei. When you focus on your own movements, you allow your conscious mind to insert itself where it doesn't belong, disrupting smooth, automatic motor programs and allowing other distractions— social pressure, personal anxieties, promised material rewards— to invade and degrade your performance. Focusing on the skill-relevant environment facilitates your ability to get “lost” in the to-and-fro of the play (p. 221).

The concept of “wu-wei” is similar to the idea of flow, or “being in the zone,” as it is often referred to in a sport setting. This also supports the idea that self-focus under pressure is detrimental to performance, while focusing on the

effect one wishes to have on the environment counteracts any potential self-focus. There is also a certain amount of spontaneity to a clutch performance. A player cannot really plan out when a clutch performance will occur. When the opportunity arises, the clutch performer is likely totally absorbed in the moment.

A study conducted with golfers used a similar focusing technique. One group of golfers was instructed to focus on the swing of their arms, an internal focus, and the other group was instructed to focus on the swing of their club, an external focus. In the study, an external focus is defined as a focus of attention with attention directed to the effect of the action. The group instructed in external focusing techniques performed better in practice of skill and retention of skill than the group instructed in the internal focus technique (Wulf, Lauterbach, & Toole, 1999). However, in this study, there was no manipulation of pressure, rather just of skill acquisition and retention. Further studies could investigate the effects an external focus of attention has on performance under pressure circumstances.

Other themes that arose in relation to optimal performance under pressure, and are linked, are expecting success, and an approach mentality. Player 9 uses an interesting word to describe the phenomenon of expecting success:

My freshman year I started off the season making like 26 in row, yeah like 47-48 to start the season, I mean it was absurd, and I really don't know what it was, I guess, maybe a little arrogance. My sophomore year I started the season off by going 17-17 I believe, in my first game, and it was a close game against a ranked team. You know, they kept fouling me, and that was one of the games where it's like, you were really clicking, and whenever you go to the line it's automatic.

Arrogance is an interesting word choice. Being arrogant, according to Google, is defined as “having or revealing an exaggerated sense of one's own importance or abilities.” To Player 9, expecting that every shot was going in may have felt exaggerated, or even absurd, as he put it. But that may be a key component on clutch performance. It's the fine line between wanting or needing to make it, followed by a letdown if the result is not achieved, versus expecting to make it, and maintaining that mentality regardless of the scenario.

Expecting success likely leads to the approach mentality of wanting the ball, or at the very least, being comfortable with the ball, or being comfortable with taking free throws, when the spotlight is on. The approach mentality isn't about demanding the ball, but rather can be an acceptance of the role. As Player 6 puts it, “I don't dislike (the spotlight) nor do I love it so much, I just really accept the opportunity, and I'm grateful to be trusted with the ball in my hands - to have worked as hard as I have to be trusted with that.”

Optimistic explanatory style seemed to be linked to getting hot or staying cold. Players described getting hot as attributed to personal factors. Or, on the flipside, a cold streak being due to impersonal factors, as described by Player 3:

Well the next couple of games I shot 50 % or so - um, I think it's just because we were using a different ball, the ball was a lot lighter than I was used to and everything was just back rim, back rim, I almost even banked one in.

Having this overall optimistic explanatory style could reduce the length of cold streaks and extend the length of hot streaks. Hot streaks are all about being in the zone, and the zone is a place players want to be when it comes down to crunch time scenarios. Through years of research, Dr. Martin Seligman (2006)

has similarly found that athletes with optimistic explanatory styles perform better under pressure. Says Dr. Seligman:

Moreover, explanatory style works by the same means for both individuals and teams. It makes athletes do better under pressure. If they are optimists, they try harder and come back from defeat (p. 166).

General Discussion

The semi-structured format of the interview was beneficial in that it allowed me to expand on ideas that I felt were relevant that came up during the course of an interview with a particular player. I could incorporate real-life examples into my interviews to help establish credibility and help create rapport with the player I was interviewing. I think it would be interesting to include some of these real-life examples, and how they relate to some of the themes that came up along the way in this study.

Established NBA players aren't quick to divulge their every strategy for shooting free throws, but some information about players' routines exist that are similar to themes that came up in this study. For example, J.J Redick, in a video available on YouTube, discusses the elements of his free throw routine. He talks about specific foot location, how many dribbles and spins he takes each time, and also a part of his routine that includes a mantra, a verse from the bible. (ESbasketball1, 2008). This mantra is the mental part of his routine that he can focus on in order to block out distractions. Dirk Nowitzki, in an article from *Yahoo! Sports* (Rohrbach, 2015), talks about how he dealt with pressure free throws as a rookie:

I got this coach of mine and his idea one time when I missed a couple pressure free throws, a while back, and he said, 'I think you're a little too

tense. You're trying to focus too much. Why don't you try singing a song at the line?' And I looked at him like he was out of his mind. Then, I actually tried it sometimes and it worked (p. 1).

His song choice? Mr. Jones, by the Counting Crows (Rohrbach, 2015).

For Dirk, the use of the popular song was a form of imagery, displacing detrimental performances thoughts from his mind, and likely reducing the importance of the situation.

Along the lines of expected success, J.R Smith, a known sharpshooter with a knack for hitting the big shot, offers his quote on a "let it fly" mentality:

"I feel like if I miss one, I know I'm going to make the second one," Smith said. "I know I'm going to hit it. It's going in without a doubt. I'm letting it fly." "It's like a glow I get," Smith said. "It's hard to explain. It's just weird. It's like a supreme confidence that you get throughout your body that you know whatever you shoot is going in. (Azarly, 2015).

I also want to include a reducing importance technique shared with me by a member of my expert panel, Brad Litchfield, a former college basketball player, and current professor at Temple University. He shared with me that whenever he was about to take an important free throw, he would envision a scenario where it was the next day, he had already taken the free throws, and he had missed them. But, someone came with a time machine, or something of that nature, and offered him a chance to go back and shoot the free throws again. So, for Brad, these free throws he was about to attempt were on the house, so to speak. I thought it was a really interesting technique to reduce the perceived importance of the situation, combined with a little bit of imagery, too.

In one of the most famous basketball games of the 1990's, the Indiana Pacers were matched up against the New York Knicks in the playoffs. In a low

scoring game at Madison Square Garden, the Knicks had the lead entering the 4th quarter. That's when Reggie Miller caught fire and scored 25 points in the 4th quarter to lead the Pacers to a come from behind victory. And he made sure no one heard it more than Spike Lee. After every made shot that quarter, Reggie had something to say to Spike, who was seated courtside. And the hotter he got, the more animated Reggie was in the direction of Spike.

In the Netflix documentary *Winning Time: Reggie Miller Vs. The Knicks*, Reggie is interviewed about this game:“(facetiously)New York’s, so much better than Indiana, so I’m like, “this is for us”, that’s what I’m saying in my head, “this is for us”.

Herb Williams, the New York Knicks center, said about the back-and-forth, “He wanted that (back-and-forth), just to get the crowd in New York pissed off more than what they already were.”

Said Marv Albert: “He had two games going. He had one with Spike, and one with the Knicks.”

To me, this whole quarter sounds like the idea of externally directed action. Reggie knew it was about something bigger than himself; he idealized this in that his actions were for us, us being Indiana. And within the game, every time he scored, he knew his shots were angering Spike, and in turn angering the crowd. His focus on that, the much greater occurrence outside of himself, may have helped propel that clutch, in the zone, comeback performance.

So, how does one make clutch free throws? I believe a lot of what goes into making clutch free throws starts before stepping up to the free throw line,

before the game even starts. Players should have a consistent, simple routine that allows them to attend to task-relevant cues. Players should have practiced this routine to the point where they feel comfortable and prepared to use it in a game. Players should practice free throws individually with self-induced pressure and in a team environment where a certain drill puts pressure on the players to make free throws. Players should have an optimistic explanatory style with regards to events that occur on the basketball court and specifically in relation to free throw shooting. Players should have confidence in their shot and expect it to go in, rather than hope it goes in, when they shoot.

When stepping up to the line, with 3 seconds left, down by one point, players should, either before receiving the ball, or upon receiving the ball, take at least one deep breath, utilizing the diaphragm. Ideally, this is a consistent aspect of their pre-shot routine to begin with. Players should then engage in their pre-shot routine. If at any time during this routine, players become aware that they are focusing on a task-irrelevant stimuli, be it the crowd, an opponent trash talking, or a thought about the importance or outcome of the game, players should simply acknowledge this distraction, and switch their focus to something task-relevant. This could be the action of what they're doing (saying "bounce, spin, bounce, to themselves, as they perform their pre-shot routine), flashing back to a previous success at the free throw line in a similar situation, imagining themselves shooting the shot and watching it go in, or repeating a mantra, cue word, or phrase of positive self-talk to themselves. Again, ideally, what the player switches their focus to is already a component of their pre-shot routine.

Leading up to the moment, players can engage in any personal strategies to help reduce the perceived importance of the upcoming free throws. Players should also take a second to recognize how their made free throws may impact something outside of themselves. Perhaps they recognize how it may make the “swish” sound, or may silence the crowd, or may put pressure on the other team, or may even shock the world. Players’ should focus of the transcendent effects of their free throws objectively, not subjectively. This may help alleviate self-focus during the pressure moments.

Self-Reflection

Clutch performances in sport, in general, have always fascinated me. They have the ability to evoke the chills in me, the good kind. I’ve been thinking about the phenomenon of clutch free throw shooting for a long time. To have the opportunity to be able to conduct this research has been amazing and one that I will never forget. I hope to continue exploring the themes that came out of this study in similar contexts as a current coach and future sport psychologist.

Something that I think helped me considerably was my ability to empathize with the players that I interviewed. I have been playing competitive basketball since I was eight years old. I have experienced my own clutch moments, my own non-clutch moments, and I continue to experience them to this day. More recently, as a coach, I have a different perspective on the game of basketball, one that put me in a unique position to have multiple foundations for insight when conducting the interviews with these players. With every player, I felt rapport was established, with some definitely more than others, and I credit

this to my understanding of the game of basketball and being able to clearly represent in my mind, the situations that the players were describing, having been in similar situations myself.

My thoughts about being clutch have changed before starting the research. I believe it is similar to flow. It is not something you can consciously strive for, the ability to be clutch. It happens when you are absorbed in the moment, even with pressure trying to redirect your attention to task-irrelevant stimuli or thoughts. That having been said, I believe there is a lot of value in some of the themes that I have found, and implications for how to use these findings.

Implications for Researchers

The purpose of this study was to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. This was done from a qualitative perspective. A lot of the existing research on performance under pressure was done from a quantitative perspective. I think, for future researchers, the qualitative perspective offers unique advantages. I would recommend it to anyone who prefers to operate with a fair amount of wiggle room. It has slightly less structure than say a quantitative study, but I think that allows for the study to branch off in directions that you may not anticipate going into the study, which can be a great thing.

Four of my interviews took place in person, while the other six took place over the phone. I definitely preferred and would recommend to future researchers conducting the interviews in person. The interviews in person allowed for rapport

to be built more easily. Additionally, over the phone, with the use of a recording device, the audio was more muffled sounding, and made transcribing a bit more difficult. One participant actually asked me after the fact if he was a good interview. I had never been in the position of interviewing anyone before this study, which I told him, but I shared with him I thought that he interviewed well. Being put in the position of interviewer was a valuable experience. I would definitely recommend practicing the interviews on someone before going out and conducting them with participants in the study. I definitely had to work through a couple of small kinks with my first few interviews.

My partiality towards qualitative, interview-based research is that it hinges on verbal interaction, something that our species possesses that is so valuable. The fact that quantitative, controlled studies can be done on rats says something about the nature of that type of study. This process felt a lot more ethical to me.

There was an importance on timeliness of the study. Coaches were informed of the study and asked permission to speak to players on the team before the pre-season started. One can speculate that a coach may have been more reluctant to allow his or her players to be interviewed closer to the start of the season, or during the season. Additionally, there were coaches who opted not to have their players participate in this study. One coach said that his player was so good in clutch situations, that he did not want him to overthink it. Future considerations should be given to how to design studies, with timeliness as one potential factor, that coaches and teams are more open to participating in.

Implications for Practitioners

Most of the players in this study were familiar with the field of sport psychology. A few players referenced how important the mental aspect of basketball was in attaining optimal performance. Talking about a subject like pressure, though it wasn't in a clinical setting, enabled players to open up, some more than others, about their experiences with what can be a difficult subject to talk about to a coach or to another teammate. My inclination is that most if not all of the players enjoyed the opportunity to talk about a subject like pressure; something that any athlete feels on some level, even if they may not want to outwardly express or portray it.

When it comes to practical implications of the study, I believe that a free throw shooting regimen that introduces some of the techniques discussed by these players as well as themes that emerged would be beneficial for any player to learn. I must say, however, that I think it would be significantly more beneficial to learn a free throw shooting regimen at a young age. I think the ideal age to learn how to manage pressure and some of the other themes linked to clutch performance would be 13-15 years old, or at an age where the skill level is beyond that of a novice, the game situations are becoming more competitive, and there is more of an awareness of the phenomenon of feeling pressure. Do I think some of these themes could help an elite level basketball player who struggles to shoot free throws under pressure? Sure, and I think DeAndre Jordan would benefit from it a lot more than Steph Curry would, as someone who struggles with free throws and is often fouled intentionally in key spots of the

game. But ultimately, what I think is more valuable is instilling some of the key, core components of what goes into a clutch performance into younger basketball players who are still developing so that it becomes a part of their basketball DNA, so to speak.

Workshop for Free Throws Under Pressure

The following is an outline of a workshop for coaches, sport psychologists, mental conditioning coaches, etc. to utilize as a teaching tool to their players to perform better from the free throw line under pressure.

1. Development of a pre-shot routine: Ideally, this routine should include:
 - a. A deep breath or consistent number of deep breaths using the diaphragm.
 - b. A temporal, rhythmic consistency so that it takes the same amount of time to complete the pre-shot routine each time.
 - c. A focus on task-relevant cues; which can include a cue word or phrase for optimal performance, imagery of optimal performance or previous successes, and/or a specific target in the basket area.
 - d. Additionally, the routine should be simple and practiced enough to where the player feels comfortable with it. The routine should be the same in both low-pressure and high-pressure situations.
2. Focus switching- players would be trained in how to *acknowledge* task irrelevant stimuli, and subsequently how to switch the focus back to task-relevant stimuli.

3. Optimistic explanatory style- Players would learn how to explain events that occur to themselves in an optimistic way. An example of this would be “I make free throws because I am a good shooter. I miss free throws because sometimes free throws don’t go in. I expect that the next one will go in because I am a good shooter.”
4. Externally directed action- Players would identify the way in which their free throw impacts something outside of themselves. The player would express not how they *want* to impact something outside of themselves, but rather, how they *know* their free throws would impact something outside of themselves. An example of this could be “I know a made free throw will make the net move.”
5. Players would be run through a series of drills designed to simulate pressure from the free throw line, with the opportunity to apply the skills that they were taught and feel most comfortable using.

CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE
RESEARCH

Summary

The purpose of this study is to examine how players are able to manage perceived pressure when attempting free throws and deliver a superior performance. Along with this phenomenon, free throw routines, preparation, situations, and specific instances of high-pressure free throw attempts were examined. Ten basketball players from Division III were interviewed using a semi-structured interview format, which allowed the interviewer to expand on listed questions and to insert relevant responses of his own that didn't follow any sort of script. This was, for one, to help establish rapport between the players and the interviewer. Four of the players were interviewed in person, and six were interviewed over the phone. In order to qualify for the study, these players had to have attempted free throws in the 2014-2015 season, during the last 90 seconds of a game in which no team was ahead or behind by more than 2 points.

After completion of the interviews, the interviews were transcribed, reviewed, and coded by the researcher. The raw data were coded using the constant comparative method, resulting in 65 codes during the process of open coding. Of these 65 codes, 57 were assigned into 8 different categories that represented the core themes of the study.

Players discussed the components of their free throw routines, how they practiced free throws, what goals they set for themselves in relation to free throw

shooting, how focused they were on certain stimuli when attempting a free throw, how they perceived pressure, how their perception of pressure changed their focus at the free throw line if at all, how they performed in a specific instance of high-pressure free throw shooting, how different situations affected their mindset when attempting free throws, what they thought accounted for hot or cold streaks at the free throw line, and what cue word or phrase they would use to describe a perfect free throw.

Conclusions

The researcher arrived at the following conclusions based on the responses given by the players.

1. Having a specific, consistent, practiced routine that a player is comfortable with is an important predictor of free throw success. The routine provides a task-relevant cue for the player to focus on, especially under high pressure situations.
2. When it comes to focus at the free throw line, a player should have a set of task-relevant cues to focus on. These cues can be external, like a specific target, or internal, like taking a deep breath.
3. In pressure situations, players have a tendency to allocate more focus than they usually do to different stimuli, both task-relevant and task-irrelevant. This may deplete the attentional resources that are optimal for the desired performance of making the free throws.

4. Players have different perceptions of what causes pressure, and are aware of different responses evoked from themselves during pressure situations.
5. Players can engage in a number of pressure management strategies, such as relaxation techniques, positive self-talk, imagery, reducing the importance, mindfulness, and focus on task-relevant cues like one's routine.
6. Clutch performance is likely linked to confidence, actions directed outside of oneself, an optimistic explanatory style, an approach mindset, and the ability to acknowledge, but not over-focus on, task irrelevant cues.

Recommendations for Future Research

The following recommendations for future research are offered

1. Researchers may want to attempt to interview players immediately after a clutch performance when the feelings and thoughts are much more salient.
2. Researchers may want to come up with a more universal definition of clutch free-throw shooting, or clutch performance in general, based on the experiences of athletes who perform them.
3. Researchers may want to test the generalizability of the implications from this study, to other divisions of basketball, to women's basketball, to youth basketball, and to basketball played in other countries around the world.

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Appendix A

Semi-Structured Interview Questions

1. Take me through your free throw routine, step by step. How long has this been your routine?
2. What do you do to practice free throws? How often?
3. What are you focusing on while attempting free throws? Specifically, what are you looking at?
4. Do you have a mantra, like a word or a phrase you repeat to yourself when attempting free throws?
5. Do you set goals for yourself in practice and/or during the season in regards to your free throw performance? If so, describe this goal-setting process.
6. Do you ever feel pressure at the free throw line? If so, what causes it?
7. Are you aware of anything that happens in your body in pressure situations? How do you regulate these sensations?
8. How do you prepare for free throws that take place in more high-pressure scenarios of a game?
9. On this date (xx/xx/2014-2015), you attempted free throws against (enter team) with less than a minute left, with your team ahead/behind (by 2 or less)/tied. Take me back to your mindset and your approach as you stepped up to the line. **Alternatively (if they don't remember specifics)** What is your mindset/how do you approach a free throw in a game where

the following scenario has developed? You are fouled with 5 seconds left in the game. It is a two shot foul. Your team is down by 1.

10. Does being ahead versus behind affect your mindset/approach? How about tied?
11. What is your focus in between shots on a two shot foul? How does this focus change, if at all, depending on whether you made or missed the first attempt?
12. Have you ever gone through hot/cold streaks at the free throw line? What do you think accounts for these streaks?
13. How much do your teammates trust you to take free throws? How do they show this trust?
14. How does the crowd affect your free throws? Home vs. Away, knowing someone is in the crowd, crowd noise, etc.
15. Do you feel like the “spotlight is on you” when attempting a high-pressure free throw? Do you like that feeling?
16. On a two shot foul, you make your first free throw. The opposing coach calls a time-out, commonly called “icing” the shooter. What is your approach/mindset during the timeout?
17. Give me one word or short phrase to describe what a good free throw feels like.

Appendix B

Expert Panel

Dr. Kevin Burke, Sport Psychology Professor

Dr. Lois Butcher-Poffley, Sport Psychology Professor

Mr. Fran Dunphy, Men's Basketball Head Coach at Temple University

Dr. John Giannini, Men's Basketball Head Coach at La Salle University

Dr. Jack Lesyk, NBA Sport Psychologist

Dr. Brad Litchfield, Former Division III Basketball Player, Adjunct Professor

Dr. Rainer Meisterjahn, NBA Sport Psychologist

Mr. Jake Rauchbach, Graduate Assistant for Men's Basketball at Temple
University

Dr. Michael Sachs, Sport Psychology Professor, Thesis Advisor