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Effects of Caffeine on Performance in Esports



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Abstract

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This research was conducted to further study the effects of caffeine on esports performance. The research aimed to gather data and then analyze it to be able to provide reasonable evidence whether an esports player should or should not consume caffeine to optimize their performance.

The research was conducted by semi-constructed interviews to collect qualitative data. These interviews were turned into full transcripts that were then analyzed and turned into more clear and presentable data with simple coding. This simple data was further analyzed and cross-examined with already conducted studies as well as with the data collected from this research to be able to present reasonable results.

The general result and conclusion of the research was that the effects of caffeine on performance were highly alternating from person to person but even then, the positive effects were twice as likely as negative ones, and even when negative effects were present, in most of the cases they were clearly overridden by the positive ones. In the majority of the cases, when taken within reasonable environment and variables, caffeine had an overall positive effect on esports performance.

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List of Symbols

WADA: World Anti-Doping Agency

Tabletop game: Game played normally on a tabletop, e.g., chess

3rd person shooter: Shooter game where gameplay is presented from a third-person view.

League of Legends: Multiplayer online battle arena game

Hearthstone: Online card game

Teamfight Tactics: Auto battler videogame

FPS: Shooter game where gameplay is presented from a first-person view.

Auto battler: Strategy videogame

1 Introduction

Within the last decade, esports has grown into a multi-billion-dollar business, and just like with any traditional sport the higher you go competition and skill-wise the smaller the individual differences between athletes start to be. This means that if there is ever an opportunity to seize an advantage people will seize it, especially if it is completely within the rules and easily acquirable by anyone.

Caffeine products, especially energy drinks and different kinds of energy boosters, have been associated with esports for several years now, and this has created some prejudice that caffeine has purely positive effects on the performance of an esports player and close to no negative effects.

The truth to the matter is that the effects of caffeine on the human body can be both positive and negative from a competitive gaming perspective. This thesis aimed to research how does caffeine affect overall performance in esports when both the negative and positive effects are taken into consideration. Data for this research was collected by qualitative measures in a form of semi-constructed interviews.

1.1 Structure

The thesis will first present the relevancy and aims of the research and the reasoning behind it, as well as explain its scope. After explaining the aims of the research, the thesis will clarify the basic structure of esports performance and caffeine and their connection, thus making the aim of the research apparent. Following the aims of the research, the theoretical background is presented with the chosen research approach and its findings. Lastly, the thesis contains the overlook of its strengths and weaknesses and presents its conclusion with possible future work directions and suggestions.

1.2 Relevancy and the aims of this research

The topic is worth researching because studies have shown that caffeine affects physical sports performance positively due to the effects it has on the respiratory system and cardiovascular systems. Because of this, World Anti-Doping Agency banned high concentrations of caffeine from all Olympic events between the years 1984 and 2004. Nowadays caffeine is considered to be a legal performance enhancer in sports but still is on the WADA's watch list as it is subject to change in the future. With this information, it is plausible to assume that caffeine has a positive effect on esports performance as well.

Outside of the Olympics, caffeine is still widely used as a performance-enhancing drug in many endurance and anaerobic sports, because according to (Burke, 2008) the benefits it provides both physically and cognitively outweigh the disadvantages significantly.

While esports does not always require the same physical attributes as endurance and anaerobic sports do, the positive effects to the cognitive functions could potentially outweigh any negative effects of caffeine in a competitive gaming scenario, or at least (Nehlig, 2010) does seem to think so.

This research will mainly only focus on the effects of caffeine consumption, and only very briefly mention or ignore completely aspects or factors such as optimal caffeine consumption time or differences between various caffeine products as those require different research altogether or are too individually dependent to give an accurate statement based on this research.

2 Theoretical background

To understand the relevancy and connection more profoundly between caffeine and esports performance, it is needed to at the very least have a basic understanding of what both of these terms entail. This section will go through the relevancy and connection of these two subjects, only focusing on the points that are relevant for this research and thus keeping the scope of this research relatively confined.

2.1 Structure of esports performance

Esports is a wider blanket term for a large variety of competitive games that can range from tabletop games to 3rd person shooters, so obviously the skillset needed for each of these games is at least to some degree different. (Navorsky & Wiemeyer, 2020) in their research describe gaming as a problem-solving process. They identified problem-solving mind, inductive skills, spatial imagination, eye-hand coordination to name some to be the main elements in gaming performance.

The needed skill set for each competitive game differs greatly which is why in each of the conducted interviews the players are asked how they think consuming caffeine helps them instead of presenting them with already set elements to choose from to reduce confirmation bias and have more comprehensive research.

2.2 Caffeine

As (Daly, Holmén & Fredholm, 1998) say caffeine is the most widely used psychoactive substance in the world and its effects can range from positive to negative and not limited to aspects such as increased alertness, improved memory, elevated mood, anxiety, nausea, or increased blood pressure. It is also worth noting that researchers such as (Borota et al.,2014) have researched that caffeine enhances memory within 24hours of consumption and has a positive long-term effect on long-term memory which could be a very noteworthy effect, especially in turn-based games.

Although caffeine has a wide variety of both positive and negative side-effects, the positive effects more often than not override the negative ones (Burke, 2013) and many others also praise that the positive effects of caffeine in most cases nullify the negative ones or at the very least the negative effects are insignificant compared to the positive ones.

Studies on esports and caffeine such as the one made by (Sainz, Collado-mateo & Del Coso, 2020) already suggest that caffeine ingestion can be considered a positive effect on hit accuracy and on reaction time. The research, however, does not consider the possible negative side effects of caffeine and its impact on overall player performance.

In this research, the main focus will be on the positive and negative effects that can be deducted from the interviews for obvious reasons, and even those will be limited to the effects that can be reasonably assumed to correlate with esports performance. However, more importantly, the research tries to deduct if the players think that the positive effects are worth possibly enduring negative side-effects as well, and how do they feel about this trade-off.

2.3 Key benefits of caffeine in esports

This chapter presents the key benefits that esports athletes are trying to obtain from caffeine and explains how these benefits manifest themselves in esports. It also shortly discusses the most impactful negative effects of caffeine and why they are so undesired within the esports players.

In the eyes of most esports players, the key effects players are trying to gain from caffeine consumption are increased reaction time and alertness to be able to concentrate on a single detail for an extended period of time without losing focus. On the other hand, the most undesired negative benefits of caffeine amongst esports players are increased heart rate and anxiety. Depending on the individual these effects can have a large impact on the performance. According to (Smith,2002) these negative effects are very individually dependent and can usually be minimized with the correct dosage of caffeine which most people do automatically.

The reason why reaction time and alertness are so highly rated in esports is that most games that are competitively played usually revolve around players' ability to react to a changing factor with high precision at almost any given moment. Making the ability to stay focused and alert for an extended period of time while being able to react as fast and accurately as possible is one of the key elements in esports.

A study conducted by (Sainz et al., 2020) researched the effects of caffeine on hit accuracy and reaction time within esports players. They conducted a double-blind, cross-over, randomized experimental trial with fifteen different professional players and with the dosage of 3mg/kg of caffeine per person. The research presented that the above-mentioned dosage improved players' simple reaction time as well as the mean time taken to hit the targets, meaning that the downtime between changing targets decreased as well, but the research shows that caffeine also enhanced players' hit accuracy on their targets. Thus, according to this study, the consumption of caffeine should increase players' ability to hit a fixed target and improve overall accuracy.

The reasoning why anxiety and increased heart rate are such frowned upon effects in esports are quite self-explanatory, increased heart rate is in your body most often interpreted as stress and can cause effects such as sweating or nervousness and overall make you feel uncomfortable and unconfident which in a competitive high-pressure situation can hinder your performance.

Anxiety in itself is a quite clear negative effect during any sort of performance, and it can manifest itself in many ways depending on the individual. On top of that according to research conducted by (Smith,2002) anxiety can possibly also affect fine motor control negatively which would be extremely detrimental in esports. The negative effects of caffeine, when taken correctly, are very rarely severe and when taken in dosages of 0.3mg/kg – 0.5mg/kg (Naderi, De Oliveira, Ziegenfuss & Willems, 2016) overall very rare.

3 Research and analysis

The data collected in this research is qualitative meaning that rather than preferring large amounts of shallow data it preferred to gather a smaller amount of very extensive data. The value of qualitative data in this research is that with it, it is much more plausible to collect lived experiences and individual experiences that in research such as this are very valuable as the results may differ greatly between different individuals.

3.1 Design

For this research, the chosen method to collect data was semi-constructed interviews. As with this method it is easy to collect the hard data that was attempted to be collected but also keep the interviews relaxed enough to receive more personalized experiences out of the interviewees, which is optimal when researching the effects of something as they can differ from person to person.

All of the conducted interviews were recorded with the interviewee's permission and later on converted full transcripts and analyzed and then turned into simple coding to further present the data in a clear and easy-to-understand manner. The interviewees for this research were individuals who actively take part in esports on some level and consider it as their current career.

3.2 Analysis

The analysis on this subject was begun by conducting interviews, then transcribing and coding them (below) with a summary on each one. The main goal of these interviews was to discover what positive and negative effects consuming caffeine produces and how it affects competitive players in their opinion, as well as gather their personal experiences on caffeine usage.

4 Results

This chapter will present each of the interviews done for this research, firstly it will open the interview with a summary of the most notable findings and on a case-by-case basis cross-reference them to already done studies or the other interviews. After the summaries, it has compiled the most notable effects of caffeine both negative and positive in a data table, and at the end of the chapter, It has compiled all the data collected from the interviews with a final findings chapter based on the data collected.

Full interview transcripts can be found at the end of the thesis in the appendices, for clarity they are not included in this part.

Interview 1.

From the first interview just by studying the raw data on the listed effects of caffeine it can be seen that both the negatives and positives of caffeine line up with studies such as (Nehlig, 2010) or (Burke, 2013), it is worth noting that even though these studies portray caffeine as extremely addictive substance the interviewee, in this case, does not seem to think that and more-so feels that “he would have no problem quitting caffeine all-together and feels that he is not dependent on it”. Another important point that is highly related to this research from this interview would be that the interviewee feels like the feeling of tiredness or un-readiness is worse than having the possibility of suffering some of the negative effects of caffeine.

Positive & negative effects from interview 1

Positive effects (P.E)

Codes	Effect
P.E 1	Alertness
P.E 2	Readiness

P.E 3	Increased focus
P.E 4	Relaxation
P.E 5	Taste
P.E 6	Social aspect

Negative effects (N.E)

Codes	Effect
N.E 1	Increased heart rate
N.E 2	Nervousness
N.E 3	Stomach ache

Interview 2.

Second interview had an interviewee who claims to never take caffeine in any way, however, we can conclude from the interview that the interviewee thinks there are positive effects in drinking caffeine in certain situations like when you are tired or exhausted. He also thinks that there is a connection with caffeine and boosting confidence as you feel more “alert” and thus confident in your ability to perform.

Also, interestingly the two first interviews align with each other in a sense that both of the first interviewees did think that being tired or exhausted is more of a factor and affects you more than the possible negative effects of regular caffeine usage.

Positive & negative effects from interview 2**Positive effects (P.E)**

Codes	Effect
P.E 1	Energetic
P.E 2	Confidence

Negative effects (N.E)

Codes	Effect
N.E 1	-

Interview 3.

The third interview was an esports player who has used high amounts of caffeine daily in the past but has since decreased their caffeine intake. The interviewee claims to gain benefits from caffeine, especially before and during important matches. We can see a clear match with the provided study from (Burke, 2013) that from his perspective, the positive effects outweigh the negatives of caffeine intake.

The interviewee does mention that adrenaline has a large effect on their performance in a competitive setting. Overall, their experiences seem to match most of the previous studies done on the subject as well as the data collected in this study.

Positive & negative effects from interview 3

Positive effects (P.E)

Codes	Effect
P.E 1	Focus
P.E 2	Energetic
P.E 3	Alertness

Negative effects (N.E)

Codes	Effect
N.E 1	Goosebumps
N.E 2	Sweating

Interview 4.

This interviewee is a regular user of caffeine, who claims that caffeine not only gives him energy but raises overall alertness which seems to be in line with the former studies such as (Nehlig, 2010) and with the former interviewees as well. The interviewee mentions that caffeine can cause negative side effects and for him, those are sweating and more accurately sweaty hands, he does claim that the positive effects of caffeine heavily outweigh the negative ones but does not rule them out which also stands in line with former interviews.

Positive & negative effects from interview 4**Positive effects (P.E)**

Codes	Effect
P.E 1	Energy
P.E 2	Alertness

Negative effects (N.E)

Codes	Effect
N.E 1	Sweating

Interview 5

This interviewee is a regular user of caffeine but compared to the other interviewee consumes a relatively low amount of caffeine daily. He competes in games that require a large number of decisions & math and clear thinking and claims that caffeine helps him stay focused and calm, which goes in line with the former interviews as well as former researches like (Daly et al., 1998) where they claim that caffeine has a positive effect on both memory and alertness.

Positive & negative effects from interview 5

Positive effects (P.E)

Codes	Effect
P.E 1	Calming
P.E 2	Focus

Negative effects (N.E)

Codes	Effect
N.E 1	-

4.1 Compiled data

*Only effects that can be reasonably argued to have a connection to player performance are listed.

Positive Effects (P.E)

Codes	Effect	Times mentioned
P.E 1	Gives energy	3
P.E 2	Raises alertness/awareness	3
P.E 3	Focus	3
P.E 4	Confidence	1
P.E 5	Readiness	1
P.E 6	Relaxation/Calming	2

(Total positive effects mentioned: 13)

Negative effects (N.E)

Codes	Effect	Times mentioned
N.E 1	Sweating	2
N.E 2	Increased Heart rate	1
N.E 3	Nervousness	1
N.E 4	Stomach ache	1
N.E 5	Goosebumps	1

(Total negative effects mentioned: 6)

4.2 Findings

These are the effects of caffeine based on the interviews, from the pure amount of brought up effects we can see that there were 13 total positive effects from consuming caffeine when on the other hand there were only six negative effects mentioned in these interviews, in both of these only effects that can be reasonably related to esports performance were taken in consideration.

Based on this table consuming caffeine usually has an overall positive effect, although depending on the person it can also come with possible negative side-effects, but the common theme amongst the interviews seems to be what was already brought up in the first interview *“Depending on the situation the negative effects of tiredness heavily outweigh the possible negative effects of caffeine”*.

Findings seem very comparable to earlier studies, which suggest that a moderate amount of caffeine boosts the performance of an athlete and it is interesting to see that we can assume this to be true in esports as well.

As a closing paragraph for this research and as an answer to the framework question “Should a competitive player consume caffeine and is the effect overall positive?”. Moderate amounts of caffeine seem to affect positively to a player’s performance in esports. If a person has never consumed caffeine, they feel like they would not gain much of an advantage with caffeine. Too much caffeine in a short period of time on the other hand might cause negative effects such as anxiety or sweatiness, depending on the situation the negative effects of tiredness heavily outweigh the possible negative effects of caffeine.

5 Conclusions

In a summary, the results from all the interviews were very similar. The five interviewees claim that it is possible to gain positive effects such as increased alertness, focus, and confidence from moderate amounts of caffeine. At least two of the interviewees seem to agree that the positive effects of caffeine outweigh the negative effects which seem to be in line with the previously quoted studies as well. One interviewee claims to have never consumed caffeine and feels like caffeine would not affect their performance in a competitive gaming setting.

Overall findings seem very comparable to earlier studies, which suggest that a moderate amount of caffeine boosts the performance of an athlete, and based on this study it can be assumed this to be true in esports as well. Although caffeine can be considered beneficial aid in esports it is worth keeping in mind that it seems that benefits from such substances are highly individual based, so it is very recommendable to adjust the caffeine intake depending on the side effects.

Reflecting from the theory section of this thesis, it can be seen that the main positive and negative effects seemed to hold true in this research as well, and benefits such as increased reaction time and alertness are the ones competitive esports players are after and those are by far the most impactful effects of caffeine. It seems that the most common serious negative side effect for esports players is anxiousness. Depending on the person, this manifested itself in various ways but within this research, the most common symptoms were sweating, increased heart rate, and nervousness.

Interestingly when comparing this research to previously done research it would seem that esports player possibly try to chase these very beneficial positive side effects with possibly too high dosages and in return suffer more often from the negative effects as well. The reasoning for this could be that the total effect of caffeine in performance in esports is arguably greater than in other sports. The total conclusion for this phenomenon cannot be generalized based on this thesis due to the small sample size in this research but the limited data collected in this research would suggest that esports players possibly over-use caffeine for greater benefits but also in return suffer more from the negative side-effects and the value of this trade-off is completely dependent on the individual.

5.1 Strengths and weaknesses

One of the most significant strengths of this study was my involvement in esports as it was heavily used to gather 'qualified' personnel for the interviews. One of the other major strengths of this study was the number of previous studies conducted on this subject within traditional sports, so cross-referencing and validating my findings was very reasonable.

From a research standpoint, the main weakness was the number of interviewees, as for one person committing time to complete tens or hundreds of interviews was simply not plausible, even though it obviously would have provided a more accurate end result. This problem could be partly solved with a different type of research approach, but I personally feel that with a different approach the data would have not been as high-quality.

Another limiting factor for this study was the covid-19 pandemic that limited the ability to conduct interviews face to face. Although limiting, I did not think this was enough of a reason to change the data collecting approach as I do think even with interviews conducted or organized via different social platforms the quality of data was good compared to different approaches. Overall, the research can be considered successful, and the data collected during it beneficial for this research but also for future studies.

5.2 Future work

Many different research approaches were left behind in this thesis due to the lack of resources or time; a different approach to the topic such as the weight of the negative effects of caffeine sounds interesting. Alternatively, the idea to research in which form one should consume caffeine seems beneficial as consuming a caffeine pill compared to drinking multiple cups of coffee sounds much more convenient. In addition, following the footsteps of this thesis, it would be greatly beneficial for the whole esports and performance enhancer field if research was conducted where the consumption of caffeine was optimized on multiple individuals and the total difference in performance was measured when caffeine is taken in optimal amounts and when not taken at all.

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Appendices

Full interview transcripts

Interview transcript 1

Q - interviewer

A - interviewee

Q: To kick things off are you okay if this interview is recorded, all the personal details will be confidential and not shared with any third party.

A: Sounds good, you have my consent.

Q: For starters could you tell me how you are involved in esports?

A:,- well I'm involved in esports by being a **competitive player in** a fighting game and I also study within the esports field and I also work for an esports organization.

Q: Do you regularly take caffeine in any form?

A: Yes, almost **daily.**

Q: How much caffeine would you say you intake daily? and in which form do you take it?

A: hmm, I don't actually **know much about the milligram dosages,** but I would say I take about 2 cups of coffee a day and I might throw in a Redbull here and there.

Q1.1: So, you take it **mostly as coffee and energy drinks?**

A1.1: Yeah, I would say 2 cups a day and Redbull on top of that.

Q: Why do you take caffeine daily?

A: uuh, I guess **to keep focused and stay alert**, and for coffee, I just generally **enjoy the experience it's very calming and I like the taste.**

Q1.1: So, if you would describe the effects of caffeine on you, they would be calming, higher alertness, and better focus?

A1.1: yeah, I think so, and it's just a **nice activity to do**, let's say you have some really annoying assignment ahead so making a cup of coffee makes it feel a bit less bad.

Q: Do you feel like caffeine affects your overall performance in esports positively?

A: uuh, I wouldn't say **positively necessarily -- unless I'm really really really tired**, I think it probably gives me – uhm - **increased heart rate and nervousness** and might contribute to some bad gameplay decisions and choking when playing so I wouldn't say it's **necessarily positive all the time.**

Q: Do you feel not consuming caffeine affects your performance negatively?

A: uuh, I don't think that either, maybe I'm pretty neutral on it (caffeine) – Like if I'm really really **tired and my eyes are burning and stuff I think that's worse than not taking caffeine.**

Q1.1: So depending on the situation?

A1.1: Yes, I would say so.

Q: So what would happen if you don't consume caffeine at all?

A: hm, I mean I don't have any experience with that, but **I don't think I'd have bad effects at least**, I might get a caffeine headache or something, but I don't think I'd have anything worse

than that. – There have been days when I just **don't consume any caffeine** and didn't get any worse negative effects and **had no issues with that.**

Q: Do you feel increased confidence or readiness after taking caffeine?

A: Haven't really thought about it in this way, but I guess I could say I'm more **ready to do things after taking caffeine** in that sense.

Q: Do you feel any anxiousness or sweating after taking caffeine?

A: Not sweating but if I'm already feeling **anxious and I take caffeine I think it might amplify it**, I wouldn't say it's the sole reason for it tho but it's like an amplifier.

Q1.1: So, do you think your earlier mentioned increased heart rate has something to do with the anxiousness?

A1.1: Yeah, that's probably the case.

Q: Alright, do you feel like caffeine has any other negative effects on you? That was not mentioned before

A: hmm, I don't know – nothing comes to mind at least, I mean it can mess up your stomach sometimes but that's about it.

Q: And the last question being if you have the choice to take or to not take caffeine before competition what do you do?

A: hmm, again I think this is **situational**, but I do take it if I'm feeling tired, cause I feel like **being tired is worse than having some of the negative effects of caffeine**

Q1.1: So, if you are feeling tired you take it, how about if you are feeling just normal and not tired at all?

A1.1: If I'm feeling completely fine, I see no reason to take it.

Q: Fair enough, that was our last question today, thank you for participating in this interview.

A: No problem.

Interview transcript 2

Q: Interviewer

A: Interviewee

Q: Are you okay with this interview being recorded and all the personal details will be confidential and not shared with any third party.

A: Yes. I agree.

Q: Could you tell me how you are involved in esports?

A: I watch some and I study esports, but I do not take active role in esports competing.

Q1.1: Are there any competitive games you play?

A: Some of the games have a competitive scene but I am not currently directly involved.

Q: Do you regularly take caffeine in any form?

A: No, not at all.

Q: Do you feel like caffeine affects your overall performance in esports positively?

A: Hard to answer since I practically have never consumed caffeine, however, I almost never play when I am tired or exhausted so I don't see it improving my performance.

Q: Do you feel not consuming caffeine affects your performance in any way?

A: No, I don't.

Q: Do you feel that there would be a boost in confidence or readiness if you would take caffeine?

A: No, I dont think so.

Q: Do you feel that you are at disadvantage compared to competitors for not taking caffeine?

A: Perhaps, if you feel like you are more energetic you tend to be more confident.

Q: Last question: Would you take caffeine before a big tournament to enhance your performance?

A: No.

Q: All right, Thanks for the interview!

A: No problem.

Interview transcript 3

Q: Interviewer

A: Interviewee

Q: This is a research about the effects of caffeine in esports – are you okay if this interview is recorded, all the personal details will be confidential and not shared with any third party.

A: Yeah, of course, it's fine yeah.

Q: To start today, could you tell me how you are involved in esports?

A: I'm playing League of Legends for an esports organization in Finland.

Q: Do you intake caffeine daily?

A: Not daily anymore. I used to but uh, not daily anymore, like I'm using caffeine like uh let's say three or four times a week, like or, couple of cups of coffee, not that much anymore.

Q: How much caffeine would you say you intake daily, a cup, couple of cups, more – less?

A: Let's say a cup. Maybe even not that much but that's a good answer here I think.

Q: Why do you take caffeine daily?

A: I think it makes me focus better, for like let's say next hour or two hours from taking it. I'm not sure if it's like actually helping or doing anything but I believe so and it makes me feel more energetic.

Q: Can you describe the effect that caffeine has on your routines/daily tasks?

A: I usually take a cup of coffee if I feel tired, that's basically it. Or maybe a bottle of energy drink before or during an important match.

Q: Do you feel like caffeine affects your overall performance in competitive gaming positively?

A: Yeah, yeah, definitely like it's very easy to say. I feel like it boosts my ability to focus and uhh, just gives me energy for the short duration which is very good for gaming I think.

Q: Do you feel like not consuming caffeine affects your performance in esports negatively? Do you feel more tired?

A: Yeah, a bit more tired yeah. Usually, the adrenaline is the like main factor, so I don't even need coffee but sometimes it gives a little boost and uh, yeah it feels like it's harder to focus on an important match if I haven't drank any coffee or energy drinks.

Q: Do you feel you are more confident/alert after taking caffeine?

A: Yes.

Q: Do you feel any anxiousness or sweating after taking caffeine?

A: Uh well, if I drink too much then it might cause some goosebumps and like yeah, a little sweating but usually that only happens if I drink like very much in a short time period.

Q: Do you feel that caffeine has any other negative effect on you that was not discussed before?

A: Uh, not really. I don't think it causes anything if you drink it properly and like not too much at a time. For me, it has only caused like positive effects, but I'm not using caffeine that much. It's only negative if you use it too much is what I'm trying to say.

Q: If your current amount is one cup of coffee per day, how much is too much, 2-3 cups of coffee/2 large energy drinks?

A: Not really. I used to drink like five big cups of coffee a day before or two bottles of energy drinks in a short duration, **that's too much.**

Q: If you have the option to take or not take caffeine before competition what do you do?

A: **I will take it.**

Interview transcript 4

Q: Interviewer

A: Interviewee

Q: This is research about the effects of caffeine in esports – are you okay if this interview is recorded, all the personal details will be confidential and not shared with any third party.

A: Yeah, it's fine

Q: To start today, could you tell me how you are involved in esports?

A: I play competitive FPS shooters competitively, bouncing from game to game

Q: Do you intake caffeine daily?

A: Yes, I usually **start my day** with a cup or two of coffee.

Q: How much caffeine would you say you intake daily, a cup, couple of cups, more – less?

A: Hmm, I'd say something like 3 to 6 cups a day doesn't sound too far off.

Q: Why do you take caffeine daily?

A: I enjoy it as a drink, but I also feel the caffeine in it gives me an extra boost of energy and more alertness.

Q: Can you describe the effect that caffeine has on your routines/daily tasks?

A: I feel like I can overall feel more energetic and alert while doing them.

Q: Do you feel like caffeine affects your overall performance in competitive gaming positively?

A: Yes, I do think it help me be more alert and energetic as I said earlier, I also do think it can affect performance negatively too sometimes.

Q: Do you feel like not consuming caffeine affects your performance in esports negatively? Do you feel more tired?

A: Not tremendously but I do think it has a negative effect, especially if I'm already tired and I don't consume caffeine before the competition.

Q: Do you feel you are more confident/alert after taking caffeine?

A: Yes, I do, I don't know about confidence but definitely more alert.

Q: Do you feel any anxiousness or sweating after taking caffeine?

A: Yes, I feel like caffeine **makes my hands sweat way** more than usual.

Q: Do you feel that caffeine has any other negative effect on you that was not discussed before?

A: No, caffeine and coffee just make **my hands sweat as I said earlier**.

Q: If your current amount is 3 to 6 cups of coffee per day, how much is too much?

A: Well, to be honest, I do think even 6 cups is too much and I rarely drink that much but anything over that is definitely too much.

Q: If you have the option to take or not take caffeine before competition what do you do?

A: **I will take caffeine.**

Interview transcript 5

Q: Interviewer

A: Interviewee

Q: To start this interview off are you okay if this interview is recorded, all the personal details will be confidential and not shared with any third party or presented in the final research.

A: Sounds good.

Q: For starters could you tell me how you are involved in esports?

A: Currently I am a free agent who competes regularly in auto-battlers and card games such as hearthstone and Teamfight Tactics.

Q: Do you regularly take caffeine in any form?

A: I would say I probably take caffeine daily.

Q: How much caffeine would you say you intake daily? and in which form do you take it?

A: I don't really keep track of the amount, mostly coffee and sometimes energy drinks. -- I'd say I maybe take a cup or two a day (?)

Q: Why do you take caffeine daily?

A: I guess in the morning it helps me to wake up and during practice or games it helps me keep focus and think straight and maybe calms me abit.

Q: Do you feel like caffeine affects your overall performance in esports positively?

A: I think overall taking caffeine boosts my performance, I have heard that sometimes people get jittery and stuff if they take too much caffeine but that hasn't happened to me yet.

Q: Do you feel not consuming caffeine affects your performance negatively?

A: Probably a slight negative effect as I'm used to it nothing too major tho I don't think.

Q: Do you feel any anxiousness or sweating after taking caffeine?

A: I have heard that people get anxious or jittery or hyperactive or something similar if they take too much caffeine, which hasn't happened to me yet.

Q: Alright, do you feel like caffeine has any other negative effects on you? That was not mentioned before.

A: I think for me at least if I just consume it within a reason, it has no real negative effects on me.

Q: And the last question being - if you have the choice to take or to not take caffeine before competition what do you do?

A: As I'm used to it I will most likely take it.

Q: Alright, that was the last question today, thank you for participating in this interview.

A: My pleasure.