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Decrypting Crypto:

Exploring Children's Engagement with Cryptoassets

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Foreword

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It has been a real eye-opener to see growing interest in cryptoassets among children over the past year – another reminder that the online world continues to change and evolve at speed. Children and parents find themselves navigating a financial world that grows increasingly intricate and multifaceted, particularly with the introduction of NFTs and cryptocurrency.

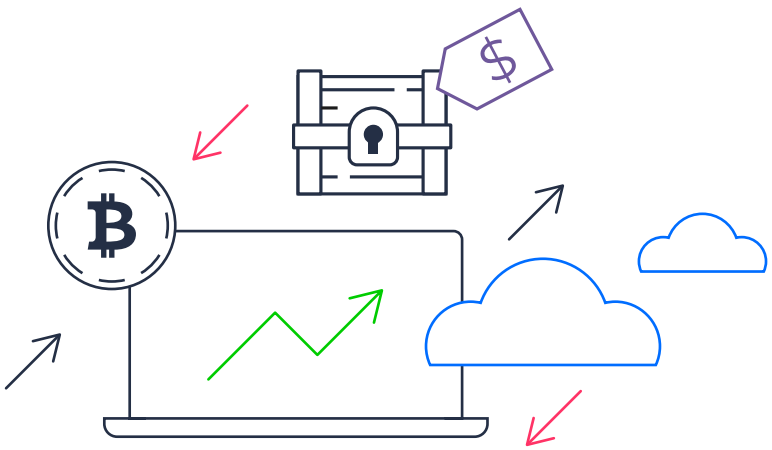
Despite the possible benefits of these products to children, these are heavily outweighed by the risks, in the current landscape at least. Of particular note is the problem of scammers, who are taking advantage of users, including children, seeking to invest in their futures. Our evidence shows that children and their parents are aware of this risk, but it does not necessarily stop children from engaging.

I am astonished by the fact that there is still no proper regulation of the cryptoasset market in place to protect all users from the risks, including children. Indeed, there seems to be very little recognition at all that children are engaging with these products. This needs to change.

While it is too soon to make definitive statements regarding the future growth of NFTs and cryptocurrencies, it is evident that a significant level of interest persists in these digital assets and in their potential to transform the way we make financial transactions online. There need to be specific requirements placed on cryptoasset platforms to address the concerns expressed by their users, especially children and families. The responsibility of protecting children does not rest solely on parents; rather, it is a shared obligation that requires the active involvement of all stakeholders.

This report emphasises the importance of adopting a collaborative approach which involves all parties, and I truly look forward to delving into the details of our findings and discussing the proposed next steps.

Contents



Executive summary

Over the past few years, the rise and mainstreaming of non-fungible tokens (NFTs) and cryptocurrency has become a focal point of discussions within the technology industry. In simple terms, NFTs are unique digital assets, and cryptocurrency is a type of currency that solely exists online. Both rely on blockchain technology. The emergence of NFTs and cryptocurrency has captured widespread attention, with many intrigued by their potential and fascinated by their impact on various sectors. However, even as cryptocurrencies and NFTs gain increasing prominence, there remains a pressing concern regarding the unaddressed risks associated with them, resulting in new regulatory regimes taking form.

What is missing from this discussion and debate is the fact that it is not just adults, but also children who are engaging with cryptoassets. The opportunity to engage with NFTs and cryptocurrencies may offer children certain benefits, preparing them for a technologically advanced world. But these products are laden with risk – for all users, but especially children.

This report summarises how children are engaging with and investing in cryptoassets, along with early evidence of the opportunities and risks posed to children. It presents new research into what families think and feel about NFTs and cryptocurrencies, based on a survey conducted for Internet Matters.

The key findings are:

Overall, 8% of all 13-16 year olds we surveyed had already invested in cryptocurrencies and 9% had invested in NFTs.

Our survey showed that among children who knew about cryptoassets, 25% were already engaging with them. This is likely to grow over time.

- 33% of children aware of cryptocurrency reported that although they hadn't yet, they would invest in it.
- Similarly, 27% of children who knew about NFTs reported that although they hadn't yet, they would engage with them.

It's not just for immediate gratification; most kids who invest or would invest in cryptoassets said it's to invest in their future. Wider benefits include feeling part of a community and learning about how to manage their finances.

- 49% of children who had invested or would consider investing in cryptocurrencies reported that they perceived it as an investment for the future.
- 48% of children who had invested in or would consider investing in NFTs stated that they believed NFTs represented the future of money.
- Key benefits identified by our desk research include fun and customised online experiences, becoming part of a community and improved financial and digital literacy.

Despite this, our survey respondents believed that it's a market rife with scams. This means that users are at risk - especially children. However, this was not necessarily stopping them from participating.

- Parents and children made a similar assessment of the risks involved with engaging with cryptocurrency and NFTs, with 49% of parents and 46% of children identifying falling for scams or fraud as the main concern.
- Key risks identified by our desk research include being exposed to scams and counterfeiting, financial risk and the pressure to engage.

While there have been advancements in regulatory efforts within the cryptoasset realm, it is evident that the issue of safeguarding children's interests has been overlooked. This oversight needs to be addressed and rectified.

- Children should be given due consideration by policymakers when formulating forthcoming regulations concerning cryptoassets, rather than treating their needs as a secondary concern. This would involve new regulations keeping pace with

advancements in the financial technology area. Despite the impact financial harm can have on children's lives, it is mostly out of scope of the Online Safety Bill, with the exception of paid-for scam ads.

- There needs to be more regulatory alignment and cooperation in this area to ensure a consistent approach is applied. This would involve a wider join up between the Advertising Standards Authority (ASA), the Financial Conduct Authority (FCA) and Ofcom.
- The ongoing involvement of parents and professionals, such as teachers, in this realm is of significant importance. This underlines the relevance and value of media literacy strategies from DSIT (formerly DCMS) and Ofcom. Furthermore, through the Fraud Strategy, the Government has committed to new anti-fraud lessons for young people. These could be delivered through the RSHE curriculum (which is undergoing review) and include a focus on online scams and cryptoassets.

Introduction

With the increasing availability of digital devices, children have greater access to online platforms than ever before. As a result, it is not surprising that they are taking advantage of these opportunities to earn and spend money. However, the methods that they use to do so are evolving rapidly.

In this report we focus on children investing in and trading non-fungible tokens, or NFTs, and cryptocurrency. Both NFTs and cryptocurrencies are types of "cryptoassets". Over the past few years, there has been an increasing interest in cryptoassets amongst the public and the potential they hold for revolutionising the traditional financial system. Various stories have emerged of children making hundreds of thousands of pounds from creating NFTs and mining cryptocurrency,[1] while Crypto.com was an official sponsor of the 2022 FIFA World Cup in Qatar, making it difficult to ignore this growing trend.[2] More recently, news reports have focused on the collapse of major US-based cryptocurrency exchanges such as FTX and Genesis, demonstrating the volatility of this space.[3]

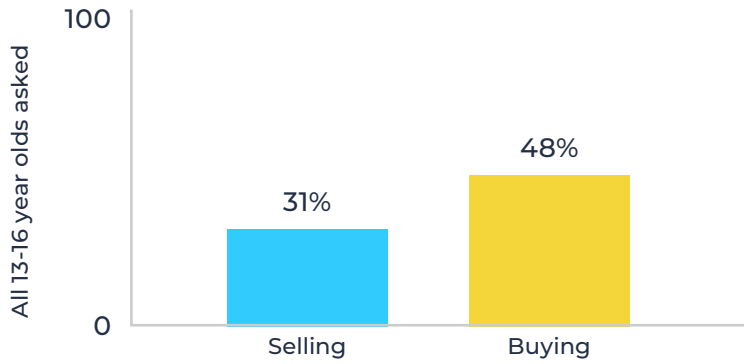
While engaging with cryptoassets presents various new opportunities for children, it also presents significant risks. While it is true that some children have managed to generate income through engaging with cryptocurrencies and NFTs, such cases are considered exceptional; a great majority of individuals who engage in this area lose money. The impact of the risks posed by investing in NFTs and cryptocurrencies can be especially severe, as policy and regulation are struggling to keep up with these new technologies. It remains uncertain who is responsible for dealing with them.

Against this backdrop, Internet Matters wanted to find out more about what families know about these new developments. This research provides in-depth evidence of how children engage with and understand cryptoassets, as well as the benefits and risks posed by its growing influence in the online sphere. The findings contained within this report are based on an Internet Matters survey of 2,000 parents and 1,007 children across the UK conducted in June 2022, as well as a desk review of the current landscape and how it is evolving.

Putting cryptoassets into context

Children spending money online is far from a new phenomenon. For years, children have been buying and selling items on e-commerce sites. According to a survey conducted by Internet Matters, nearly half (48%) of 13-16-year-olds buy items online from sites like eBay and Vinted, and nearly a third (31%) sell items.

Do you ever use e-commerce websites or apps to buy or sell items online? (children aged 13-16)



Previous discussions of children's spending

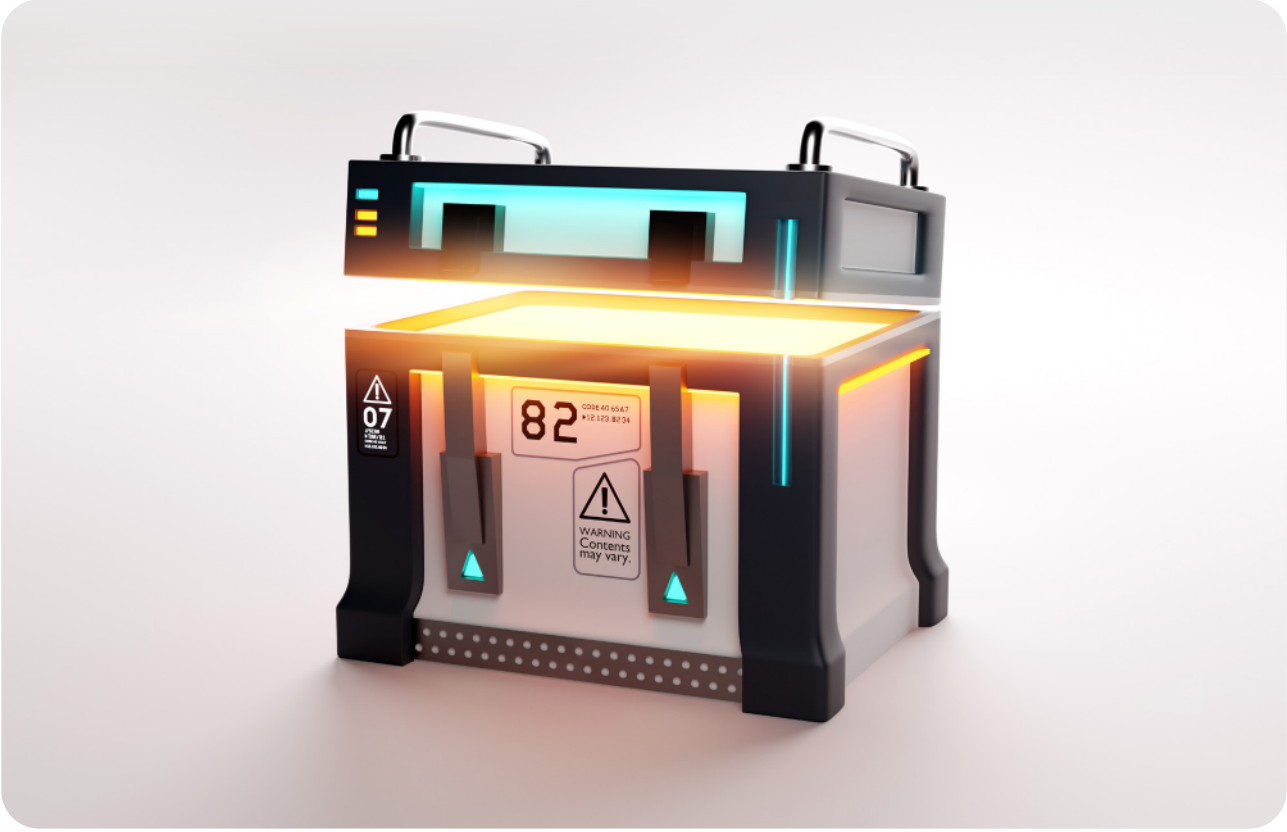
Previous research and discussions in this space have predominantly focused on in-game and in-app spending, including gambling-like behaviour and functionality.

Microtransactions, a well-established practice, have been extensively researched and criticised for their potential negative effects on children's spending habits. These can range from buying skins in online games to sending in-app gifts to livestreamers. One type of microtransaction, loot boxes, has received particular attention due to concerns about their possible impact of promoting problem gambling behaviours among children.

With rapid advancements in technology, the gaming industry has transformed the traditional model of video game sales from a one-time purchase product to a recurrent expenditure platform. This means that instead of users paying once for a game, they now pay for additional products such as skins, weapons, players and loot boxes. These purchases, or 'microtransactions', could be required for players to receive additional content or extras, such as virtual items or advancing to new levels. Conversely, players who opt not to make such purchases may have to engage in player grinding, which entails advancing through the game at a slower pace. Children are also pressured to make microtransactions in smaller gaming apps, and often may not realise that these transactions are costing them "real" money.[4] For example, in a children's game called Doctor Kids, available on Google and Amazon app stores, a pop-up invites children to purchase mini games for $1.99, or unlock new games for $3.99.[5] If the child tries to close the pop-up ad to continue playing the game, the character on the screen looks sad and begins to cry, making the child potentially feel as though they have done something wrong.[6]

Loot boxes are also a popular feature of many games. A loot box is "an in-game reward system that can be purchased repeatedly with real money to obtain a random selection of virtual items."[7] There is typically a low probability that players will obtain their desired item, so they will have to continue purchasing loot boxes until they do. These items may, for example, allow players to change their avatar's appearance, or improve their in-game performance with a new weapon. According to a 2019 study published in Royal Society Open Science, based on a survey of 1,158 participants aged 16-18, when it came to motivations for buying loot boxes, 16% of the participants responded "the fun, excitement and thrills of opening the box itself."[8] Several individuals also claimed that they bought loot boxes to get the 'gambling feeling' that comes with opening them.[9]

These areas of children's spending are important and in need of further exploration and consideration. However, this report looks beyond these topics to examine the other ways children are spending and making money online, focusing on cryptoassets. As this form of online spending is becoming more popular and accessible, it is important to understand how it is being used by children and what impact it may be having on their financial behaviour and wellbeing. Furthermore, the often-anonymous nature of these transactions raises concerns around potential risks for children, such as exposure to fraud and scams. Finally, as with other forms of online spending, there is a potential for children to develop problematic spending habits, and research in this area can help identify potential risks and provide guidance for parents and carers on how to promote healthy financial habits in children.



What are NFTs and cryptocurrency?

NFTs and cryptocurrencies are cryptoassets that rely on blockchain technology. Both are associated with significant volatility and risk as their value is subject to market fluctuations.

A significant disparity between cryptoassets and traditional forms of investments and currency is the lack of fallback options. In traditional systems, individuals have the option to seek assistance from designated entities such as banks or Financial Ombudsman services in case of adverse events. However, in the realm of cryptoassets, the owner assumes complete personal responsibility.

NFTs

NFTs are "are digital files that users cannot replicate."[10] Each digital file symbolises ownership of one-of-a-kind items such as images, digital artwork, and video clips. When it comes to artwork NFTs, the act of purchasing one often does not grant buyers actual ownership or control over the artwork itself. Instead, what they acquire is a web link, meaning that buying an NFT of a piece of artwork equates to acquiring nothing more than a digital reference.

Although these images and video clips can be replicated, their value remains with the owner of the original. In this sense, an NFT is like a signed first edition book, or a plane ticket with a traveller's name on it. In most cases, NFTs are bought using cryptocurrency, and their value changes depending on what someone is willing to pay for them. However, NFTs are not a type of currency - they hold a value that goes beyond solely economic.

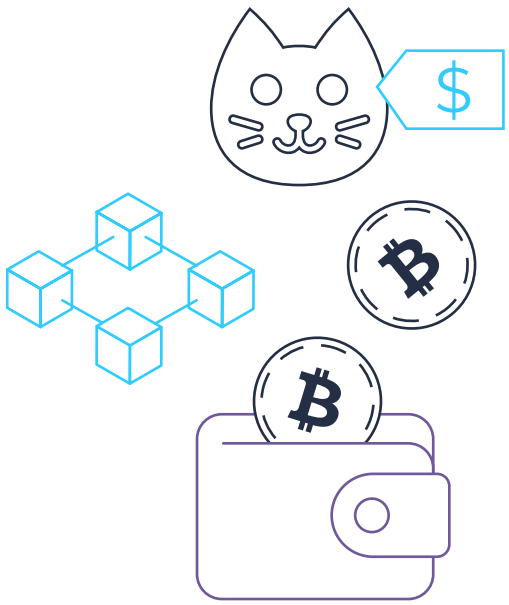
'Minting' is the act of creating a new NFT. Once an NFT is minted, it can be bought or sold through the blockchain. Buying and selling NFTs which have already been minted can be done on platforms such as OpenSea, which is an online NFT marketplace, or directly from the NFT creator. When a buyer mints an NFT, the NFT's information is published on the blockchain. Although NFTs can exist on various blockchains, the most common one is Ethereum (ETH).

Cryptocurrency

Put simply, a cryptocurrency is "a type of currency that only exists online."[11] Much like physical money, cryptocurrencies are fungible (as opposed to 'non-fungible tokens'), meaning that they can be exchanged. For example, one Bitcoin holds the same value as another Bitcoin, just as a £1 coin holds the same value as another £1 coin. Most cryptocurrencies are decentralised – in other words, there is no single authority or institution that regulates them.

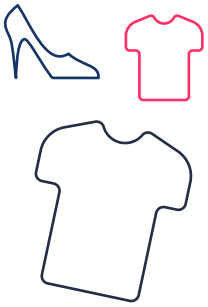
Blockchain

A blockchain is "a type of public record of information that is hard or impossible to change."[12] Each block in the chain stores data from both previous and new transactions and is linked to other blocks via cryptography. All cryptocurrencies have their own blockchain (for example the Bitcoin blockchain, the Ethereum blockchain etc.), and each transaction is verified by blockchain technology and stored on the chain.



The mainstreaming of NFTs and cryptocurrency

The increasing popularity of NFTs and cryptocurrencies has led to a trend of major brands and platforms adopting these technologies. This trend has extended to a diverse range of industries, including clothing brands, food chains, and conventional banks. Earlier this year, an Internet Matters report "A Whole New World? Towards a Child-Friendly Metaverse" explored how the rise of the metaverse has further fuelled this trend, as it relies on users to engage with cryptoassets by incorporating them in various ways.[13] One such way is by allowing users to buy and sell virtual assets in the metaverse, such as virtual real estate, in-game items, and tickets to virtual concerts. Below are some examples of this trend.



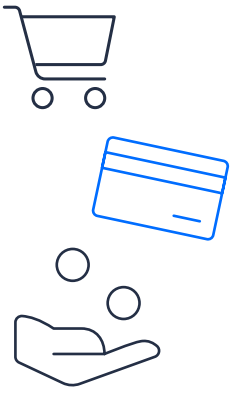
Clothing brands

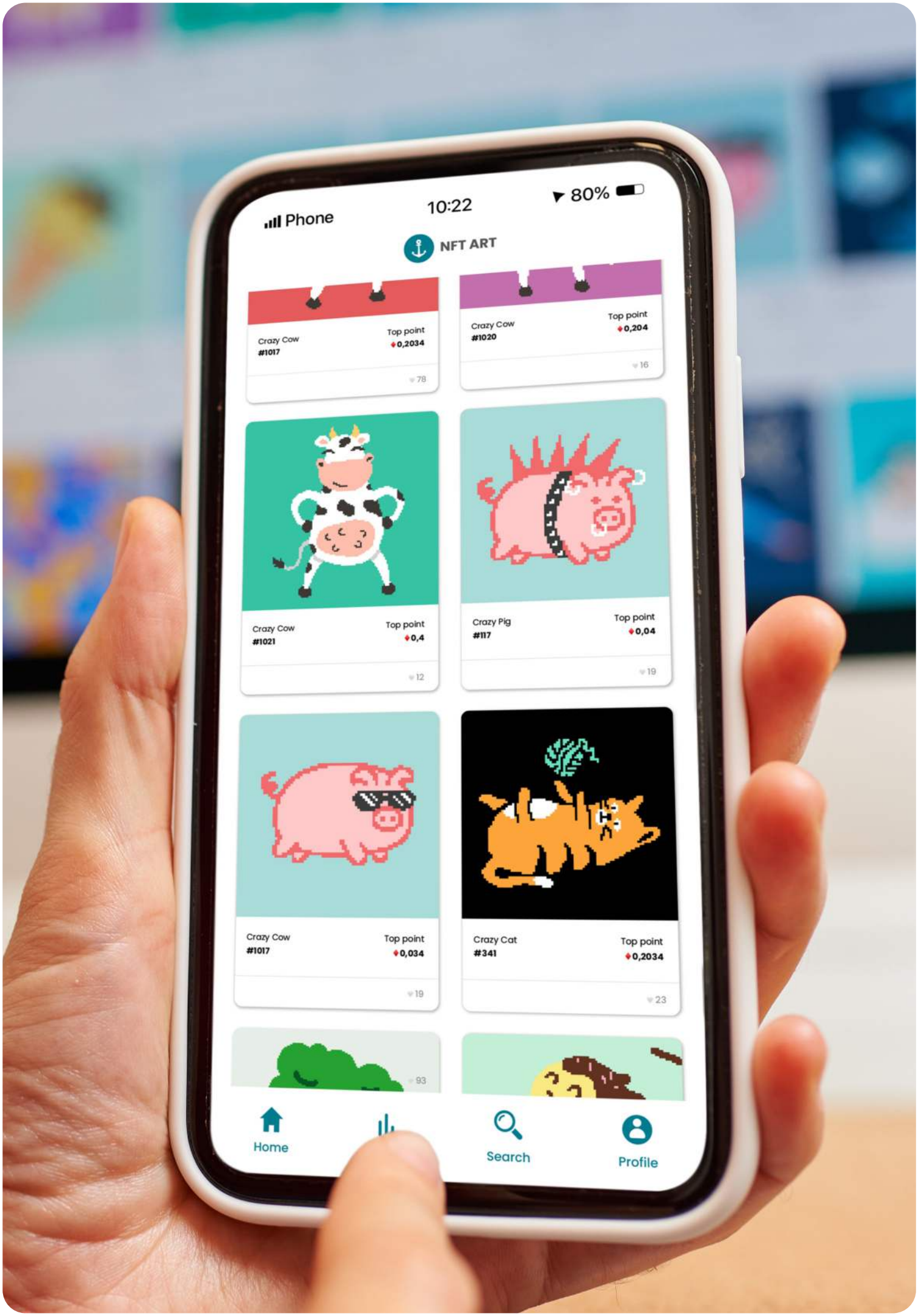
In December 2021, Adidas Originals launched its first NFT. Buyers gained "exclusive access to Adidas originals experiences and products," which included virtual wearables for The Sandbox – an online gaming platform that exists in the metaverse –, as well as physical products.[14] In addition to the NFT, Adidas acquired a plot of land in The Sandbox, "which it is working to fill with exclusive content and experiences."[15]

Financial services

In March 2022 HSBC became the first global financial services provider to partner with The Sandbox metaverse.[16] This partnership saw HSBC acquire a plot of land in The Sandbox, to be "developed to engage and connect with sports, esports and gaming enthusiasts."[17]

Both Mastercard and Visa also collaborated with cryptocurrency exchanges in 2022. In partnership with Mastercard, US-based digital asset exchange Gemini launched its first credit card offering cryptocurrency rewards to all cardholders.[18] Mastercard has also collaborated with HI- a crypto and financial app- to create the "world's first debit card featuring NFT avatar customization."[19] Cardholders can personalise their card with an NFT avatar they own, and "spend at more than 90 locations worldwide."[20]

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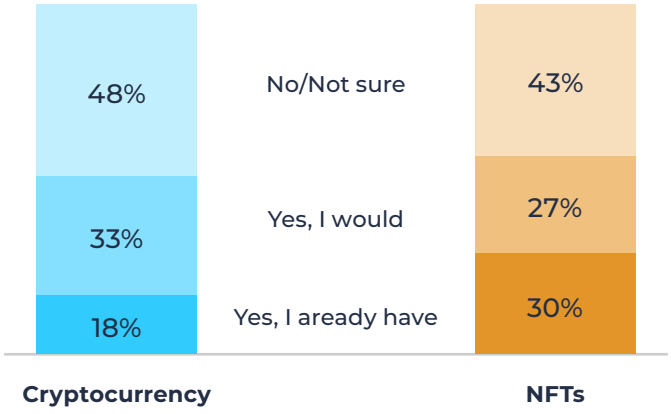
23
93
Home
Search
Profile

Our survey: children's interactions with NFT and crypto

As NFTs and cryptocurrencies have moved into the spotlight, we wanted to find out more about whether and how children are participating in these trends and how families perceive them. Internet Matters conducts a twice-yearly, nationally representative survey of approximately 2,000 parents of children aged 4-16 and 1,007 children aged 9-16 in the UK .[1] In 2022, we asked all parents and a subset of children (521 in total) aged 13-16 a specific set of questions around cryptocurrency, NFTs and e-commerce focused on their usage, views and attitudes.

Would you buy or invest money in any of the following?
(% children 13+ aware of Crypto or NFTs)



How many children are engaging with cryptoassets?

Overall, 8% of all 13-16 year olds we surveyed had already invested in cryptocurrencies and 9% had invested in NFTs.

83% of 13–16-year-olds we surveyed were aware of cryptocurrencies with 45% saying they knew about them ('a lot' or 'a little'). Of these, 18% had already invested in them, and 33% said they would consider investing in them in the future. Similarly, among children aged 13-16 who knew about NFTs, 30% had already invested, and 27% said they would consider investing.

Taken together, the findings indicate that while a minority of children were engaging with cryptocurrencies and NFTs, it still lags far behind the numbers who were engaging with more conventional e-commerce platforms such as eBay and Amazon.

Who are these children?

Our polling revealed that the trend of engaging with cryptoassets had largely been driven by boys (22%, who knew about cryptocurrencies) rather than girls (14%). This divide was even more apparent in NFTs, as according to our polling 39% of boys who knew about NFTs had invested, compared to only 16% of girls.

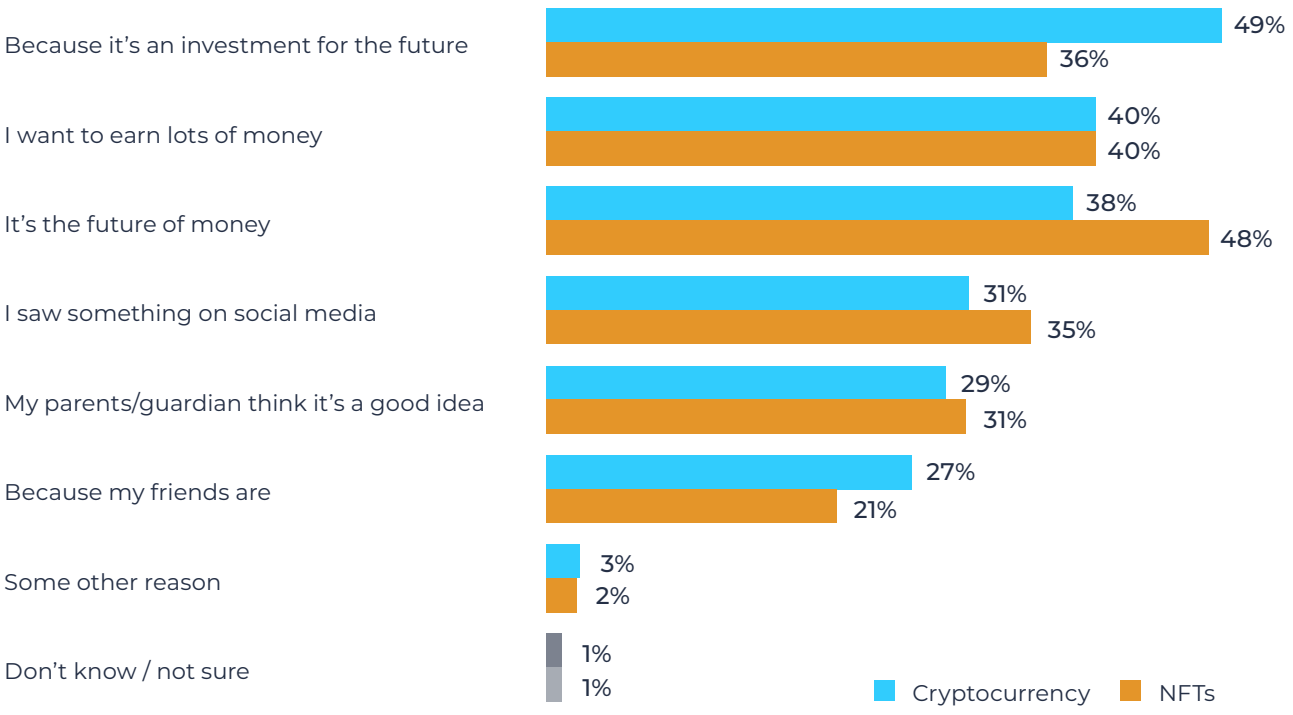
We also noted a slight age divide, with 16-year-olds more likely to invest than 13-year-olds. According to our survey results, around a fifth of 15-16-year-olds (21%) had already bought or invested in cryptocurrencies, compared to 16% of 13-14-year-olds.

Why are children investing?

Our survey findings indicated that a significant proportion of children who had invested or were considering investing in **cryptocurrencies** did so with a future-oriented mindset: 49% gave their reason as "because it's an investment for the future". A similar story held for **NFTs**, with 48% saying that "it's the future of money". Significant proportions also gave their reason as wanting to earn lots of money (40% across both NFTs and cryptocurrency).

Smaller proportions gave their reasons as seeing something on social media, their parents or guardian thinking it was a good idea and because their friends were investing.

Why have you/would you buy or invest in each of the following?
(% children 13+ who have or would consider investing)



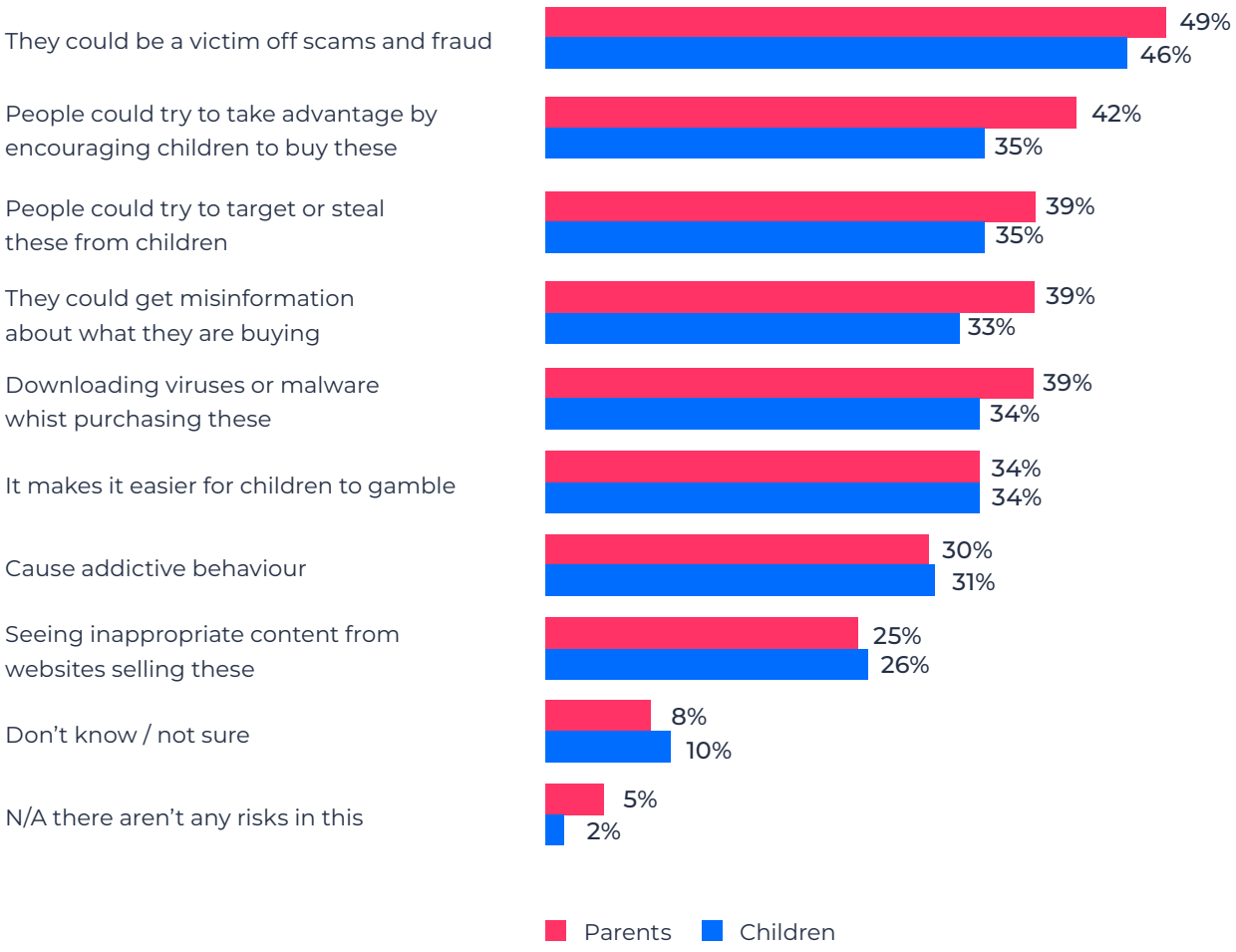
Families' understanding of the risks

Our survey findings revealed that both parents and children had concerns regarding the use of NFTs and cryptocurrencies. Concerns varied between children who had already invested compared to those who said they would consider investing. The top concern for children who would consider investing in NFTs and cryptocurrencies was scams and fraud (42%), followed by people targeting or stealing from them (37%) and viruses and malware (34%).

Interestingly, a different main concern emerged among children who had already invested in cryptocurrencies and NFTs. Our survey results showed that among children who had invested in these digital assets, the most significant concern was that it could lead to addictive behaviour, with 41% of respondents expressing this concern (compared to 28% of kids who knew about cryptoassets cryptoassets but would not invest). This finding suggests that children who have invested in these assets may be more wary of the risks associated with compulsive behaviour.

The most common concerns for **parents** around children interacting with cryptocurrency and NFTs were that they could be a victim of scams and fraud (49%), people could try to take advantage of them by encouraging them to buy it (42%), and people could try to target or steal from these children (39%). Just under a third of parents listed addictive behaviour as a concern (30%), suggesting that they were possibly not as aware of the psychological impacts of investing as children who had already invested.

Which, if any, of the following risks do you associate [with children] interacting with cryptocurrency and/or NFTs? (% PARENTS and CHILDREN aware of NFTs or Cryptocurrencies)



Evidence on benefits and risks

Engaging with NFTs and cryptocurrency presents both benefits and risks to children.* Some of these are presented in the table below.

Benefits	Risks
Fun and customised online experiences	Scams/counterfeiting
Being part of a community	Financial risk
Improved financial and digital literacy	Pressure to engage

Benefits

While not without its risks, investing in cryptocurrency and NFTs presents an opportunity for children to customise their online experiences, make money, and improve their financial and digital literacy. The more children learn about these emerging technologies, the better experience they will likely have with them (whether now or in the future), and the more they will understand about money and what they can do with it.

Below is a brief outline of some of the benefits identified in our research.

Fun and customised online experiences

At the most basic level, children spending money online, whether it be on in-game skins or on a new NFT, is a form of creative self-expression, akin to buying new 'in-style' real-world clothes. These purchases allow children to customise their online experiences to reflect their personalities- for example, Fortnite licenses characters from mainstream entertainment, such as Ash Ketchum from Pokémon, for fans to buy and play as.

Becoming part of a community

For some, buying NFTs is about more than simply owning a digital file – it can be about becoming part of a wider community with exclusive forums and benefits.

NFTs create communities of individuals who share a common interest in a particular artist, musician, or brand. These communities are often facilitated by the NFT marketplaces and platforms themselves, which provide forums, chat rooms, and social media groups for members to engage with one another.

Previous research conducted by Internet Matters revealed that online communities can boost teenagers' sense of social connection, as they often form friendships with others who share similar interests. These virtual communities can create collaborative spaces for young people to express themselves without fear of judgment, allowing them to fully embrace their true selves.[21] By sharing collections, discussing trends, and discovering new artists and creators, members of NFT communities can build relationships and collaborate on creative projects.

Furthermore, participation in these communities can foster a sense of belonging for individuals who may feel isolated in their daily lives, such as vulnerable

** Note that in this report we are focused on the implications of children themselves participating in NFT and crypto purchases. There are wider implications of NFT and crypto more generally – for example, the IWF recently noted a growth in the use of cryptocurrency to purchase child sexual abuse material online. Whilst these wider issues are important and in need of further investigation, they are not the focus of this particular report.*

children. Research has shown that when it comes to feeling connected to people, the importance of the internet in the lives of vulnerable young people cannot be overstated.[22] Thus, owning an NFT can offer more than just a unique digital asset; it can provide access to a community of like-minded individuals who share passions and interests. When discussing the benefits of the Mastercard and HI debit card, Sean Rach, the co-founder of HI, stated that it is a "great way for people to show which online community they belong to," which underlines the importance of belonging sought by NFT owners.[23]

Improve financial and digital literacy

By engaging with these new technologies, children have an opportunity to enhance their financial and digital literacy, with the right supportive environment. For example, they can learn about concepts such as budgeting, risk management, and investment – knowledge which will help them later in life when making more significant financial decisions. The increasing influence of a decentralised ecosystem which relies on blockchain technology, also known as Web 3.0, means that it is important for children to understand both the possibilities and risks it brings.

There has been a surge in initiatives and programs that aim to educate children on financial literacy in relation to cryptoassets. These programmes are mostly concentrated in the United States and have been developed around the idea that engaging with cryptoassets could offer potential benefits to children. However, as children's interaction with cryptoassets is a relatively new phenomenon, there is currently no conclusive evidence to suggest that engaging with these assets can enhance their financial or digital literacy skills.

Children may also profit from engaging with cryptoassets. Children can create and sell their own NFTs, such as artwork or digital collectibles, on marketplaces like OpenSea and Rarible. For example, in 2021, the BBC reported that a 12-year-old boy in London created and sold an NFT collection titled Weird Whales for around £290,000 (kept on the Ethereum blockchain) during his school holiday.[24]

Cryptocurrencies, such as Bitcoin and Ethereum, present children with similar opportunities. For example, they can participate in cryptocurrency mining, which involves solving complex mathematical problems using computer hardware. By contributing computing power to the network, they can earn cryptocurrency as a reward. In 2021, CNBC reported that two siblings aged 14 and 9 spent their summer holiday building a cryptocurrency mining business, which earned them over $30,000 USD (around £25,000) per month.[25]

It is important to note that the examples given above of children profiting from NFTs and cryptocurrencies are exceptional cases, and it is unlikely that many children will earn as much from engaging with them.

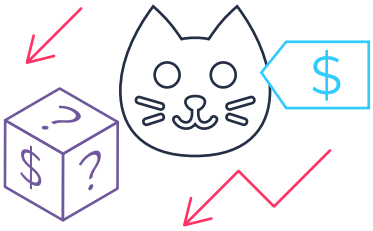
Risks

While there are benefits to investing in NFTs and cryptocurrencies, there are also risks. These include scams, the changing value of popular digital currencies, and the pressure on children to engage.

Scams and counterfeiting

According to our survey, the primary concern among both parents and children who were familiar with cryptoassets, including the ones who would not consider investing in them, was the risk of falling victim to cryptocurrency or NFT scams.

In 2022, Action Fraud, the UK's national reporting centre, reported that financial losses involving cryptocurrency from October 2021 to September 2022 were £226 million – "a 32 per cent increase on the same period a year earlier."[26] Fraud was also identified as a particular problem with NFTs in an upcoming government consultation.[27] Below are some examples of scams used in relation to NFTs and cryptocurrencies, though this is not an exhaustive list.



Pump-and-dump

Pump-and-dump schemes are one of the most prevalent scams in this space. These schemes follow a simple approach wherein the scammer (typically someone with a large social media following) acquires a substantial quantity of an obscure cryptocurrency token or NFT collection and then uses social media to inflate its perceived value. The value of the token or NFT rises rapidly as interest builds, and once it has hit a high enough number the scammer sells their large stake which creates lots of supply, "leaving the other investors holding the bag when the price drops."[28] The later an investor entered the scam, the more they paid for the crypto and the greater their loss is. These schemes often involve the scammer leveraging the popularity of celebrities or 'influencers' by getting them to advertise their crypto tokens or NFTs.

Rug pulls

When creating a rug pull scam, investors will often invest crypto, such as Ethereum or Bitcoin, into a fake cryptocurrency they have created. Once a significant number of other investors exchange their Ethereum or Bitcoin for the new token, the creators sell off their holdings, causing the price to rapidly drop ad leaving other investors with devalued assets.

A prime example of a rug pull is the case of Save the Kids ($KIDS). $KIDS was an alternative cryptocurrency token advertised by well-known YouTube influencers as a charity token which claimed to donate a percentage of its transaction fee to charity. The influencers promoted the token on social media, encouraging their (primarily teenager) fan base to purchase it.[29] $KIDS was officially launched in June 2021, however "the token's value plummeted within days of launch, with large holders immediately dumping their shares."[30] It was reported that many of the influencers' fans "pumped money into this scheme, believing their investment was protected by the high profile of those endorsing it, only to see their money disappear almost overnight."[31]

Phishing

A common phishing scam involves a scammer catching the attention of an NFT owner with a fake website, or transaction opportunity. The scammer will typically try to imitate well-known crypto platforms or create counterfeit NFTs. For example, in April 2022 a hacker posted a fraudulent link to a copycat of the Bored Ape Yacht Club website with a fake Airdrop, where users were prompted to sign a 'safeTransferForm' transaction. This transferred their assets to the scammer's wallet. Users were tricked into thinking that if they followed the link, they would be able to mint a new feature for their NFTs.

Plagiarised NFTs

With the surge of NFTs being minted, the issue of counterfeits has become an increasing problem on online marketplaces.[32] Much like when buying an original piece of art, NFT buyers must be able to identify plagiarised works. Fake NFTs can be created very easily and can be difficult to spot- in January 2022, popular NFT marketplace OpenSea warned buyers that over 80% of the items listed were plagiarised, fake collections, and spam.[33] These counterfeit pieces can either be created by an individual, or more commonly, created by bots which scrape online galleries and create auto-generated collections.[34] There are currently no laws in the UK aimed at removing these 'fake' pieces, however there has been an increase in tools that use AI to identify and flag potential counterfeits on marketplaces.[35]

Financial risk

Our survey revealed that children primarily invest in cryptocurrency as a means of securing their financial future.

But while investing in cryptocurrency and NFTs can sometimes be lucrative, it always involves a significant degree of financial risk. The Financial Conduct Authority (FCA) states that "while not all cryptoassets are the same, they are all high risk and speculative as an investment."[36] The Treasury Committee has gone as far as to say that unbacked crypto should be regulated as gambling to reflect the fact it is so high risk.[37]

In November 2022, one of the world's largest cryptocurrency exchanges, FTX, filed for bankruptcy.[38] The company was based in the Bahamas, and it had "built its business on risky trading options that are not legal in the United States."[39] After its collapse, the savings of hundreds of thousands of FTX customers were at risk- in just two days, FTT, a token used on FTX, dropped more than 90 percent.[40] What's more, less than a month after the collapse of FTX, crypto firm BlockFi filed for bankruptcy in the US, citing "significant exposure" to FTX.[41] According to the BBC, in 2022 BlockFi had accepted a rescue deal from FTX as the value of cryptocurrencies dropped.[42] The bankruptcy of FTX had a ripple effect on the industry, causing Genesis, a US-based cryptocurrency lender providing liquidity to FTX, to also file for bankruptcy. The value of certain NFTs also plummeted- for example, Justin Bieber's Bored Ape NFT, which he bought in January for $1.3 million USD, fell to around $70,000 USD, according to the market value of other Bored Ape NFTs.[43] The occurrence of several cryptoasset collapses points to a concerning trend, suggesting that these incidents are not isolated occurrences but rather part of a broader pattern.[44]

NFTs are only worth as much as much as someone is willing to pay for them - an NFT that is valued at a high amount today may be worth nothing tomorrow. And when it comes to cryptocurrency, it is widely known that value fluctuations could result in significant losses. Research conducted by the Bank for International Settlements found that around three-quarters of retail investors (individuals who are not professional investors) were likely to have lost money on their initial cryptocurrency investment.[45]

Studies have shown that children are more impulsive than adults, and less likely to be able to calculate risk, instead seeking out immediate rewards.[46] This can make children particularly susceptible to the allure of quick profits in the world of cryptocurrency and NFTs, without fully understanding the risks involved. Furthermore, in evidence to the Treasury Select Committee in December 2022, Susan Pritchard of the FCA said that over two thirds of young people thought that crypto was protected.[47]

In the long term, another area of consideration is the linking of cryptoassets such as NFTs to avatars and using them as a form of digital identity. This introduces a myriad of security risks if the avatar or token is lost, stolen or hacked, as it could lead to data exploitation.

Pressure to engage

Our research found that both gamification and influencer culture may have an impact on children's engagement with and investment in cryptoassets.

Persuasive design features

Gamification is "the use of game design elements in non-game context,"[48] and refers to certain qualities that make investing and cryptocurrencies seem more fun and exciting, like playing a video game.

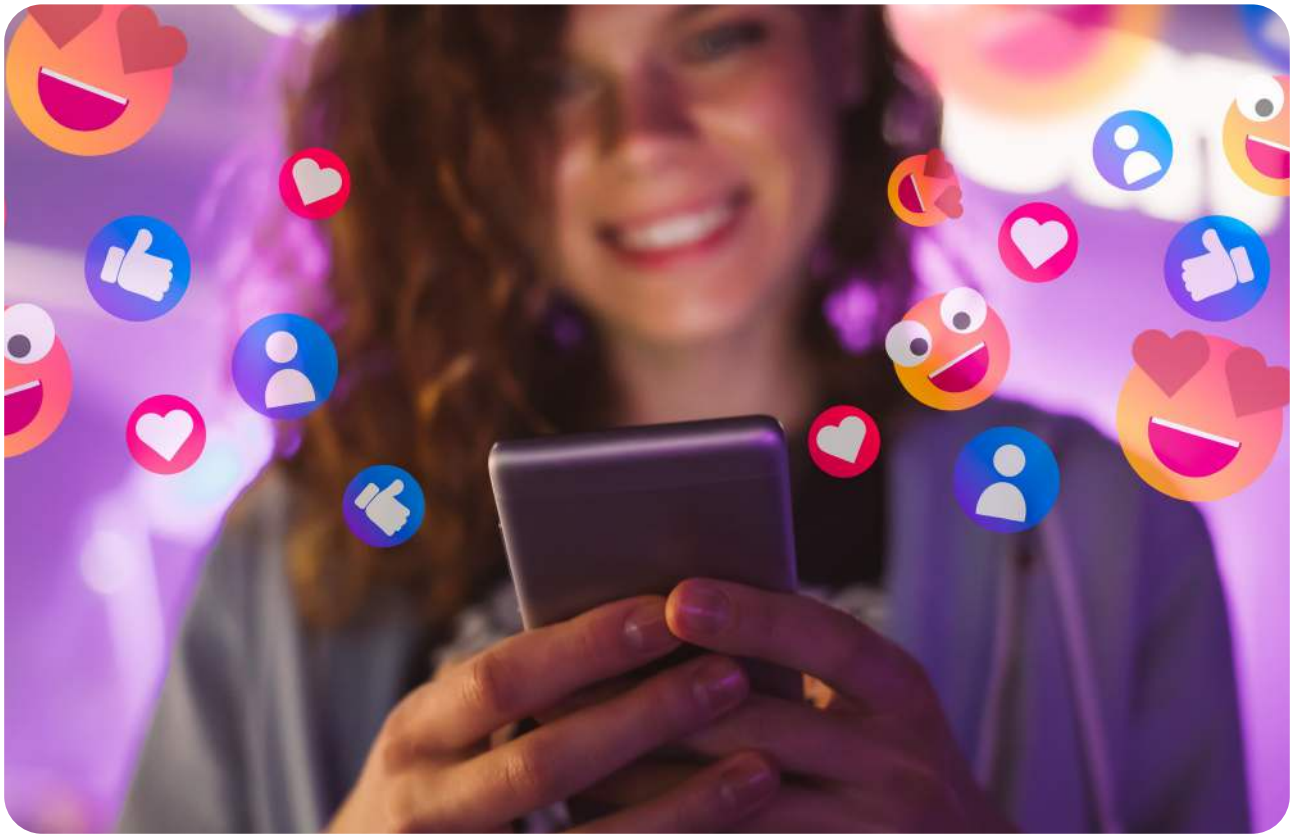
An example of a game for children involving cryptoassets is CryptoKitties, the world's first popular blockchain game. Cryptokitties was launched in 2017 and designed for children aged 13+. It allows its users to purchase, breed, collect and sell animated cats. Each cat is an NFT, and to play users need a digital wallet as the game runs on the Ethereum blockchain.[24]

It could be argued that gamification of this kind can make learning about cryptocurrency and NFTs more engaging and accessible for children. But there are clear risks. Visually appealing and game-like additions, such as cartoon images, may mean children do not realise that the money they are losing is not real, or lose sight of this fact, with the desire to 'win' or earn rewards overriding rational decision-making. This risk is underscored by the children we surveyed who expressed that their main concern regarding investing in digital assets is the potential for addictive behaviour.

Influencer Culture

Social media advertising targeted at children has become a controversial issue in recent years, especially with the rise of influencer culture.[49] Such influencers hold significant power when it comes to promoting products and services to their followers, which can include encouraging them to buy cryptocurrencies and NFTs. A 2021 survey conducted in the UK found that one in five children regularly compare themselves, their success and their happiness to the people they follow online.[50] In this way, influencers and celebrities can use the fear of missing out to pressure children into buying cryptocurrencies or NFTs by endorsing the asset and creating a sense of urgency to engage. Furthermore, influencers can appeal to a child's emotions by presenting engaging with cryptocurrencies and NFTs as a way to belong to the same online community. A 2023 report released by 5Rights Foundation highlighted that "children and young people develop one-sided relationships with celebrities or online influencers," which can be complicated by them being paid to promote certain products or services.[51]

In March 2023, the Securities and Exchange Commission (SEC) charged eight celebrities for promoting two crypto tokens, Tronix (TRX) and BitTorrent (BTT), without disclosing that they were compensated for their tweets.[52] Lindsay Lohan, Soulja Boy, Ne-Yo and Akon were among the celebrities who illegally promoted the tokens.



Policy and regulatory context

There are many benefits associated with children spending money online, such as creative self-expression and improved financial and digital literacy. With proper support and appropriate guardrails in place, it is not necessarily a bad thing that children can spend money on online platforms. It is certainly not a new phenomenon. But cryptoassets are extremely volatile and risky, and there are real questions to be answered as to how far children should be allowed to engage with them, given the current regulatory landscape.

There is currently very little regulation of cryptoassets – but change is on the horizon

At the time of writing, cryptoassets remain largely unregulated in the UK, especially from a consumer protection viewpoint.

Since 2020, the Financial Conduct Authority (FCA) has required cryptoasset firms to comply with anti-money laundering and terrorist financing measures. Furthermore, the Financial Services and Markets Bill, which is currently making its way through Parliament, will bring stablecoins into the scope of financial regulation (stablecoin being a certain type of cryptoasset which is distinct from NFTs and volatile cryptocurrencies like Bitcoin).

But it remains the case that generally cryptoassets themselves are not regulated.[53] This means that there is no consumer protection when it comes to investing in cryptoassets, which puts all users at risk, including children. Since 2017 the FCA has issued a series of warnings to this effect, focusing on the fact that all cryptoassets are high risk, that consumers are unlikely to be covered by the Financial Services Compensation Scheme (FSCS), and that scammers are increasingly active in the cryptoasset space.[54]

The first signs of a more rigorous, coordinated response came in 2018 in the form of the Cryptoassets Taskforce, made up of the FCA, Treasury and Bank of England. The final Taskforce report set out a path forward for regulation in the UK, including for the purposes of consumer protection.[55]

Against this backdrop, in April 2022 the Treasury committed to the introduction of a new regulatory regime for cryptoassets, reflecting the risks and opportunities they present. A consultation was brought forward in February 2023, informed by recent market events including the failure of FTX, which "which reinforce[d] the case for effective regulation and sector engagement."[56] The proposals have been designed to strike a balance between consumer protection and encouraging growth and innovation in cryptoassets markets – along with wider considerations around securing market stability and financial integrity.

Rather than creating a new regulatory regime specific to cryptoassets, the proposals will make cryptoassets subject to the same legislation as traditional finance - the Financial Services and Markets Act 2000. This will bring cryptoassets under the remit of the FCA and subject to existing provisions around market abuse and consumer protection. Further regulation of cryptoassets is already being planned in what the government describes as a "phased approach".[57]

Of additional note is the Fraud Strategy, published by the Home Office in May 2023 setting out how the Government plans to reduce fraud by 10% on 2019 levels by December 2024. This is an important step, although it is not particular to young people, cryptoassets or online fraud and scams.

Despite progress being made on regulation, children are not being considered

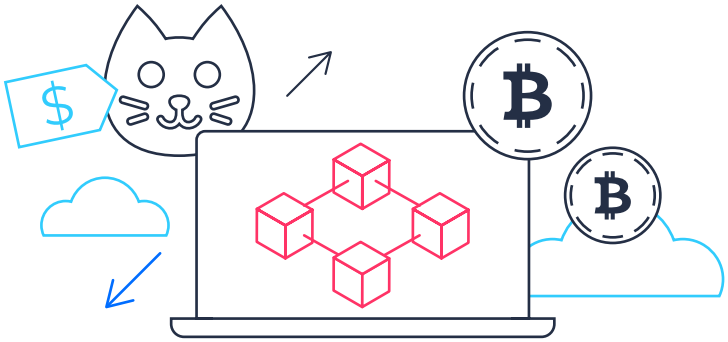
This report has shown that a significant minority of children are participating in cryptoassets transactions. The proportion will likely increase over time, as cryptoassets become more mainstream. And yet there is a lack of policy focus on the specific protections children need in this space.

The Government's commitment to introduce new regulatory regimes is an undoubtedly positive move, in order to support people's participation in a market rife with scams and risk.

But when it comes to consumer protection, the stated objective of the regime is to "enable consumers to make well-informed decisions, with a clear understanding of the risks involved." While this might be an appropriate level of support for adult users of cryptoassets, it is not enough for children. Young people are less likely to be equipped to understand and manage risk, and therefore require greater support 'by design' – or in some cases, prevention from participating at all. In late 2022, the DCMS Select Committee launched an inquiry into NFTs, including a specific focus on whether vulnerable investors are being put at risk, echoing this concern.[58] The fact that the words 'children', 'young people', 'parents' or 'families' do not appear anywhere in the government's 82-page consultation paper on cryptoasset regulation is symptomatic of the problem.[59]

There is currently no minimum age limit for selling, purchasing or investing in cryptoassets. Some established sites such as Coinbase and Binance require users to be 18, as indicated in their terms of use, in line with the legal age for buying and selling other financial products such as stocks. Some of these sites, including Coinbase, require users to prove their age by submitting a photo of their passport. However, various articles can be found online which advise underage users how to buy cryptocurrency. For example, articles encourage children to ask someone older to invest for them, list platforms which do not require age verification, or signpost to those which have a lower age restriction (e.g. 13+, such as Purse.io).[60]

Concerns around children's engagement with cryptoassets are part of the reason why many campaigners have called for financial harm to be brought into the scope of the Online Safety Bill. In contrast to cryptoasset regulation, children are very much intended as the primary beneficiaries of the Online Safety Bill, which will see online platforms made more responsible for many aspects of their users' safety and wellbeing. But despite the very real impact that financial harm can have on children's lives, and its close relationship with online platforms in many cases (especially in the case of cryptoassets), it is mostly out of scope of the Bill - with the limited exception of paid-for scam ads.

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MAKE MONEY GREAT AGAIN

What needs to happen

Engaging with cryptoassets has the potential to be a powerful learning experience for children. Helping children to engage with these products safely is important if they are to be prepared for the future, when they are likely to become ever more commonplace.

But children engaging with cryptoassets today are experiencing an extremely high degree of risk. They are not well informed about the implications of dealing with cryptoassets, and neither are parents. Age limits and checks vary between sites, and forthcoming regulatory action is not focused on the needs of child users, as a vulnerable group. All this needs to change.

Designing specific protections for children

There needs to be a national conversation about what is appropriate for children of different ages when it comes to engaging with cryptoassets. Indeed, the Treasury Select Committee recently called for speculating in unbacked crypto to be treated as gambling.[61] Should this proposal be implemented, it would effectively prohibit children from participating in such activities.

One of the key questions which needs to be addressed is the age at which children should be allowed to make cryptoasset transactions. At the moment the picture is variable, with some platforms restricted to people aged 18 and over, others 13 and above, while some have no age limits whatsoever. Furthermore, as set out above, some sites enforce age checks much more rigorously than others.

Another key area of conversation needs to be the role of parents. Some sites require under 18s to have parental permission to participate, others do not. For example, although OpenSea is only meant for over 18s, their terms of use state that 13-year-olds may use a parent or guardian's account with their approval. There are things that parents can already do to help children manage the risk associated with cryptoassets. For example:[62]

- Parental controls (such as Google's Family Link) can be used to block access to specific websites, including cryptoasset platforms.
- Parents can apply spending caps if their child has their own debit card, or use tools which prevent children from making unauthorised transactions on their own cards.
- Tools like Blockchain Explorer record all incoming and outgoing transactions that occur on a particular blockchain network, enabling parents to keep track of their child's transactions and digital assets balance.

But the problem is that each of these measures rely on parents' proactivity, knowledge about the various tools and controls available, and their time to keep pace with what children are doing online.

In other areas of online safety and wellbeing, it is accepted that children require specific protections online – this being the foundation of the Online Safety Bill. But there is no reason to think that cryptoassets are any different. The question is what these protections should look like – not whether they are needed.

Answering these questions will require close consultation with children, parents and families themselves, along with more research about the benefits, risks and scale of usage among children, to add to the evidence in this report. In the meantime, it would perhaps be wise for a cautious approach to be taken. For example, it may be that, until full and proper regulation of cryptoassets is in place, children under the age of 18 should be prevented from participating completely.

Implementing protections for children

Once a clear consensus has been reached on the kinds of protections which are most suitable, there is the question of how they are best implemented.

Currently, cryptoasset firms are effectively self-regulating when it comes to managing children using their services. This has resulted in variability, e.g. in age

checks and requirements around parental permission. Forward-thinking firms would realise that improving children's experience of engaging with cryptoassets, including via firmer protections, could put them in a stronger position to maintain these users as customers as they grow into adulthood. But this is unlikely to be enough of an incentive for platforms to act, or to act strongly enough.

The Government has already recognised the need for regulation, via the Treasury and FCA, in part because all consumers are not currently well protected. It has also signalled that it will be taking an iterative approach to regulating this space. There is a strong case to be made for children to be a focus of forthcoming phases of regulation.

Regulation in this space will only be successful if the FCA works closely with regulators of adjacent fields. This is particularly true in relation to children. Most notably, the FCA will need to collaborate closely with Ofcom to ensure coherence between regulation of cryptoassets and Ofcom's regulation of online platforms. One area in which there is a strong need for alignment is age assurance, which will soon be tackled by Ofcom, building on previous efforts by ICO through the Children's Code. It is in the best interests of children and parents, as well as online services (including cryptoasset sites) for there to be a consistent approach to age assurance. The Digital Regulation Cooperation Forum could play a key coordinating role on this issue (and others) – indeed, in its Annual Plan the DRCF indicates that age assurance will be a focus of its work in 2022-23. It would be welcome for this work to include a focus on cryptoassets.

Wider join up is also needed with the Advertising Standards Authority, as cryptoassets ads (including on social media) are currently subject to the Advertising Code. These rules require advertisers to make it clear that cryptoassets are unregulated, and that their value can go down as well as up, amongst other things. The ASA has described cryptoasset advertising as a "red alert" issue for them and there are many examples of companies (e.g. Luno, Crypto.com)[63] and influencers (e.g. Eva and Jessica Gale)[64] being ruled against.

Educating parents, professionals and children themselves

Even with regulation in place, there will be a continued role for parents and professionals (such as teachers) to help children manage the risks around cryptoassets. Regulation is never a silver bullet – it is equally important to engage children in dialogue so that they are prepared to manage the risks of technology, including cryptoassets, and so that they understand why certain restrictions might be in place (such as age limits).

A study conducted by Internet Matters shows that "parental digital behaviour, skill, and awareness are strongly linked to how children experience the digital world and its effects."[65] The research also indicated that parents who have less experience using digital devices at home were less concerned about their children's online experience, which may be a result of the parent not understanding their children's online lives.[66]

This underlines the importance of the media literacy strategies from DSIT (formerly DCMS) and Ofcom, as well as the role both bodies must play in educating parents on digital matters. Increasing parents' confidence and awareness online benefits their children as well, as they receive more support at home. Parents' access to information is key to this, and they are often searching for a range of support, including tailored online advice offered by organisations such as Internet Matters.[67]

To reinforce the support offered to children by parents, there is a role for schools to play. The RSHE curriculum currently requires secondary school children to be taught about online gambling, online advertising and how to be a discerning consumer online – but not about online scams, including those related to cryptoassets. This should change, and would be an avenue for the Government to deliver on its commitment in the Fraud Strategy to deliver new anti-fraud lessons to young people.[68] The ongoing RSHE Review, due to conclude at the end of 2023, could be used to facilitate this change.[69]

With a proper support network in place, children have the best possible chance to navigate the online world safely and confidently.

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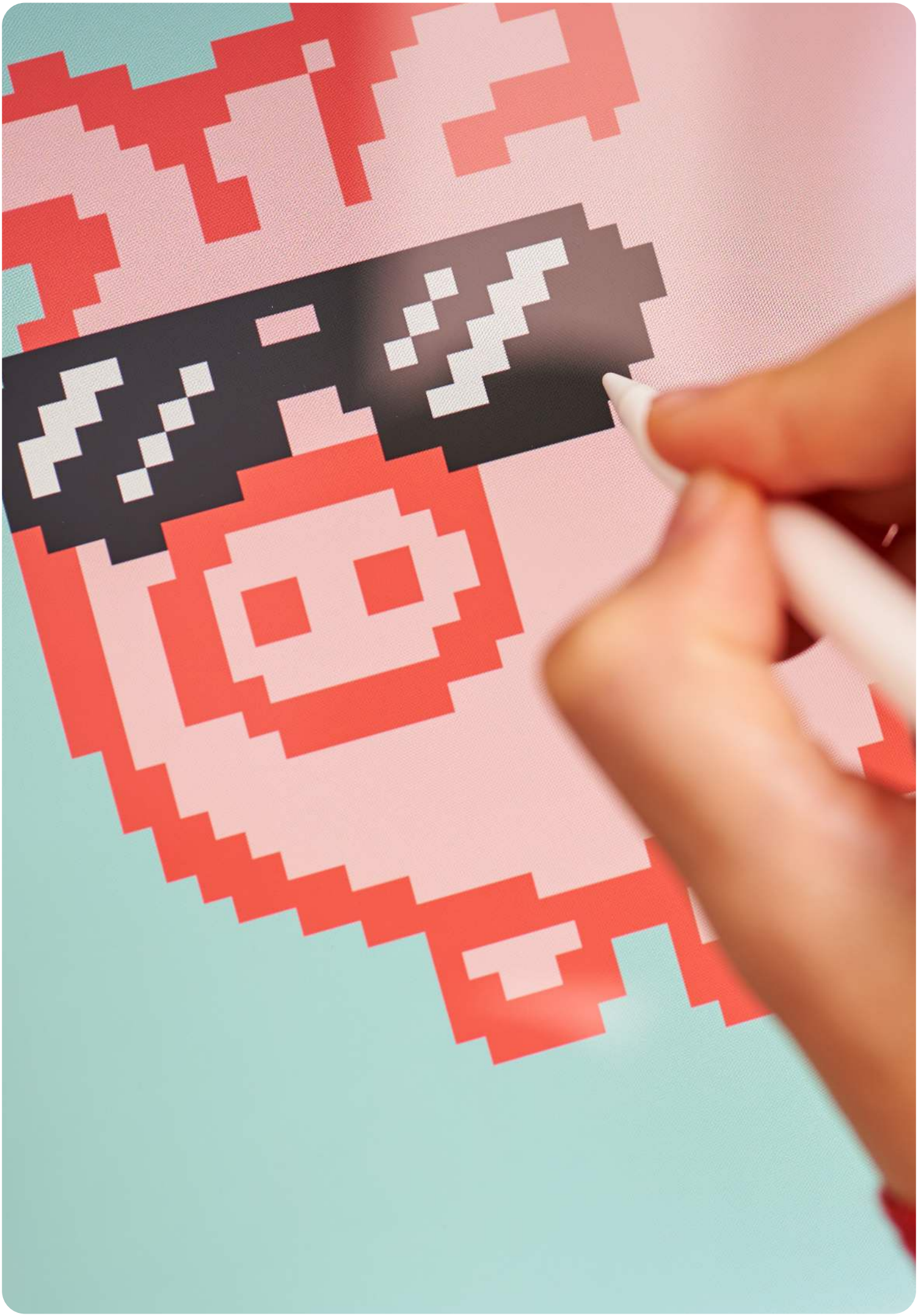

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