



## Research

# An exploration of the motivations of catfish perpetrators and the emotions and feelings expressed by catfish victims using automated linguistic analysis and thematic analysis

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## Abstract

Catfishing is a form of online deception where an individual presents themselves as an identity that is not their own. The study reported in this article explored the motivations for catfish perpetrators and the impacts on those who had been catfished in terms of the emotions and feelings expressed by victims. Data was collected using the crowd-sourced question and answer website Quora [1] and analysis was conducted on a pre-existing corpus of data which contained participant's answers to questions on catfishing. An automated linguistic analysis using Linguistic Inquiry and Word Count (LIWC-2022 [2]) and a thematic analysis (Braun and Clarke in *Qual Res Psychol* 3:77–101, 2006 [38]) were conducted on participant's descriptions of their perceptions of the motivations of catfishes and their catfishing experiences. The thematic analysis indicated that the motivations of catfish perpetrators can be linked to entertainment, emulating an ideal self, desiring meaningful interaction, and financial gain. Six emotions and feelings emerged from the accounts of catfishing victims: suspicion, love, depression, anger, embarrassment, and stupidity. These findings contribute to an understanding of what motivates individuals to catfish and suggests further research to explore specific emotions and feelings that catfish victims experience. The LIWC analysis and language style matching analysis showed that the data collected was mostly personal to each individual and that there were similarities in how victims write about their experiences. Therefore, we suggest that LIWC has promise as a method of providing added context to qualitative data analysis methods.

**Keywords** Catfish · Online deception · Linguistic Inquiry and Word Count (LIWC) · Thematic analysis · Identity fraud

## 1 Introduction

Online environments offer many avenues for individuals to connect and socialise with others, free of the restrictions of location [3]. However, verification of identity is rarely required to engage with social media such as Twitter or Facebook [4]. Engagement in these environments is therefore built on honesty and threats to this can damage their integrity [5]. The rise in social media use during the Covid-19 pandemic [6] has also seen a rise in individuals using these environments to deceive others [7]. A form of online deception and fraud known as catfishing occurs where an individual utilises an alternative identity as their own to engage in a relationship with another [8]. Catfishing is a modern phenomenon, and

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the term's prominence is in part due to its portrayal on the MTV television series [9, 10]. As a result, research specifically on catfishing is recent, and currently it remains underexplored [8, 11].

The most developed area of catfishing research focusses on biographical factors and psychological traits as predictors of catfish perpetration and catfish victims. Campbell and Parker [11] showed that catfish perpetration was positively associated with being male and having a high education level, but they were less likely to be heterosexual or to be from a Hispanic or Latin American background. In terms of psychological factors, those who catfished tended to be those showing high scores on narcissism and high religiosity, and low scores on conscientious. They describe narcissism as perceived superiority and grandiosity, desire for admiration, and low empathy. Campbell and Parker [11] went on to explain that being a catfish victim is positively associated with being female and having recently experienced loss or betrayal. However, although these results offer insight into characteristics, they do not acknowledge in detail the psychological aspects of motivation to deceive, existing vulnerabilities, nor the affect that the experience has.

Although catfishing is not recognised as a specific crime, there are actions that perpetrators may take that would be considered a criminal offence. For example, in the United Kingdom, trolling (defined as continuous, disruptive, and deviant online behaviour by Fichman and Sanfilippo [12]) can be prosecuted under the Malicious Communication Act [13] and the Communications Act [14]. Furthermore, online grooming, the act of luring a minor into doing something inappropriate [15], can also be prosecuted under the Sexual Offences Act [16]. Of concern, instances of both examples have risen in recent years [17, 18].

### 1.1 Motivations to catfish

Financial gain is the most frequently reported motivation for any form of online deception [19]. However, this motivation is not unique to catfishing and previous research does not address why an individual would specifically turn towards catfishing as such research focusses on deceptions such as online dating scams [20] and using dating apps [21]. There is evidence that the motivations for catfishing go further than to exploit financially. Tsikerdekis and Zeadally [22] explained two key motivators for catfishing: exploring the self and attempting to be unrepresentative of the true self. These authors suggest that there may be less malice in catfish motivation than has been previously assumed. Campbell and Parker [11] referred to the motivations of catfishing in their examination of predictors of perpetration. They supported the findings of Tsikerdekis and Zeadally [22] in referring to a desire to emulate an ideal self. However, as with the concept of financial gain, no study has set out to establish the motivations of catfish perpetration specifically, reiterating that it remains difficult to make conclusions on the motivations of catfishing alone. It is important to develop research that specifically focuses on catfishing. As Campbell and Parker [11] suggested, it is important to understand not just why individuals are motivated to deceive, but also why they are motivated to choose catfishing. Furthermore, considering that the focus of much of the previous research was related to behaviour within dating scenarios [20, 21], it would be beneficial to explore experiences that are not limited to this context.

### 1.2 Affective impacts on catfish victims

The television show, *Catfish*, has highlighted the significant emotional effect of catfishing on victims [23] and encouraged more victims to share their experiences [8]. However, a television show cannot produce the scientific evidence necessary to understand the psychological impacts. Victims of catfishing have described the loss of a relationship made with a catfish perpetrator in the same category as a death [24]. Furthermore, it has been reported that victims often blame themselves for being a victim of an online romance scam [20]. Although previous research [20, 24] offers insight into the victimhood of online romance scams, they cannot suitably explain all types of catfishing. Catfishing can occur on a variety of social media platforms, with the most common according to Fletcher [25] being Facebook, followed by Instagram then Twitter. Furthermore, they do not highlight the emotions and feelings felt throughout the catfishing process, as usually data is collected after a catfish has taken place and the victims are asked to describe how they felt once the catfish was revealed. This makes it difficult to identify the emotions and feelings that a catfish victim is likely to experience during the ordeal. No research has explored the psychological influence of events leading up to the catfishing experience. Therefore, it would be beneficial to consider the emotions and feelings experienced by an individual before and during a catfishing ordeal. This will allow an understanding of the entire experience of being a victim, such as pre-catfish vulnerabilities [11]. Taylor et al. [26] conducted a study exploring young people's attitudes towards catfish impersonation. Among their recommendations for future research, it was suggested that identifying the emotions and feelings expressed by catfishing victims would be key to helping to support victims. Research is needed to elaborate

on the expression of emotions and feelings by victims [24] and to explore whether the concept of self-blame presents itself within catfishing [20].

### 1.3 Internet-mediated research methods

Data can be collected from the internet through various means, these can be divided into reactive methods where direct contact is made with participants, and non-reactive methods where there is no contact. Reactive methods can include using online survey software to request data from participants or bringing together participants in online focus groups; while non-reactive methods include observation of participants texts using public social networking sites and online fora, and data mining. A recommendation for further research to collect data and explore catfishing suggested by Taylor et al. [26] was the use of an observational method. Ciesielska et al. [27] state that observational data collection as a scientific method must focus on specific research questions and can be indirect, allowing for the collection of secondary data from the internet. This is of particular use for this research area, considering the online nature of catfishing. Gosling and Mason [28] propose that the opportunities for research through the internet in terms of the ability to reach large and diverse pools of individuals outweigh the costs. However, researching through the internet can be vulnerable to selectivity bias [29], and it can be challenging to establish whether the anonymity that the internet provides diminishes the quality of response [30]. However, Gosling and Mason [28] propose anonymity could have benefits, as it may allow individuals to feel more comfortable disclosing sensitive experiences.

Methods to analyse language from text and communication were originally developed in the fields of communication science and media studies and now many forms of analytics software exist. Of interest to psychologists is the ability to explore the psychological meaning behind the words that individuals type to describe their experiences. Specifically, research into the meaning of words can be particularly effective when exploring emotionality, social relationships, thinking styles, and individual differences [31, 32]. Thus analytical tools could be used to help understand the motivations for catfishing and the emotional effect of catfishing on victims. Analytical tools can be used as the main method in a study or they can add insight to a study using a qualitative analysis method. This latter analysis of words could offer understanding as to whether the previously discussed concerns of selectivity bias and anonymity affect the quality of text and thus serve as a method of measuring the quality of data produced anonymously on the internet.

### 1.4 Research rationale

This study will explore the perceptions of individuals who have described their experiences or understanding of catfishing on the website Quora, a question and answer (Q&A) website. This presents a novel solution for collecting meaningful data surrounding online interactions [33–35] and maximises the opportunity to sample a large and diverse pool of participants using the internet. Furthermore, it will allow for the consideration of experiences from an unlimited range of platforms. Text will undergo an automated linguistic analysis to extract meaning from the words used by participants and verify whether the collected data is meaningful. The study will focus on the motivations of perpetrators and the emotions and feelings expressed by victims and the two research questions are: 'how are the motivations of catfishing perceived?' and 'how are victims of catfishing emotionally affected?'

## 2 Method

### 2.1 Participants

Participants were individuals who posted an answer under catfishing-themed threads on the Q&A website Quora. Answers were anonymous, therefore no information on age, gender, or nationality was available. A search of existing research using Quora was conducted to understand more about the demographics of Quora users. Previous research identified that users who engage with Quora general topics are most commonly from the UK, USA, and Canada [35]. However, no information relating to age and gender could be found. Answers from 61 participants were used in the study.

## 2.2 Data collection

Data was collected through the website Quora. This Q&A website was chosen rather than a social media platform due to the ease at which data could be sought for specific topics and also all data is public, whereas access to some social media groups is private. Also, Matthew et al. [33] explain that Quora's anonymity allows individuals to disclose personal experiences without the fear of judgement. This made it suitable for the current study where personal experiences were essential. In addition to this, compared to its main competitor, Yahoo! Answers [36] which has since shut down, Quora was reported as offering a better quality of answers due to the use of different languages used on the Yahoo platform, while Quora is conducted only in English [37].

A corpus of data was collected by searching for the use of the word 'catfishing' in the website's search bar. The names of the three threads observed were: 'Why do people catfish?', 'Why do people catfish? What is their logic behind doing it?', and 'Have you ever been catfished? What happened, and how did you react?'. The latter thread was used to explore the emotions and feelings of catfishing victims, and the two former threads to explore motivations. Two data sets were collated: the data collected to explore motivations consisted of 6981 words of submitted answers and the data collected to explore emotions and feelings consisted of 28,422 words. There were 13 individual texts used for the analysis of motivations and 48 individual texts for the analysis of the emotions and feelings. However, seven texts were removed due to the experiences not being that of a catfish victim. This left 41 texts for the analysis of emotions and feelings.

## 2.3 Data analysis

Two methods of data analysis were used. Firstly, two separate thematic analyses were conducted for the two data sets. In accordance with Braun and Clarke [38], an inductive approach was used to search for semantic themes with an essentialist epistemology. This involved six steps, using the guidance of Braun and Clarke [38]. Firstly, familiarisation with the data by reading and rereading the texts. This was followed by the generation of initial codes and the search and construction of initial themes. These themes were then reviewed. Finally, the themes were defined and named, before writing up the results.

The data for the two data sets was also subjected to an automated linguistic analysis using the Linguistic Inquiry and Word Count (LIWC-2022) [39]. This software has not previously been used in research relating to online deception, and therefore the aim for this study was to investigate the validity and usefulness of this software as a basis for future work using this tool. LIWC-2022 calculates a percentage of the total words in a text that relate to predefined language features such as authenticity, analytical thinking, and tone [39]. This study focused on those three dimensions. The first dimension authenticity, considers the sense of truthfulness and forthrightness within participant's accounts [40]. A low score on authenticity would represent that the individual has prepared a text, whereas a high score would be more indicative of a spontaneous conversation [41]. Examples of language that scores low in authenticity would be a prepared text such as a speech written ahead of time. While examples of language that scores high in authenticity would be a spontaneous conversation between good friends where there would be no inhibitions. The second dimension, analytical thinking, considers how the words used relate to thinking patterns [42]. A low score in analytical thinking represents that the text comes across as more intuitive and personal, whereas a high score is indicative of academic work that utilise reasoning skills [43, 44]. An example of language scoring high in analytic thinking would be academic writing and it has been correlated with achieving higher grades in assessments. While language scoring low in analytic thinking tends to be viewed as more friendly and not as rigid. The final dimension, emotional tone, looks at the differences between the scores for positive words and negative words. This algorithm was based on the work by Cohn et al. [45] who produced two lists of negative and positive words where negative words included kill, ugly and guilty, while positive words included happy, good and nice. This element is built as an algorithm whereby the higher the score, the more positive the tone [42].

A language style matching test was also conducted. This utilises a pairwise comparison which is conducted automatically. The results are designed to show similarity in language style between every pair of participants, which has been shown to be beneficial towards understanding similarities between participants [46, 47], for example Individual 1 vs Individual 2, Individual 2 vs Individual 3. As with the LIWC Analysis, scores are produced as a percentage. If the Individual 1 vs Individual 2 comparison produced a score of 0.88, then there would be 88% similarity. The outcome of both analyses are expressed as a descriptive statistic.

## 2.4 Ethics

This study was approved in line with the University's Research Ethics Code of Practice. Also, the study conformed to the British Psychological Society's guidance for internet-mediated research, in that data can be collected without consent when considered in the 'public domain'. Under Quora's terms and conditions, it clearly states that data is publicly available and can be used for research purposes. This affirms that the study is ethically appropriate. However, to minimise the risk of any unexpected ethical complications any names that were used in texts, referring to oneself or another, have been hidden to ensure total anonymity.

## 3 Results

An automated linguistic analysis and thematic analysis were conducted on participants descriptions of their perceptions of the motivations of catfishes and their catfishing experiences. The results for both types of analysis are presented first for the motivation data set and then for the emotion data set.

### 3.1 Exploration of the motivation data set

The thematic analysis generated four themes as summarised in Table 1.

#### 3.1.1 Theme 1: Entertainment

Entertainment is a new concept regarding the motivations of catfish perpetration. It can be evidenced through Participant 8, who claimed that *'my reason for catfishing as \*\*\* was originally humor'*. However, the intention was shown to perhaps be entertainment without the desire to hurt. Participant 11 explained that *'people don't know where the line is between a joke and hurting people'*. Catfish perpetration came across as an enjoyable experience. Participant 5 considered that, *'it was very much a great time to be a catfish'*. The entertainment was explicitly suggested to come from the nature of being another individual, and in the case of Participant 1, the difference in being older. This individual, who started catfishing at the age of '9/10', explained that they *'just find it way more fun to talk to people without being seen as a child'*. Catfish perpetration for entertainment was well summarised by Participant 4: *'Sometimes people catfish out of boredom, because they have nothing else to do, so they decide to catfish for fun.'*

#### 3.1.2 Theme 2: Emulating ideal self

The desire to emulate an ideal self is not a new concept. Catfish perpetrators would often describe feeling insecure. Participant 5 explained, *'I had many reasons but they all boil down to the fact that I was very self-conscious'*. This was consistently related to appearance. Participant 5 went on to explain that *'I was overweight, very average and forgettable'*. Similarly, Participant 6 exclaimed, *'not everyone is blessed with beautiful features and genes, some of us are not so good looking'*. It was seen that this resulted in an admiration for others that individuals deemed more attractive. Participant 11 suggested that *'so many people in our society look to other more confident, more attractive people as role models'*. This has been purported to cause a desire to emulate a perceived more attractive other. Participant 4 states that *'if they see*

**Table 1** Themes and example quotations relating to motivations

Theme	Example quotation
Entertainment	'Sometimes people catfish out of boredom, because they have nothing else to do, so they decide to catfish for fun'. (Participant 4)
Emulating ideal self	'It got to the point where I'd obsess over the idea of being them and what attention I would get if I was them'. (Participant 5)
Desire for meaningful interaction	'I did catfish people not for love or money or any illegal benefit but for friendship'. (Participant 6)
Financial gain	'my motive now is money'. (Participant 8)

someone they think is really attractive, they'll want to be them online, and make sure people actually believe them'. The concept is well summarised as an obsession by Participant 5: 'It got to the point where I'd obsess over the idea of being them and what attention I would get if I was them'.

### 3.1.3 Theme 3: Desire for meaningful interaction

Perpetrators explained that they were missing meaningful interaction in real life and felt it was needed. Participant 6 explained that 'I would like to share my sadness when I am down, I want to share my happiness when something good happens in my life'. The explanations for their lack of desired interactions varied, with poor social skills most frequent. Participant 2 explained that 'many don't have any interpersonal skills or how to handle in your face conflicts'. This would prompt them to turn to the internet. It was indicated that a lack of real-life friendship drove individuals to catfish. Participant 6 exclaimed, 'I did catfish people not for love or money or any illegal benefit but for friendship'. However, perpetrators did not necessarily feel this was their fault. Participant 10 put it down to their frustrations with society. They expressed, 'see i dont catfish out of my own insecurities rather societies vanity'. Of most concern, however, was the explanation of Participant 1. Their desire to 'talk to people without being seen as a child' shows that catfish perpetration is not necessarily limited to adults. Furthermore, it adds some context as to why an individual would need to pretend to be somebody else to find meaningful interaction online.

### 3.1.4 Theme 4: Financial gain

Participants often described that catfish perpetrators desire money. Participant 13 described that 'they will ask for money non stop so trust you really don't want to do that'. It was further explained that their methods to do so range in complexity. Participant 12 said, 'it gets deeper with scammers attempting to get money from you, from gift cards to credit card info, to straight up cash with a fake sob story'. An account from a catfish perpetrator suggested that the initial motivator need not be money for that to end up being the case. Participant 8, whose original motivator was 'humor', noted that 'my motive now is money'. This creates intrigue as to the concept of transitioning motivations. One participant offered insight into why perpetrators motivated by financial gain choose to deceive as another identity. Participant 12 explained that 'There are a lot of garbage people on the internet, safe from consequences with their anonymity'. The ability to remain completely anonymous appears to act as a perceived protector.

As can be seen in Table 2, the analysis for analytic thinking indicated that participants' answers were mostly intuitive and personal as the mean showed a lower percentage match. Furthermore, the standard deviation was the lowest of any category, evidencing this as the most consistent element of the analysis. The further findings from this analysis did not appear to offer evidence of patterns in the data set. The analysis into authenticity indicated that the texts were more prepared than spontaneous as the mean percentage was high. However, the larger standard deviation shows that this was quite varied. Similarly, the tone was slightly negative overall, however, this too was varied to an extent that conclusions could not be drawn.

The language style matching analysis revealed a mean score of 0.87. This represents an 87% similarity, on average, between the extracts. The highest score was 0.94, and the lowest was 0.78. This represents that all extracts were written with a similar language style.

## 3.2 Exploration of the emotion data set

The thematic analysis generated six themes as summarised in Table 3.

**Table 2** Mean scores across the motivations data set for analytic thinking, authenticity, and tone

	Key LIWC scores		
	Analytic %	Authenticity %	Tone %
Mean	25.36	61.81	37.35
High	47.18	99.00	83.56
Low	4.53	31.61	1.99
Standard deviation	11.94	31.52	23.58

Values expressed as a percentage of the text that meets the criteria. Scores between 0 and 100

**Table 3** Themes and example quotation relating to emotions and feelings

Theme	Example quotation
Suspicion	'throughout all of this, I grew more and more skeptical that she was who she really said she was'. (Participant 41)
Love	'I was so in love with this person'. (Participant 6)
Feeling depressed	'But yeah. Just really depressed.'. (Participant 1)
Anger	'I was pretty angry, but I calmly asked him what exactly was needed' (Participant 2)
Embarrassment	'the only reason I'm answering this Anon is because of how embarrassed and ashamed of myself I am to have let something like this carry on...'. (Participant 41)
Stupidity	'I ended up being the greatest idiot alive, I have STUPID written all over my face'. (Participant 3)

### 3.2.1 Theme 1: Suspicion

Victims of catfishing would often be suspicious of the perpetrator at an early stage. Participant 1 noted, '*something didn't feel right cause their bio was kind empty*'. However, this early suspicion did not always stop the victim from communicating with them. Participant 4 explained, '*I feel so humiliated, and such a fool knowing that I already had suspicions to begin with*'. Some would attempt to relieve their suspicions. Participant 40 '*made sure both voice and video would react accordingly to the discussion and found nothing wrong with that*'. For others, their suspicions would grow over time. Participant 41 said that '*throughout all of this, I grew more and more skeptical that she was who she really said she was*'. The nature of the catfish perpetrators' stories often caused this. Participant 23 explained that '*he mentioned feeling suicidal and I got very concerned about his well-being. It seemed a tad fishy as stories go...*'. The expression of suspicion was consistently related to the text-only nature of the conversations. It is well summarised by Participant 6: '*I finally started getting suspicious when I would ask if I could call him, since we never voice chatted.. only text*'.

### 3.2.2 Theme 2: Love

A significant portion of participants expressed that they felt love or were, in fact, in love with their perpetrator. Participant 6 exclaimed, '*I was so in love with this person*'. Participants could feel these emotions without even hearing the voice of their supposed new lover. Participant 20 reported that '*I was already in love with her, before hearing her voice...*'. The emotion of love was also credited as the reasoning behind the failure of individuals to suspect they were a catfish. Participant 16 stated it was a '*stupid mistake but I was young & in love*'. However, doubt was presented over whether the feeling of love with a catfish is genuine. Participant 41 expressed that '*the truth is, I thought I was in love with this girl*'. This may be more of an indication of the level of manipulation than the development of true love. This is supported by Participant 3, who explained: '*So many hurtful incidents over time, mental & emotional abuse, disrespect, but I would just refuse to understand! Love-induced impaired judgement on my part? I guess so. I was lonely, I had no one else to talk to for feedback. I was the perfect victim for that horrible woman*'. Participants would naturally feel heartbroken upon discovering the truth behind their relationship, and this is well summarised by Participant 4: '*I gave up so many real relationships, for this person because I couldn't mentally move on. Now, I'm having to deal with all the repercussions of this heartbreak*'.

### 3.2.3 Theme 3: Feeling depressed

The feeling of depression is perhaps an understandable consequence of many participants' heartbreak. This is shown through feeling depressed after the catfishing ordeal. Participant 1, when reporting how they were feeling, said, '*But yeah. Just really depressed*'. This emotion was portrayed through alternative wording by Participant 39. They exclaimed, '*so 3 years of torture, one eating disorder later, and completely mentally destroyed*'. This contributes to the understanding of quite how traumatic the experience of a catfish victim can be. The feeling of depression was, however, more layered than it appeared at first glance. This feeling was touted as a relevant factor in how an individual may be vulnerable to being a victim. Participant 36 acknowledged that before the ordeal, '*I was in a state of severe depression after me and my boyfriend of 9 years broke up*'. Related to depression, participants would sometimes describe being fed up with their circumstances before the relationship is formed. This then made them vulnerable when the charming catfish perpetrator encountered

them. The situation is well summarised by Participant 35, who explained: *'Then I met a woman on a dating site, went on a few dates and turns out she's married. So I'm fed up with online dating sites, a few nights later, for the first time I talk to the original woman that's 80 miles away, and she seemed really cool and exactly what she seemed to be messaging her.'*

### 3.2.4 Theme 4: Anger

Participants were understandably angry at various points in the catfishing process. Some felt angry when the catfish persistently remained anonymous. Participant 36 expressed that *'I started to become a little bit angry and demanded that we finally meet'*. The emotion was also expressed when the catfish perpetrator made demands. Participant 2 noted, *'I was pretty angry, but I calmly asked him what exactly was needed'*. After the ordeal, anger would often be directed towards the perpetrator. Participant 13 said, *'I'm pissed saying why would she do that lead me on like that'*.

### 3.2.5 Theme 5: Embarrassment

Participants would often describe feeling embarrassed that they were deceived. Participant 41 explained that *'the only reason I'm answering this Anon is because of how embarrassed and ashamed of myself I am to have let something like this carry on...'*. Participants would often note humiliation. Participant 4 said, *'I feel so humiliated... knowing that I already had suspicions to begin with'*. This feeling was expressed not only over being deceived but also as a result of events during it. Participant 9 said, *'I actually felt violated, and embarrassed about sending her those videos, because she lied about who she was'*. These feelings were documented to carry on for a long time. Participant 14 explained, *'I haven't been able to talk about it because I was ashamed of myself getting played for a long time'*. Once again, this emphasises that the ending of a catfish relationship can be as impactful, or even more so, than any relationship.

### 3.2.6 Theme 6: Stupidity

A frequently expressed feeling was stupidity. This often concerned how participants felt about the catfish's attempts to deceive them over time. Participant 1 reported that *'it's stupid really how I fell for this so simply'*. Similarly, Participant 3 explained that *'I ended up being the greatest idiot alive, I have STUPID written all over my face'*. The feeling was also due to events that happened during the ordeal. Participant 19 expressed, *'stupid me, sent him Apple Tune gift card'*. Similarly, Participant 25 *'foolishly forgave her and dated her for a further 3 months...'*. Incorporated within the theme of stupidity was naivety. Some victims felt that they were naïve at the time, which contributed to them being deceived. Participant 16 states that they were *'still a kid and believed, naively, that love hurts sometimes'*. Similarly, Participant 20 was *'inexperienced in dating at the time, and naïve, I thought nothing of it'*. Naivety was also expressed regarding what an individual thought was possible for a catfish. Participant 41 was *'too naïve to believe that someone would carry on an act for so long'*.

As can be seen in Table 4, the scores for the analytic thinking indicated that on the whole, participants' answers were intuitive and personal as the mean percentage was low. Furthermore, the low standard deviation is evidence that this was the theme across most of the participants. The authenticity of the data indicated that there was wide variation in spontaneity of the answers. However, the tone of the language used was shown to be mostly negative, and this is particularly prevalent on account of the low standard deviation.

The language style matching analysis revealed a mean score of 0.88. The highest score was 0.97, and the lowest was 0.75. Once again, this represents consistency in writing style across the data set.

**Table 4** Mean scores across the emotions data set for analytic thinking, authenticity, and tone

Key LIWC scores	Key LIWC scores		
	Analytic %	Authenticity %	Tone %
Mean	23.11	53.74	30.59
High	55.99	96.29	75.77
Low	2.84	4.17	3.99
Standard deviation	9.84	20.89	12.74

Values expressed as a percentage of the text that meets the criteria. Scores between 0 and 100



## 4 Discussion

### 4.1 Summary of results

This study set out to develop an understanding surrounding the motivations of online catfishing and the emotions and feelings expressed by victims. This was achieved through a thematic analysis and automated linguistic analysis of data collected through the Q&A website Quora. Findings have shown that the motivations of catfish perpetration can be linked to entertainment, emulating an ideal self, desiring meaningful interaction, and financial gain. Furthermore, six emotions and feelings emerged from the accounts of catfishing victims: suspicion, love, depression, anger, embarrassment, and stupidity. In addition, the LIWC analysis and language style matching analysis findings showed that the data collected was mostly personal to each individual and that there were similarities in how victims write about their experiences.

### 4.2 Motivations to catfish

The key theme that emerged from the data was the desire to catfish for the purpose of entertainment and this was widely discussed by participants, with many describing the enjoyment it brings and the humour it provides. As previously suggested by Campbell and Parker [11] this motivation is likely to be linked to narcissism, whereby narcissistic traits such as low empathy, would increase the likelihood of an individual enjoying deceiving others in this way. In addition to this, some participants who stated entertainment as their primary motivator started catfishing at a young age, often introduced through playing video games. It is concerning that some young people may be turning to deception as a method for entertainment and further research is needed to identify at what age individuals start to catfish and for how long they catfish.

Another key motivator, emulating an ideal self, supports previous research [11, 22]. Participants seeking to emulate an ideal self-reported feeling insecure or self-conscious about their appearance and one participant who idolised somebody they perceived to be physically attractive took on their identity online. However, this motivation is not necessarily consistent with the suggested relationship between higher scores of narcissism and catfish perpetration [11]. For example, it is arguably illogical for an individual to have a sense of grandiosity while feeling self-conscious and insecure.

The themes, desire for meaningful interaction and financial gain, were less prominent than the preceding themes. The desire for meaningful interaction consisted of individuals feeling that current relationships do not meet their needs. The finding of financial gain as a motivation for catfishing supports pre-existing research in online deception [20, 21]. This represents an important finding, as it shows that financial gain is a motivation to catfishing, as well as other forms of deception.

### 4.3 The affective impact of catfishing on victims

The exploration of emotions and feelings addressed the suggestions of Taylor et al. [26] that the affective impacts of catfishing on victims should be identified. The themes generated provide research-based evidence that supports observations made of catfish victims on television [23] and support previous research based on other forms of online deception [24]. Of particular concern is the prevalence of feelings relating to self-blame, as suggested by Sorell and Whitty [20]. Feelings of anger and stupidity were regularly directed at oneself. The emotion of love, in particular, appeared to be very conflicting. Participants appeared uncertain over whether they truly experienced love for the perpetrator or whether the manipulation led to a mistaken belief of love. Considering the mention of heartbreak in this study, it could be suggested that the participants did indeed experience love. Referring to the loss of a catfish relationship being compared to a death [24], it is perhaps unsurprising that feelings of depression after the ordeal were prevalent. It could be inferred that self-blame and the loss and heartbreak contribute to this.

The comments expressed in this study referred to the entire catfish experience and not just how victims felt after the ordeal. It appears that victims of catfishing tend to have a key vulnerability that the perpetrator can take advantage of. For some, this was a frustration with romantic failure, while for others it was experiences with depression. This supports the findings of Campbell and Parker [11] that vulnerability to catfishing can be linked to betrayal and loss. The prevalence of vulnerability identified before the catfishing ordeal could have implications for predicting catfish victims and may be useful in designing educational materials to increase awareness among these individuals. It was also noteworthy

that participants were frequently suspicious of their perpetrator, however they would either dismiss these suspicions or have them eased by the perpetrator. It is of concern that no participant ended the relationship due to their suspicions. It could be suggested that participants who were dealing with vulnerabilities were too desperate for this perceived perfect relationship to be real and true and future research is suggested to explore this further.

#### 4.4 Methodological implications

The use of LIWC in this study proved to be effective in adding measures of validity and reliability of the corpus of data analysed. It showed that individual's responses tended to be personal to the individual participant. This was of particular relevance, considering that the study explored elements that were experienced by each individual participant. It was, therefore, useful to provide evidence that the data collected was representative of experiences unique to each individual. Further to this, the results on tone appeared to show that the extracts for emotions and feelings were of a widely negative tone, supporting the negative connotations to the themes discussed. Although these findings are useful and provide context, it should be noted that they remain indicative and relative. There is no reported point in which the results are significant which makes it difficult to draw conclusions. However, relaying previous concerns around the lack of quality control of anonymous answers when collecting data from the internet [30], LIWC was beneficial as a method of showing that the data was meaningful.

This study supports the use of Quora as a secondary data source to explore online interactions. The detailed responses, supported by the LIWC analysis, highlight the potential of this platform for data collection. As reported by Matthew et al. [33], the platform is suitable for those wishing to disclose personal experiences, and this can be shown by the large data set collected in this study for the analysis of emotions and feelings. As previous research into motivations and victim experiences had not been able to reach a group of catfishing victims of this size previously, nor collect such detailed responses, this can evidence its value in research areas where participants can be difficult to find.

#### 4.5 Limitations, strengths, and suggestions for future research

Although the LIWC findings can support the quality of the individual's responses, it does not entirely diminish the potential concerns about the anonymity of the answers. The fact remains that anybody could have published answers on the Quora site; therefore, it cannot be guaranteed that no posts were fictional or exaggerated. However, it is worth considering whether this would be any different in an online interview study, as there would remain no guarantee that the individual has been truthful and social desirability would be higher as the interviewer is present. In addition to this, the anonymity meant that no data on age or gender could be collected. Although this was not crucial to the study, this information could have provided useful context as to the characteristics of catfishing perpetrators and victims. It would be useful for any future study using Quora to find a method of collecting age and gender details. A further limitation is that the LIWC algorithm does not capture the contextual understanding behind the words identified. For example, a positive word might be used in a sarcastic manner. In the near future artificial intelligence is likely to be used to address this.

There were many strengths to this study. This study successfully reached a sample of participants that had either catfished themselves or had been catfished. This addressed the suggestions made by Taylor et al. [26], to locate participants with experience as a catfish perpetrator. Furthermore, the experiences were not limited to experiences on dating apps, unlike much of the previous research [20, 21]. This meant that findings could offer a more robust account for catfishing and so can be generalised to other online environments where catfishing occurs. Another strength of this study was the analysis using LIWC. Considering that this software has not been used in this research area, its application created further context for the qualitative data.

Future research is needed explore motivations to catfish and the affective impacts of catfishing in further depth and to identify if our findings are replicated. Interviews with participants who have catfished could explore whether the motivations found in our study are also evidenced. For future explorations of the affective impacts, similarly catfish victims could be recruited, and a survey used to explore whether the experiences identified from the qualitative data in this study are replicated. Furthermore, it would be beneficial to identify the prevalence of vulnerabilities before a catfishing experience.

In conclusion, this study has provided a strong foundation on which to base future research into online catfishing. A specific set of motivations and emotions and feelings can now be further explored to contribute to understanding how online catfishing can be predicted and such results could be used in education materials to increase awareness for potential victims and support victims.

**Author contributions** A and B designed the study. A collected the data and conducted the initial data analysis. B edited and updated the analysis. A wrote the draft Discussion. B reviewed and revised the whole manuscript. A produced the original biography. B supplemented by adding references that they included and added DOI to all references.

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**Data availability** The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

## Declarations

**Competing interests** The authors declare no competing interests.

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## References

1. Quora. 2023. <https://www.quora.com/>. Accessed 28 June 2023.
2. LIWC-2022. Linguistic inquiry and word count. 2022. <https://www.liwc.app/>. Accessed 28 June 2023.
3. Miller D, Slater D. The internet: an ethnographic approach. London: Routledge; 2020.
4. Wang S, Pang MS, Pavlou PA. Cure or poison? Identity verification and the posting of fake news on social media. *J Manag Inf Syst*. 2021;38(4):1011–38. <https://doi.org/10.1080/07421222.2021.1990615>.
5. Lawlor A, Kirakowski J. Claiming someone else's pain: a grounded theory analysis of online community participants experiences of Munchausen by Internet. *Comput Hum Behav*. 2017;74:101–11. <https://doi.org/10.1016/j.chb.2017.03.070>.
6. Cauberghe V, Van Wesenbeeck I, De Jans S, Hudders L, Ponnet K. How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown. *Cyberpsychol Behav Soc Netw*. 2021;24(4):250–7. <https://doi.org/10.1089/cyber.2020.0478>.
7. Ferrara E, Cresci S, Luceri L. Misinformation, manipulation, and abuse on social media in the era of COVID-19. *J Comput Soc Sci*. 2020;3:271–7. <https://doi.org/10.1007/s42001-020-00094-5>.
8. Lauder C, March E. Catching the catfish: exploring gender and the dark tetrad of personality as predictors of catfishing perpetration. *Comput Hum Behav*. 2023;140:107599. <https://doi.org/10.1016/j.chb.2022.107599>.
9. Catfish: the TV Show. MTV via IMDB. 2023. <https://www.imdb.com/title/tt2498968/>. Accessed 28 June 2023.
10. Jesus S, Costa A, Simões G, Dos Santos GD, Almeida M, Garrido P. YOU'VE BEEN CATFISHED: an exploration of social deception on online platforms. *Eur Psychiatry*. 2022;65(1):576–7. <https://doi.org/10.1192/j.eurpsy.2022.1477>.
11. Campbell K, Parker ML. Catfish: Exploring the individual predictors and interpersonal characteristics of deceptive online romantic relationships. *Contemp Fam Ther*. 2022;44(1):422–35. <https://doi.org/10.1007/s10591-022-09646-5>.
12. Fichman P, Sanfilippo MR. Online trolling and its perpetrators: under the cyberbridge. Lanham: Rowman & Littlefield Publishers; 2016.
13. Malicious Communications Act. 1988. <https://www.legislation.gov.uk/ukpga/1988/27/contents>. Accessed 28 June 2023.
14. Communications Act. 2003. <https://www.legislation.gov.uk/ukpga/2003/21/contents>. Accessed 28 June 2023.
15. Winter GM, Kaylor LE, Jeglic EL. Sexual offenders contacting children online: an examination of transcripts of sexual grooming. *J Sex Aggress*. 2017;23(1):62–76. <https://doi.org/10.1080/13552600.2016.1271146>.
16. Sexual Offences Act. 2003. <https://www.legislation.gov.uk/ukpga/2003/42/contents>. Accessed 28 June 2023.
17. Dineva D, Breitsohl J. Managing trolling in online communities: an organizational perspective. *Internet Res*. 2022;32(1):292–311. <https://doi.org/10.1108/INTR-08-2020-0462>.
18. Kinzel A. The language of online child sexual groomers—a corpus assisted discourse study of intentions, requests and grooming duration. Doctoral Thesis, Swansea University. 2021. <https://cronfa.swan.ac.uk/Record/cronfa59027>. Accessed 28 June 2023.
19. Guo Z, Cho JH, Chen R, Sengupta S, Hong M, Mitra T. Online social deception and its countermeasures: a survey. *IEEE Access*. 2020;9:1770–806. <https://doi.org/10.1109/ACCESS.2020.3047337>.
20. Sorell T, Whitty M. Online romance scams and victimhood. *Secur J*. 2019;32:342–61. <https://doi.org/10.1057/s41284-019-00166-w>.
21. Lauckner C, Truszczynski N, Lambert D, Kottamasu V, Meherally S, Schipani-McLaughlin AM, Hansen N. “Catfishing”, cyberbullying, and coercion: an exploration of the risks associated with dating app use among rural sexual minority males. *J Gay Lesbian Mental Health*. 2019;23(3):289–306. <https://doi.org/10.1080/19359705.2019.1587729>.
22. Tsikerdekis M, Zeadally S. Online deception in social media. *Commun ACM*. 2014;57(9):72–80. <https://doi.org/10.1145/2629612>.
23. Koch CM. To catch a catfish: a statutory solution for victims of online impersonation. *Univ Colorado Law Rev*. 2017;88:233. [http://lawreview.colorado.edu/wp-content/uploads/2017/01/12-88.1-Koch\\_FinalRevised.pdf](http://lawreview.colorado.edu/wp-content/uploads/2017/01/12-88.1-Koch_FinalRevised.pdf). Accessed 30 June 2023.
24. Whitty MT. Do you love me? Psychological characteristics of romance scam victims. *Cyberpsychol Behav Soc Netw*. 2018;21(2):105–9. <https://doi.org/10.1089/cyber.2016.0729>.

25. Fletcher E. Scams starting on social media proliferate in early 2020. In: Federal Trade Commission Consumer Protection Data Spotlight. 2020. <https://www.ftc.gov/news-events/data-visualizations/data-spotlight/2020/10/scams-starting-social-media-proliferate-early-2020>. Accessed 11 Jan 2024.
26. Taylor J, Pulman A, Tickle O. An exploration of attitudes of young people towards catfish impersonating and feigning illness on social media. In: Benson V, editor. Handbook of social media use: online relationships, security, privacy, and society. Amsterdam: Elsevier; 2023. p. 289–308. <https://doi.org/10.1016/B978-0-443-28804-3.00013-2>.
27. Ciesielska M, Boström KW, Öhlander M. Observation methods. In: Ciesielska M, Jemielniak D, editors. Qualitative methodologies in organization studies. Cham: Palgrave Macmillan; 2018.
28. Gosling SD, Mason W. Internet research in psychology. *Annu Rev Psychol*. 2015;66:877–902. <https://doi.org/10.1146/annurev-psych-010814-015321>.
29. Hesse-Biber S, Griffin AJ. Internet-mediated technologies and mixed methods research: problems and prospects. *J Mixed Methods Res*. 2013;7(1):43–61. <https://doi.org/10.1177/1558689812451791>.
30. Padayachee K. Internet mediated research: challenges and issues. *S Afr Comput J*. 2016;28(2):25–45. <https://doi.org/10.18489/sacj.v28i2.376>.
31. Boyd RL, Ashokkumar A, Seraj S, Pennebaker J. W. The development and psychometric properties of LIWC-22. Austin: University of Texas at Austin. 2022. <https://www.liwc.app>. Accessed 22 June 2023.
32. Tausczik YR, Pennebaker JW. The psychological meaning of words: LIWC and computerized text analysis methods. *J Lang Soc Psychol*. 2010;29(1):24–54. <https://doi.org/10.1177/0261927X09351676>.
33. Matthew B, Dutt R, Maity SK, Goyal P, Mukherjee A. Deep dive into anonymity: Large scale analysis of quora questions. In: Social Informatics: 11th International Conference, SocInfo 2019, Doha, Qatar, November 18–21, 2019, Proceedings. Springer International Publishing; 2019. p. 35–49. <https://arxiv.org/pdf/1811.07223.pdf>. Accessed 3 July 2023.
34. Patil S, Lee K. Detecting experts on Quora: by their activity, quality of answers, linguistic characteristics and temporal behaviors. *Soc Netw Anal Min*. 2016;6:1–11. <https://doi.org/10.1007/s13278-015-0313-x>.
35. ul Haq E, Braud T, Hui P. Community matters more than anonymity: analysis of user interactions on the Quora Q&A platform. In: 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), The Hague, Netherlands. IEEE; 2020. p. 94–8. <https://doi.org/10.1109/ASONAM49781.2020.9381425>.
36. Yahoo! Answers. 2021. <https://help.yahoo.com/kb/SLN35642.html>. Accessed 28 June 2023.
37. Adamic LA, Zhang J, Bakshy E, Ackerman M. S. Knowledge sharing and yahoo answers: everyone knows something. In: Proceedings of the 17th International Conference on the World Wide Web. ACM; 2008. p. 665–74. <https://doi.org/10.1145/1367497.1367587>.
38. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. <https://doi.org/10.1191/1478088706qp063oa>.
39. Pennebaker JW, Boyd RL, Jordan K, Blackburn K. The development and psychometric properties of LIWC2015. Austin: University of Texas at Austin. 2015. <http://liwc.net/LIWC2007LanguageManual.pdf>. Accessed 3 July 2023.
40. Kalichman SC, Smyth JM. “And you don’t like, don’t like the way I talk”: authenticity in the language of Bruce Springsteen. *Psychol Aesthet Creat Arts*. 2021;17(5):581–9. <https://doi.org/10.1037/aca0000402>.
41. Newman ML, Pennebaker JW, Berry DS, Richards JM. Lying words: Predicting deception from linguistic styles. *Pers Soc Psychol Bull*. 2003;29(5):665–75. <https://doi.org/10.1177/0146167203029005010>.
42. Monzani D, Vergani L, Pizzoli SFM, Marton G, Pravettoni G. Emotional tone, analytical thinking, and somatosensory processes of a sample of Italian tweets during the first phases of the COVID-19 pandemic: observational study. *J Med Internet Res*. 2021;23(10):e29820. <https://doi.org/10.2196/29820>.
43. Boyd RL, Pennebaker JW. Did Shakespeare write Double Falsehood? Identifying individuals by creating psychological signatures with text analysis. *Psychol Sci*. 2015;26(5):570–82. <https://doi.org/10.1177/0956797614566658>.
44. Pennebaker JW, Chung CK, Frazee J, Lavergne GM, Beaver DI. When small words foretell academic success: the case of college admissions essays. *PLoS ONE*. 2014;9(12): e115844. <https://doi.org/10.1371/journal.pone.0115844>.
45. Cohn MA, Mehl MR, Pennebaker JW. Linguistic markers of psychological change surrounding September 11, 2001. *Psychol Sci*. 2004;15(10):687–93.
46. Gonzales AL, Hancock JT, Pennebaker JW. Language style matching as a predictor of social dynamics in small groups. *Commun Res*. 2010;37(1):3–19. <https://doi.org/10.1177/0093650209351468>.
47. Ireland ME, Pennebaker JW. Language style matching in writing: synchrony in essays, correspondence, and poetry. *J Pers Soc Psychol*. 2010;99(3):549–71. <https://doi.org/10.1037/a0020386>.

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