

The Success Hormone: Oxytocin & Teams & Coaching

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The ongoing quest to mimic and replicate successful teams is a practice that many aspirational coaches undertake. Through discussion, observation and repetition coaches aim to reproduce what others are doing yet may not be getting the success they seek. A deeper dive into successful teams and coaches and an understanding of human biochemistry / biopsychology may provide some valuable clues & insights about how to extract the best from your roster and enable an effective session, week & season.

This paper proposes that the hormone oxytocin has a contributing factor to play in creating harmonious environments that can lead to success. The ability for a coach to extract / stimulate oxytocin through a range of cues and activities can assist in player satisfaction and therefore a more successful team environment. This paper will utilise evidence-based learning and look at the concepts of mood, appearance, body language and the use of tactile communication to promote a 'feel-good' environment.

The purpose of the paper is to incite self-reflection about coaching practices (soft skills) and creating an atmosphere that promotes a wholesome and cohesive team environment, that can lead to success.

What is Oxytocin?

Oxytocin is a neuropeptide stimulated and released through the hypothalamus which coordinates a range of somatic processes (Audunsottir 2021). Oxytocin is noted for its value in social cognition and provides an influence on perception and learning (Quintana 2020). Oxytocin receptors are located through the neurons in the brain and spinal cord. Oxytocin is often referred to as the 'the feel-good' hormone due its' release in response to touch and associated with feelings of calmness. During a positive feedback loop, higher oxytocin concentrations increase a desire for further tactile interaction (Jouret 2013).

Oxytocin and Sport

The ability to illicit oxytocin in a rugby environment may not be as hard as thought, and two studies delve into sport and subsequent discussion around behaviours such as positive emotions (prosocial behaviour) and ‘tactile communication’. These studies provide windows for other sporting code coaches to look inside and design subsequent environments that may lead to success.

A 2010 study by Pepping and Timmermans which examined behaviours around body language in World Cup Soccer matches around successful penalty kicks, determined that positive emotions (Emotion contagion) and prosocial behaviour are associated with improved performance in achievement settings and enhance team spirit and boost motivation. **Image 1** reflects the relationship between oxytocin and team performance. A further study in America from Kraus in 2010, around the National Basketball Association determined that teams who touched more had better season records. Kraus determined that ‘tactile communication’ improved player performance.

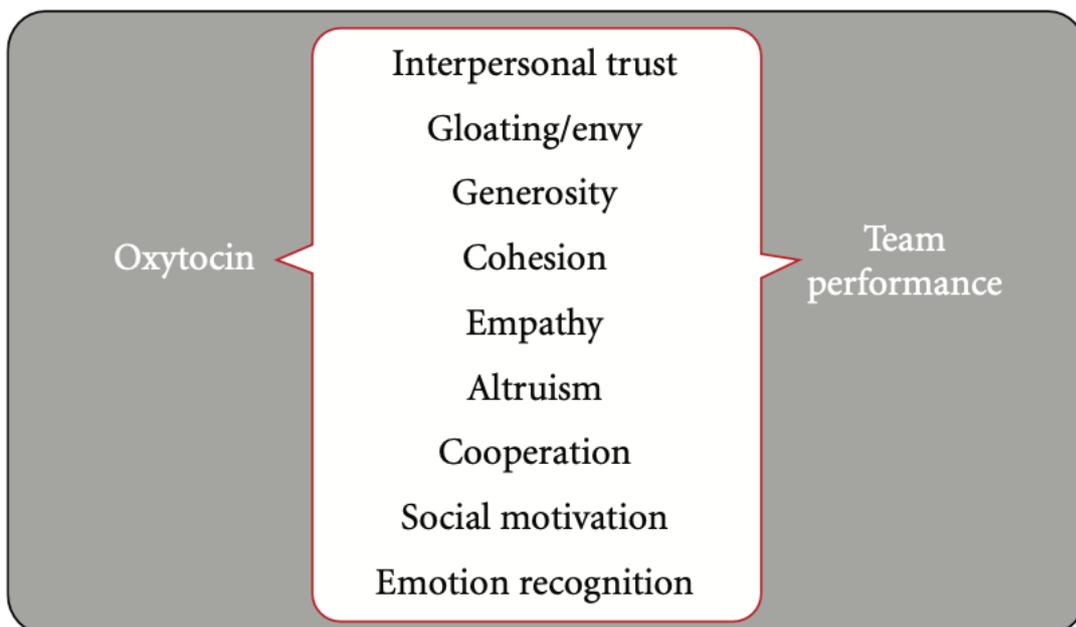


Image 1: Relationship between Oxytocin and Team Performance (Pepping and Timmermans 2012)

With this in context, questions can arise about how to promote oxytocin in a rugby session and these positive feelings around team trainings, players, and team culture.

The success of the Canterbury Crusaders in Super Rugby is well noted, and the work of coach Scott Robertson admired from afar. In a 2022 news article, Scott Robertson noted that *'Being positive is vital, Robertson says and he's careful to reflect that in his language. Instead of saying "don't drop the ball", he tells a player to "catch everything" (Knowler 2022).* Observations of his famous post-match break dancing (**Picture 1**) and the way his team admire and applaud his actions is significant snapshot of a team environment where harmony can lead to success.



Picture 1: Scott Robertson dancing after a Super Rugby Title

Further to Robertson, his former coach Peter Sloane recalled during his playing days saying *"Sloanie just give me the positives, not the negatives"* (Knowler 2022). This recollection again highlights the personality of coach, and perhaps a understanding of how he coaches these days.

Current Coaching Practice and Session Design

To understand how to implement objectives like positive emotions and tactile communication, it is worthwhile to review current formal coaching practices and what a session should look like. In assessing the *World Rugby* website and the pages on "How to Coach", there is little emphasis on the soft skills of positive emotions and

tactile communication. This review provides a clue as to why the soft skills and insights into successful teams maybe a missing piece within the coach education landscape.

The principles of a coaching session

- Safety is your first concern.
- Use your aim as an important tool to give your session structure.
- Make your explanation effective through explanation, demonstration and/or questioning.
- Vary the skill in exercises and game-like situations.
- Adapt your exercise if players get bored.
- Use the following tools to challenge players:
 - Use of space;
 - Increase/decrease number of players;
 - Time - vary time for an activity or the speed of the players (walk, jog, run or sprint);
 - Vary positioning of players;
 - Change material, e.g. use two balls instead of one.
- Create an environment in which players are not afraid to make mistakes.
- Observe players' performances.
- Give attention to individuals, groups and the team.
- Encourage player input and make the session interactive.
- Maximise players' physical activity.
- Players should feel they have made progress at the conclusion of a practice.
- Review the practice.
- Make practices enjoyable.

Figure 1: How To Coach (World Rugby 2020)

Figure 1 is taken from the *World Rugby* site and the observation is noted that 'make sessions enjoyable' is the last point. **Figure 2** is from the same site and provides some design around feedback to players. Feedback offers a coach and player real opportunity to connect and understand each other. The observation within this slide is that there is limited information to a coach about the skill of delivering positive feedback. Coaches should consider an approach for feedback which promotes a player to leave feeling content, and conscious of what is required next. The previous example of Roberson chasing 'positives', serves as reminder of what players may want to hear.

Feedback

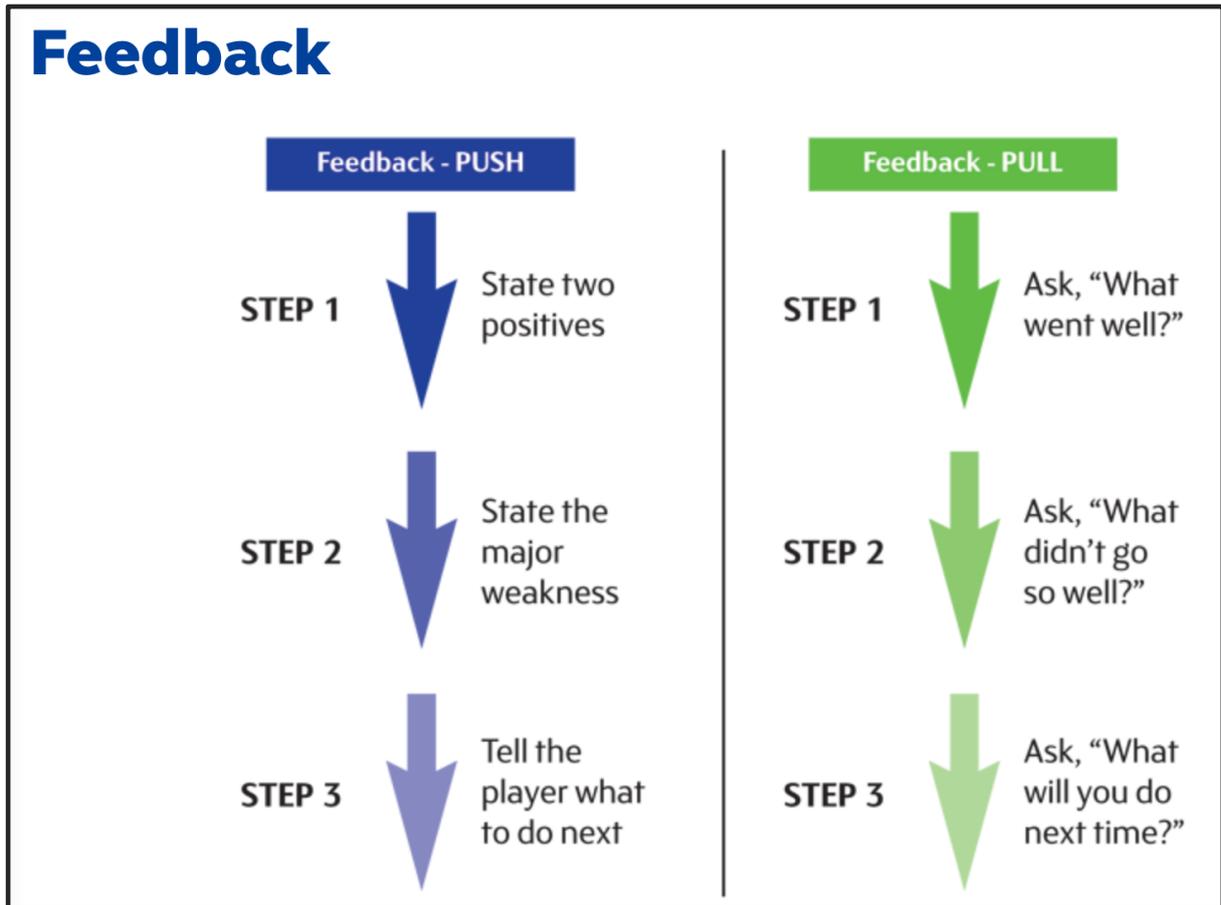


Figure 2: Feedback (World Rugby 2020)

In review of the World Rugby strategies / practices for coaching it is noted that they offer a process for a coach, but in relation to fostering a happy, harmonious culture it could be argued that there is scope to incorporate soft skills like tactile communication.

Positive Emotions (Emotion Contagion) & Session Design

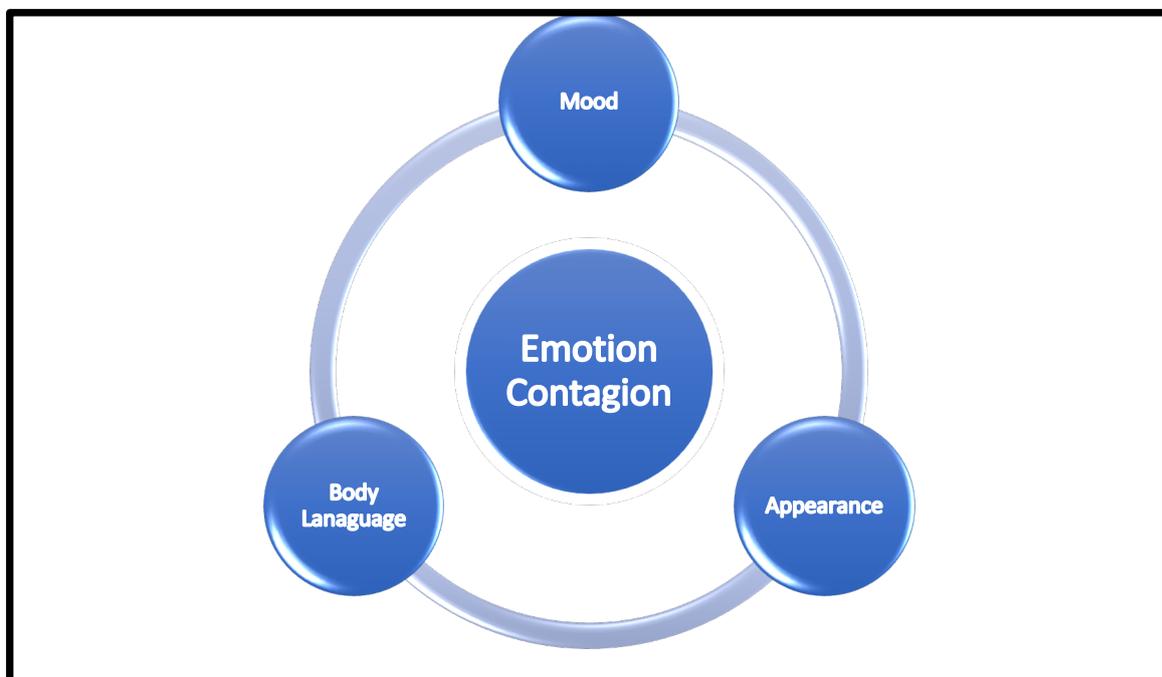
Positive emotion is a key to opening oxytocin in team environments. The ability for positive emotions to be displayed have a flow on effect to others in the local environment. The effect of positive emotion to others is known emotion contagion. Positive emotion can be displayed through mood, appearance, and body language.

The research from Moll (2010) provided other studies into sports where emotional contagion should be considered. A study in 2000 noted that cricket team moods were transferred onto others and happy moods resulted in a better performance. In 2007 a study in handball detailed those players sharing happiness after success led to an

increase in unity and confidence. Finally, the study from Moll around soccer players and their post goal celebrations lead to an increase of positive emotions onto their teammates. To further support positive emotions, a 2019 study by Campo on rugby players noted that anger and anxiety significantly impacted playing performance.

With these facts at hand, questions arise about how a coach can devise, design such notions into their program. Using the concepts of Mood, Appearance and Body Language sessions can be scaffolded in an appropriate way to facilitate them.

Graph 1 highlights how the 3 concepts can work together to drive emotional contagion.



Graph 1: Relationship of Mood, Appearance and Body Language

Mood

To set the mood of the training session, the coach can project themselves in a positive, happy mood. This can unfold with some personal reflection before the session. To have players requesting coaches to talk in positives can correlate to the coach's mood. The coach should aim to project themselves in a positive mood. There is scope for post session evaluation from players / staff and to reflect and comment on the coach mood. The use of video would also be a great tool for the coach to utilise upon reflection.

The incorporation of some mood setting tasks / activities before training can assist. The use of messaging or theming by the coach can set the tone. Consideration of celebrating players birthdays with a cake or other milestones and acknowledgements can be a great aide too. A coach can empower the playing group by utilising a player member to set the tone and create a 'spark' event before the session. During the session questioning from coaches and players about what / how the mood is at the present can assist in ensuring the mood is desirable. Finally, a post session review / survey can be handy to determine the mood state and how players / staff are feeling.

Whilst mood can be described as a feeling, the subsequent actions and language and mannerisms are all consistent pieces to ensure the mood is projected in the right fashion. The use of smiles, laughter and voice tone should be factored too. The use of the right language and polite manners all go a long way to ensuring the mood is set from the coach first. The combination of these events can help promote oxytocin and a 'feel-good' environment where teams pride themselves on such actions.

Appearance

The idea of appearance can be captured with the slang of "*Look Good, Feel Good*". Appearance can apply for players, staff, and the facilities. Whilst appearance could relate to grooming – the scope for this paper is about a team-based sporting environment, and therefore the use of clothing, branding and imagery should all be considered.

For a coach, the ability to wear team clothing should be always factored. To represent the brand and lead from the front is a nice visual for others to take a lead from. Interestingly at the last Rugby World Cup (RWC) in 2023, on match day coaches were seen to wear national colours (Andy Farrell), whilst others wore formal attire in a shirt and pants (Eddie Jones). In relation to team harmony and creating an energy around 'one team', players should be encouraged to wear team strips. At an amateur level, this can be using club shirts, shorts, and hats.

The training and change room environment are another area where appearance can create an atmosphere of happiness and success. At a professional level change

rooms are emblazoned with theming, logos, and bright colours to evoke a sense of pride. Similar touches can be applied at levels below including the use of club logos or colours within change rooms.

To further boost the idea of appearance and fashioned by the All-Blacks mantra of 'sweeping the sheds', players and staff should be encouraged to training environments and change rooms clean. It can develop a sense of pride, and as seen recently by the Japanese team in the RWC, the ability for a team to clean things and develop a service mentality can create nice synergy for the team, but also provides external pride for news sources and supporters.

Body Language

The impact of players and staff body language has a material effect on not only the team dynamics but on the opposition too. Moll (2010) observed the actions of 'positive body language... had an impact on how athletes perceived opponents' confidence, competitiveness and focus.' The ability for people to recognise how they carry themselves can become a powerful tool for the team harmony, perception of the team by others and the team supporters too.

In a practical setting, body language can be trained through awareness and repetition. The use of others can assist in an accountability measure, having teammates evaluate others can be a great asset to ensure standards are maintained. Coaches can use each other to ensure that they are projecting themselves in a good manner.

The ability to use eye contact and have positive gestures with a good solid posture can lead to be better engagement with the group. Methods to evoke such concepts can be the use of seats, so people are at the same eye level. Posture can be addressed with the use of camera to record / provide feedback.

A recent observation at the 2023 RWC in the fixture between Fiji and Australia, it was noted that the Fijian staff remained seated in the box, and all dressed in the same kit. The Wallaby staff were constantly up and down and dressed in different strips.

Picture 2 depicts the contrasts between the two boxes and a question arises, does the mannerism and behaviours of the coach's flow onto the players?



Picture 2: Contrast between two coaches' boxes from RWC 2023

Tactile Communication & Session Design

The term tactile communication stems from work of Kraus (2010). The paper outlined that the function of trust is its promotion of 'trust and cooperation.' Kraus (2010) provided some interesting correlations between winning teams and tactile communication. **Table 1** shows the difference between winning and losing teams

from the study of Kraus, and the time spent during game with tactile communication. They determined touch included the actions of fist bumps, high fives, chest bumps, low fives, and high tens to name a few. The research determined that winning teams had more touches than losing teams.

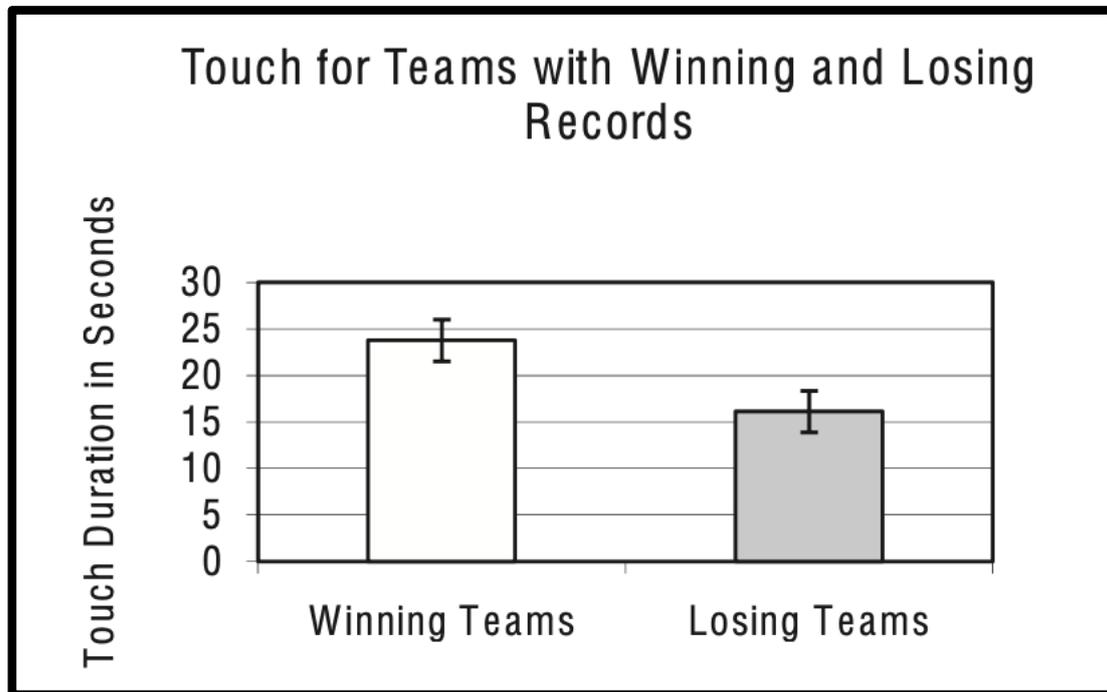


Table 1 : Duration of touch as a function of teams with winning versus losing records (Kraus 2010)

Picture 3 below highlights simple moments whereby teams can create tactile communication within matches and training. There is key moments before, during and after games and training where touch can be initiated. They could be part of a routine before or during huddles or event before or after training. The ability to engage with others and celebrate, comfort, and acknowledge each other is ample. These actions can elicit that 'feel good' hormone. The challenge is for the coach or player leaders to drive these behaviours and ensure they are rewarded and applauded.



Picture 3: Examples of Tactile Communication

With the context of tactile communication, coaches should be aiming to foster an environment whereby teams are actively engaging in a culture of 'touch'. Whether through direction or driven by players, the ability for this human interaction can foster team harmony and as evidenced, lead to success. A 'celebratory' culture is supported by evidence from Kraus, and coaches could / should aim to devise reward / acknowledgement around celebration and support. Again, secondary review of

trainings and matches through video, player survey or just observation can assist in determining how the 'touch' culture is going.

Conclusion

The idea of team harmony and success is not foreign or revolutionary. The promotion of oxytocin and subsequent feel-good feelings is an evolutionary process from birth. Whilst coaches may aim to create new training templates, consideration of mood, appearance, body language and tactile communication may service the teams needs better. Coaches may be better served designing sessions around such concepts and taking snapshots through review, survey, observations from the players and staff to determine if a happy squad is a successful squad.

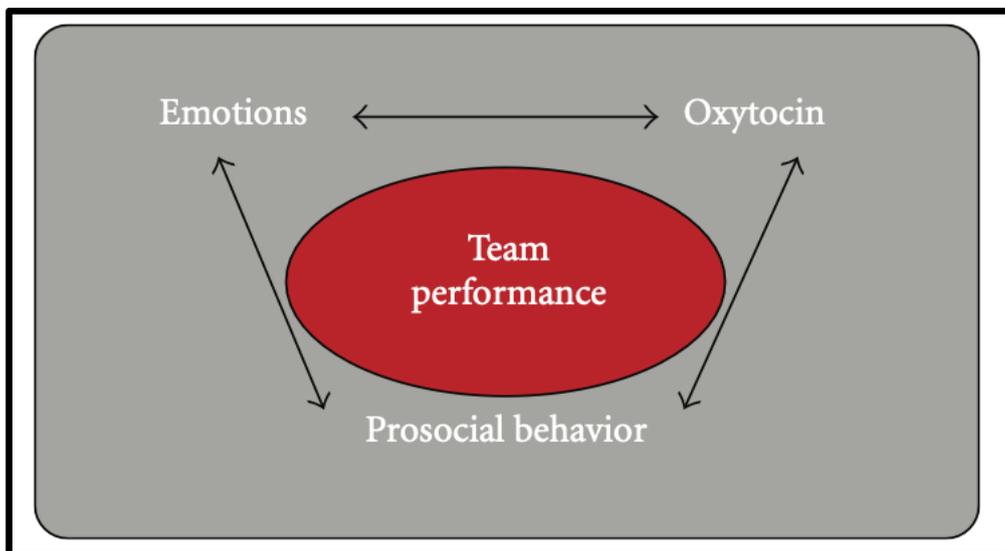


Image 2: The association between emotions, oxytocin, and prosocial behaviour (Pepping and Timmermans 2012)

As detailed with **Image 2**, Team Performance is encompassed by the actions of prosocial behaviour which drives a cycle of oxytocin and emotions of happiness and content. **Image 2** serves a reminder about coaches fostering an environment that when done correctly with positive actions can lead to a successful team on and off the field. **Table 2** provides a synopsis of the concepts provided in this paper and offers suggestions for coaches to consider when looking input some soft skills to elicit some oxytocin and create a happy and successful team.

[Emotional Contagion]	[Emotional Contagion]	[Emotional Contagion]	Tactile Communication
Mood	Appearance	Body Language	Touch
Player Birthdays Milestones Achievements Rewards Awards	Dress Code Changerooms Training Ground Symbols / Logos Behaviours	Positive Stance Eye Contact Posture Behaviour	Success / Failure High-Fives etc Coach & Player Moments Routine

Table 2: Synopsis of Concepts to elicit Oxytocin for Team environments.

This paper serves to open reflection upon coaching styles and methods. In the quest for success, some coaches may forget about the small pieces that can add value a program. The ability to entwine the mentioned concepts with **Table 2** and merge it with player buy-in or a coach-led approach could lead to a happier, and in a performance context : successful winning team.

BIBLIOGRAPHY

- Audunsdottir, K. & Quintana, D. S. (2022) Oxytocin's dynamic role across the lifespan. *Aging brain*. [Online] 2100028–100028.
- Campo, M. et al. (2019) Emotions and performance in rugby. *Journal of sport and health science*. [Online] 8 (6), 595–600.
- Jouret, J. (2013) The sport hormone? *The lancet. Diabetes & endocrinology*. [Online] 1s8–s9.
- Kraus, M. W. et al. (2010) Tactile Communication, Cooperation, and Performance: An Ethological Study of the NBA. *Emotion (Washington, D.C.)*. [Online] 10 (5), 745–749.
- Knowler, R (2022) From surfer to super coach Scott Robertsons rise to rugby stardom, *Stuff News*, 13 August 2020, viewed 25 November 2023, <<https://www.stuff.co.nz/sport/rugby/all-blacks/300660277/from-surfer-to-super-coach-scott-robertsons-rise-to-rugby-stardom>>
- Moll, T. et al. (2010) Emotional contagion in soccer penalty shootouts: Celebration of individual success is associated with ultimate team success. *Journal of sports sciences*. [Online] 28 (9), 983–992.
- Pepping, G.-J. & Timmermans, E. J. (2012) Oxytocin and the Biopsychology of Performance in Team Sports. *TheScientificWorld*. [Online] 2012567363–10.
- Quintana, D. S. & Guastella, A. J. (2020) An Allostatic Theory of Oxytocin. *Trends in cognitive sciences*. [Online] 24 (7), 515–528.