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Digital Piracy in Higher Education: Exploring Social Media Users and Chinese Postgraduate Students Motivations for Supporting 'Academic Cybercrime' by shelving ebooks from Z-Library

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Abstract

Z-library, an electronic books (ebooks) website, was shut down in November 2022 for cybercriminal activity. This created a milieu to investigate its educational significance in higher educational institutes. Adopting social representation theory, this article explores 134 comments in r/Z-Library a Reddit subforum populated across social media during the takedown. These users' views are contextualised against opinions from 103 Higher Education (HE) postgraduate students in China, who were engaged in a qualitative study including a survey, focus group and ethnographic observation of a classroom debate. Analysis found an overlap between both groups and suggests that universities need to re-consider digital divides faced by socioeconomically disadvantaged students. Academic poverty, caused by the cost of academic literature and journals, was found to drive students and social media users towards piracy. The article concludes by recommending that universities must consider how to reduce piracy, as institutional libraries move into post-digital futures. These recommendations highlight, then, that if learners must resort to 'academic cybercrime' a rethink is needed about how universities enable a culture of lifelong learning.

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Introduction

In November 2022, the United States (US) Federal Bureau of Investigation (FBI) shut Z-Library (Javaid, 2022). Hosted over Peer-to-Peer (P2P) networks, Z-Library (known to some as Z-lib) offered pirated texts free of Digital Rights Management (DRM). So, a shadow library of electronic books (ebooks) without proprietary restriction (Woodcock, 2022). Higher Education (HE) students who cannot afford books, or who face censorship, relied on Z-Library. Censorship exists beyond politics, sometimes led, for example, by universities (Moody, 2005). In 2022, support for Z-Library was felt in a social media connective #BookTok, whose comments compared the closure to the burning of Alexandria (Javaid, 2022). Social media popularity thus shaped an Authors Guild (2022, p.4) complaint, to the Office of the US Trade Representative, which spurred the takedown. This noted the ‘...hashtag #zlibrary on popular social media platform TikTok has 19 million views, 12 in reference to the countless videos posted by college and high school students and others across the world promoting it as the go-to place for getting free ebooks.’.

Study Rationale

Consequently, this article explores public data from a Reddit forum (subreddit) r/Z-Library/your_reasons_for_using_zlib about ebook piracy motivations during November 2022 (Reddit, 2022), alongside presenting part of a mixed-methods study, from January 2023 to April 2023, with postgraduates in China, studying in a joint-venture university offering an English Medium of Instruction (EMI). Comparison shapes a lens on digital piracy within HE experiences. Reddit is a social media forum for comments based on opinion, which reinforces commonality of viewpoints (Dubois & Blank, 2018). It draws opinions from a ‘subreddit’ – a forum generated by registered users, situated in different spatial and temporal locations to others. Users are not required to self-identify and are rewarded through a pseudo-currency, given by fellow users, who ‘upvote’ posts. So, subreddits reflect communal influence and global attitudes towards topics. Thus, two research questions drive the analysis of data presented:

RQ1: What motivations drive Chinese students’ digital piracy and use of Z-Library?

RQ2: How do globally situated social media users overlap with such Chinese HE students, concerning their motivations to pirate digital knowledge?

By asking these questions, the article offers insight for university educators about student experience, due to shuttering of Z-Library. As new technologies emerge, such as AI as a ‘partner tool’ in universities, the article pinpoints directions to reduce students’ reliance on ethically ‘grey’ shadow platforms (Day, 2024b). For example, it discusses whether students are satisfied by their resources, and how they make up shortfall. The concept of distributing texts informally, for study, is a historical feature of university culture (Bunge, 1977). By asking questions about digital piracy, then, the article resituates such discussions into modernity, the rights of authors and academic learning accessibility (Hodges, 2021). It highlights how, in the HE context, we have focused on ‘neoethical’ measures to discourage piracy via restrictions or facilitating lean discounts for students to access learning material (Chan et al., 2013).

Dialogue points, then, have often raised ethical judgement about piracy as criminological deviance (Jennings & Bossler, 2020). Put differently, what drives digital piracy has been argued as a lack of care for vague online rules. Yet, this article positions ebook digital piracy as influenced by wider praxeological concerns that are student specific; 'intellectual pirates' know piracy is criminal, but feel it is a fundamental human need. Piracy has, to date, been most debated around movies and software, not academia (Jennings & Bossler, 2020), usually suggesting that poor self-control and impulse behaviour motivates thieves (Higgins et al., 2009). Discourse, consequently, explored the mechanisms of theft, rather than considering what this article terms 'academic cybercrime' as a HE survival requirement. This article positions original insight, to help educators design and shape teaching, alongside support learning, in the future of universities globally.

Literature

There is growing focus on HE digital ethics (Day & Skulsuthavong, 2022). For example, why Chinese students must use virtual private networks (VPNs), a technological software that masks online activity and user identity, to circumnavigate blocked content. Therefore, they build familiarity, from a young age, with renegotiating boundaries of digital legality (Waters & Day, 2022). Chinese students are, due to rising job shortages, undertaking study, with an estimated 11.6 million expected to graduate in 2023, compared to 2.8 million UK undergraduates and 820,310 postgraduates (Xie, 2023; HESA, 2023). They enter a challenging Chinese HE landscape. *Nature* identified downloads of pirated scientific papers as dominated by Chinese users, with over 25 million hits per month on one platform (Owens, 2022). Moreover, *Science* exposed a Chinese Internet bazaar for buying journal authorship alongside bonus income for publishing 'efficiently' (Yang, 2013). Questionable peer-review practices have also been noted (Wang et al., 2020). In a study of retracted papers between 2012-16, China was alleged to have published the most scientific research with falsified peer-review and accounted for 50% of all articles retracted in reputable journals (Huang, 2017; Gu, 2018; Chan, 2015).

Key Concepts

Chinese postgraduates, therefore, offer an interesting audience regarding their motivations for stealing ebooks. Is it a by-product of HE environment, or is it similar to concerns and motivations amongst global digital citizens? 'Online disinhibition' describes how digital anonymity reduces psychological barriers (Suler, 2002) and accountability (Suler, 2003). Maime et al. (2021) suggests, in their analysis of over 300 million comments on Reddit, peer-reinforcement changes thinking. Web anonymity, therefore, is linked to extremism (Klausen, 2012; 2015). People may act dishonestly online as it is harder, unless volunteered, to be identified (Suler, 2004). Moreover, spatial-temporal distance means users dissociate from ethics tied to harm (Fisher & Barak, 2001; Suler, 1999). Or see their acts as imagination (Suler, 2002; King & Barak, 1999). The Internet lacks traditional mechanisms of control, then, hence local laws are not carried in its 'fourth-dimensional' space. Digital piracy is changing, with younger people increasingly literate in breaking laws to access online copyrighted material without paying for it (Tomczyk, 2021).

Meanwhile, universities are changing, driving new learning modalities and methods of knowledge assimilation (Day, 2024a). Student agency reflects social representation of thought, acting upon technicality, and vice versa. As Suler (2004, p.325) remarks, performed '...online communication (e.g., e-mail, chat, video) and different environments (e.g., social, vocational, fantasy) may

facilitate diverse expressions of self. Each setting allows us to see a different perspective on identity.' Consequently, this article draws from social representation theory. Rateau et al. (2012, p.492), suggests that '...even if representations are collective constructions, they are still partially constructed by individuals...' and '...a group's attitudes towards a given object are said to be the definitive source for opinions held about this object.' Shaheer & Carr (2022, p.3) recognise this helps '...globalise and homogenise what is acceptable behaviour, as observed in the comments. In the process, Reddit users apply their own standard (anchoring and objectification) to create the social representations of deviant behaviour.' Through this lens, we can identify Reddit as a space for globally situated people to interact together, without physical proximity, capturing a snapshot we can compare to data collected in person, with students (Lai et al., 2016; Wang, 2017; Shaheer & Carr, 2022).

Method

Therefore, this study draws on findings from qualitative analysis of a subreddit of r/Z-Library whereby 134 comments were posted. This is contrasted to a group of 103 students, in their second semester of a postgraduate degree delivered in English, at a UK joint-venture university in China. In the student group, three seminars on the topic of Z-Library were arranged, with a talk given about the takedown, lasting an hour, followed by a focus group discussion, lasting an hour. Each seminar was attended by approximately 34 students (1/3 of the total group). In seminars, a discussion took place, whereby ethnographic observation was made. This was followed up by a focus group forum, open for two weeks, where students discussed using Z-Library, in a virtual learning environment (VLE) that included prompts and a survey. 91/103 students returned the survey, approximately 88% who attended the seminars. 87/103 students, approximately 84%, responded by posting forum comments. Overall, 91% of the students identified as female, 70% were aged 22-25 years old, and 100% identified as Chinese in nationality.

Study Protocols

When working with humans, ethical review protocols were followed including an IRB application enacted with committee peer-review. Digital ethnography offers unique ethical considerations (Pink et al., 2016). Studies of Reddit extend across gender, romance, video games and drug usage (See: Townsend & Wallace, 2017; Uchinaka et al., 2019; Vermeulen et al., 2018; Wang, 2017). Reddit (2021) does not disclose openly user demographics, other than users must be over 13 to have an account, and the majority are males (57%) aged 18-34 (58%). Terms of public data usage are unclear, yet Reddit's API is free and is approved, by Reddit, to collect posted content/metadata (See: Fiesler et al., 2018; Fiesler & Proferes, 2018). Such content reflects collective bias (Park et al. 2020). Content posted could identify a user, and there are data accuracy implications for studies omitting where their Reddit data comes from, which suggests some academics may treat social media as ethically exempt, taking less care in using the data (Markham, 2012). To post on Reddit, a user selects a pseudonymous name (handle), and a password, but they do not need an email address. Yet, posts by a user are chronologically indexed on that username and readable, by users, visitors, moderators, and bots (Jhaver et al., 2019). Because of this, users may have disposable accounts (Leavitt, 2015; Ammari et al., 2019). To recognise these issues, this study omitted usernames from analysis and identified only a CST date/time of posting, to strengthen anonymity (Isaak & Hanna, 2018; Ayers et al., 2018).

Postmodern thinking influences analysis, alongside grounded theory. Proposed by Glaser & Strauss (1999), grounded theory seeks flexible interpretation (Charmaz, 2003). Therefore, this article sought to draw conceptual perspectives through narrative commonality, supported by feedback through a LIKERT survey, to contextualise responses (Corbin & Strauss, 2008). As in grounded research, the study was informed by codes and patterns, shaped by frequency, to create an understanding of social processes that refine understanding. There are, of course, limitations to this approach, considered subsequently. However, social representation theory stresses the groups studied online operate from biases, which shapes unique in-the-moment views of global events.

Results

Both groups reported the takedown of Z-Library impacted wellbeing. The high cost of books and journals was prohibitive to knowledge acquisition, creating an intellectual divide, which drove piracy due to 'academic poverty' – unsustainable costs of academic materials.

Digital Divides: Reddit Social Media Users Motivations for Using Z-Library

134 Reddit comments had been posted at the end of the data collection period; poverty, expense, and academic need were recurring themes. With respect to poverty, one user wrote “*I am poor. Living in a 3rd world country, 1 book would cost like 50%- 80% already of my daily wage*”. – User A, 14.11.22 - 03:59:29CST. Another had used Z-Library as a tool to 'trial' books because they couldn't afford to purchase them:

Poverty is a big one for me. I love to read and have since I was a kiddo. I have to be particular about how I spend my money in order to survive. The great thing about libraries and Zlib is that I can read the books and if the book has a personal impact on me I will save up to buy it for my own small physical book library and support the author. – User B, 14.11.22- 04:20:12CST.

Z-Library was seen as a tool to help readers access learning, not commit a crime. One user wrote an academic introduced them to a similar platform, LibGen:

I discovered Libgen in 2014 because our professor told (me to) get all my reference off scientific papers and not Wikipedia. She linked me to libgen; I discovered you can also type name of fiction authors there. The way I navigate to libgen back then is Google then author plus Libgen. When I discovered fiction is also in there, zlib was included into the search result. I liked Zlib because it displayed large thumbnails of books. – User C, 14.11.22- 07:21:23CST.

This suggests that search engine indexing and user interface (UI) design aided piracy. Several users identified the UI of Z-Library as motivating usage, as it promoted high quality images, recommendations and reading lists, which helped make the experience feel less criminal:

I think what distinguishes Z-Library the most from all the other pirate book (websites, is it has 1.) user-friendly UI and search features. 2. Amazing booklists and booklist recommendation system. 3. The tags/categories, the TAGS for easier searching (like you don't know how I want that right now but alas I don't think it's directly on mobile). – User D, 14.11.22- 09:09:14CST.

Another user remarked it had had widened their knowledge of popular books and publishers:

Zlib is decent for book discoverability. The search function is smart enough and quick to execute, and you could easily navigate the whole portfolio of one selected publisher. Being able to see book lists curated by other users has led me to some good reads. – User I, 14.11.22- 09:37:30CST.

Meanwhile, users seemed to be aware of the business economics of academic publishing and suggested a 'Robin Hood' mentality for digital piracy. As one remarked:

Academic books prices are 200-300\$ for the cheapest ones, sometimes just for the PDF version. The real thieves are the publisher companies (Elsevier in the front row), making money out of the work of people from academy, sometimes without even paying the authors and making them pay to publish. – User E, 14.11.22- 07:23:56CST.

Another user agreed, suggesting this spurred their piracy:

I've mostly used it for academic research. I believe most academic articles (including those published in books) are written by scholars for free and the reviewers are volunteers. So all the publishing company does is just make their minimalist (i.e. minimal effort) cover design and click a few buttons. They make massive profits. So stealing from them doesn't hurt the authors nor reviewers, just the rich greedy publishers who make millions just to design a cover and click 'publish'. – User L, 14.11.22- 10:50:29CST.

A common theme was that Z-Library was a 'necessary evil'. Those without Z-Library could not have developed sufficient subject knowledge to advance in their studies, for example “*I learnt a lot, and I meant a LOT, of Maths and Physics from books downloaded from Zlib.* – User F, 14.11.22- 09:18:19CST. Poverty overlapped with temporal and spatial concerns, such as for a first-generation college student:

Poverty. I don't have a secure living situation, which means no physical space to put books. I can't have a pile of books. I have my own personal collection of 10ish books but that's it. I've been homeless, living in a hotel, in my car. Everything I own I have been carting around in my car or relatives homes for 5+ years while I finish college. I'm a firstgen college student getting undergrad and accelerated grad degrees. I do borrow physical library books in addition to ebooks. – User G, 14.11.22- 09:58:47CST.

Another felt a similar attitude, arguing that “*...nobody can afford 300 dollar textbooks for 4-5 classes every single semester when this is an option. Enough said*”. – User H, 15.11.22- 12:59:21CST. Equally, Z-Library seemed to enhance student experience, as one social media user felt their university library lacked sufficient resources:

One of my classes required five books that the school library did not have, and after checking with the public library they only had two. I barely, and I mean barely, make ends meet on my work study job and part time job that together require me to work around 32 hours a week on top of 16 units. It's helped me not spend a crazy amount of money for school books, and gave me resources that substantially made my research papers better. – User J, 15.11.22- 03:27:45CST.

Meanwhile, the view of Z-Library as a tool for knowledge emancipation was linked to political censorship, including in China. As one user remarked “*Censorship. I am a Hong Konger living in mainland China, books related to politics are basically banned*” – User K, 15.11.22- 12:20:25CST. An awareness of ethics was present in the subreddit, though most felt ethical arguments were weakly attuned to the needs of learners, as one argued “*Knowledge should never be locked behind capitalism*”. – User F, 15.11.22- 09:49:28CST. Another felt that copyright law was something that could be ignored, and amusingly remarked they “*...have low moral fibre. The opportunity cost violating copyright protection law is very low. I also drive my car at speed limit + 10 mph*”. – User L, 14.10.22- 10:30:51CST. Notably, Z-Library was seen to grant a benefit from being able to ‘flick through’ a book as a trial:

I wanted to get a book on perspective drawing for my nephews birthday but it had to be engaging for a kid... I downloaded a bunch off z-lib and found a suitable one that way, which I then ordered in hard copy. – User M, 15.10.22- 04:45:38CST.

There was also emphasis where universities lacked journal subscriptions, it meant poorer students were forced into piracy. As one user remarked:

...its nuts to expect anyone to pay a couple of hundred dollars for access to a single paper. Especially, as I, when researching, want to read as many studies as possible. – User N, 14.10.22- 04 6:49:26CST.

Another suggested they were “*...happy to pay. But not the outrageous prices charged by Springer et al.*” – User O, 14.10.22- 06:49:26CST. Consequently, social media users identified the high costs and walled gatekeeping of private journals as factors that spurred them towards digital piracy, which itself became more intensified for those facing censorship or from socioeconomically disadvantaged settings. With this in mind, [Table 1] reflects Chinese student views on the takedown of Z-Library. 41% of students agreed, or agreed strongly, that the takedown of Z-Library affected their study and resource access. Interestingly, 43% of Chinese students surveyed were impartial with respect to Z-Library breaking copyright law. In keeping with the socialist values of both their university, and country, many agreed, or felt strongly, that knowledge should be freely available to everyone, a theme also in the Reddit subgroup. Despite being situated in China, a place where the Internet is heavily regulated, Z-Library was seeming well known, such as to the extent that 71% of students confirmed they had used Z-Library, or a similar website, to access academic books.

Table 1

Reflections from Postgraduate Students in Chinese HE on Z-Library Takedown

Total Respondents N = 91, Scale: Strongly Disagree/Disagree/Neutral/Agree/Strongly Agree					
Question/Statement	Sg-Dis.	Dis.	N.	Agr.	Sg-Agr.
The takedown of Z-Library affected my ability to study and find resources for degree learning.	12 (13%)	17 (19%)	25 (27%)	26 (29%)	11 (12%)
Z-Library was breaking copyright law, so deserved to be shut down.	9 (10%)	14 (15%)	39 (43%)	15 (16%)	14 (15%)

Knowledge should be freely available to everyone, everywhere.	6 (7%)	11 (12%)	15 (16%)	28 (31%)	31 (34%)
I have used Z-Library, or a similar website, to download academic books for free.	10 (11%)	4 (4%)	13 (14%)	27 (30%)	37 (41%)

What can be inferred, from this, then, is that copyright law, or author rights, was less of a concern compared to needs of the students, or their community. Reflecting on this and the impact on others is the theme captured in [Table 2], which showed most students agreed or strongly felt that Z-Library was important in helping students living in poverty overcome economic barriers that prevented self-advancement through intellectual achievement and opportunity.

Table 2

Reflections from Postgraduate Students in Chinese HE on Z-Library Usage

Total Respondents N = 91 Scale: Strongly Disagree/Disagree/Neutral/Agree/Strongly Agree					
Question/Statement	Sg-Dis.	Dis.	N.	Agr.	Sg-Agr.
I feel that Z-Library, or a similar website, is helpful to students living in poverty.	3 (3%)	2 (2%)	11 (12%)	22 (24%)	53 (58%)
Academic textbooks are too expensive, so I can't afford to buy them as a student.	2 (2%)	8 (9%)	20 (22%)	27 (30%)	34 (37%)
My own university has limited/complicated access to journals or books internationally.	16 (18%)	27 (30%)	23 (25%)	15 (16%)	10 (11%)
In my current setting, I can't always get the academic books I want due to local rules or regulations.	7 (8%)	14 (15%)	28 (31%)	29 (32%)	13 (14%)
In my own physical library at university, we don't have enough copies of books I need.	13 (14%)	25 (27%)	22 (24%)	20 (22%)	11 (12%)

67% of students also agreed, or strongly agreed, that academic textbooks were not something they could afford to buy. Whilst 48% of students felt that their university had accessible journals or books, 34% of students agreed or felt strongly that there were not enough copies of books in their university library to satisfy their learning. This differed to many of the views expressed within the subreddit, who felt it was a more prominent issue. Such a difference might have something to do with the international heritage of the university they studied within, which was aligned to a prestigious UK university and as such had inherited a more westernised expectation of resources

and intellectual freedoms. This may also be echoed in that 46% felt that they agreed or felt strongly that local rules or regulations impacted study. [Table 3] however shows us the sense of change amongst Chinese students with respect to ebooks and digital literacy, with 47% agreeing or strongly agreeing that physical books were old fashioned, and digital copies saved them time. This viewpoint highlights spatial considerations affected the decision to pirate, with 50% agreeing or feeling strongly that digital books helped save space - many students in Chinese universities reside in shared dormitories, or multigenerational homes (Waters & Day, 2022).

Table 3

Reflections from Postgraduate Students in Chinese HE on ebook and Literature Modalities

Total Respondents N = 91, Scale: Strongly Disagree/Disagree/Neutral/Agree/Strongly Agree					
Question/Statement	Sg-Dis.	Dis.	N.	Agr.	Sg-Agr.
I prefer digital books; physical books are old fashioned, so electronic books helps me save time.	16 (18%)	14 (15%)	18 (20%)	28 (31%)	15 (16%)
I prefer digital books; physical books take up a lot of space, crowding a dorm/home/room.	10 (11%)	18 (20%)	17 (19%)	35 (38%)	11 (12%)
I have limited access to English-medium academic books in my country, so have to look online.	6 (7%)	8 (9%)	19 (21%)	33 (36%)	25 (27%)
I prefer to download books without restrictions, like licensing, pay-walls, logins as it is difficult.	2 (2%)	7 (8%)	12 (13%)	30 (33%)	40 (44%)
I would rather donate what I can afford to authors direct, than pay expensive publisher book costs.	3 (3%)	13 (14%)	31 (34%)	22 (24%)	22 (24%)
By being able to access any book freely, Z-Library or similar enabled me to read more recreationally.	2 (2%)	3 (3%)	16 (18%)	40 (44%)	30 (33%)

Overall, Chinese students agreed or strongly felt that limited access to English medium books in China required them to turn towards the Internet to find alternatives and 77% of students suggesting logins and pay-walls traditionally associated with academic journals made it difficult for them to access materials needed for their studies. Interestingly, 48% felt paying authors directly was more appropriate to compensate for book use, which contrasted with a consensus in the subreddit that users were generally unconcerned about the financial implications for content

creators, rather more with their own needs. 77% of students, however, felt that Z-Library helped encourage reading for pleasure, echoed across users within the subreddit.

Chinese Postgraduate Students Comments on the Takedown of Z-Library

Chinese HE students detailed the impact of the takedown of Z-Library. In many instances, an awareness of integrity and need to succeed in studies clashed. One student felt that:

I know that copyright is very important, and that copyright can be reasonably protected to make the book industry develop better, and authors can get reasonable royalties and stable income. On the other hand, some original books are really expensive, not to mention books from other countries are simply not available, and the existence of Z-Library has opened a door to literary works for me... I think that in the future, I will start buying paper books and start paying for royalties, but at the same time I may also read fewer books, because the paper version of the book selection is very careful, once the packaging is torn and cannot be repented, unlike the electronic version can be downloaded and replaced at will – Student A.

In a remerging theme, echoed in the social media users, the design accessibility of Z-Library helped enhance students' opinions about the platform, suggesting usability was a reason for pirating books. For example, this student also felt Z-Library "...unlike many digital content sharing sites, it supports multi-format cloud downloads without secondary transmission, which is simply a boon for lazy parties like me. – Student A. Another student felt that this accessibility was intrinsic to knowledge emancipation, especially for those living in poverty within China, or affected by political features:

From my perspective, knowledge can be considered as the free resources for everyone. As the Gorky said, knowledge is the ladder of human progress... not only in the university, in the entire country, due to some political reasons and stands, there is always an strict restriction for people to have access to foreign news, videos or books... it becomes an distress for people who have passion for leaning foreign culture. In this way, the application of Z-Library may work for these people. – Student B.

The theme of poverty was frequent, with students often identifying that it was a barrier in China, including for reasons of language and location, indicating that cultural practices related to copyright played a role across nations with different legal systems. For example, one student identified that "...people distribute e-books just to help people in need, not to make a profit... China does not have as serious copyright monopoly as Europe and the United States... – Student C. However, they also suggested an interesting view that book piracy was relatively niche compared to other media formats and was still emerging as a common practice and "...years from now we may look back at pirated e-books today as we look at pirated video games a decade ago". – Student C. Likewise, as discussed in the subreddit, spatial and temporal considerations influenced decisions to engage in piracy, suggesting that "...some ebooks also do the audio reading, we can wear headphones to listen to the book, even in the noisy environment can also learn something". – Student F. This was echoed in a student's reflection that perception of books and learning was influenced by family values as much as the resources of an institution. For example, "After graduation, my mother disliked my books too much (she) chose (those) not too important (and) quietly sold scrap". – Student I.

In keeping with socialist values in Chinese HE, points related to knowledge freedom and equality were popular. One student remarked that “...we live in one world, we are family. We need to contribute to our family, so the knowledge can help each other to achieve it. And if knowledge can be free, we have no border.” – Student G. Interestingly, this student also was aware of academic publishing, remarking about the irony of how established knowledge publishers claimed to support intellectualism, but charges for it, yet “...a famous academic website SCI emphasizes knowledge should be free and unrestricted.” – Student G. Another student, however, appreciated the implied irony, given that some of the most prominent academic journals are not open access, or charge high article processing charges (APCs). Hence, they felt that piracy of books in academic settings was tied to both cost if a university did not manage a subscription:

Due to the high charging fee for some academic resources, people would rather use free resources, which provokes the prevalence of online pirates. If we are provided to buy online academic resources at affordable prices, we could learn to be respectful of copyright. – Student D.

Discussion between students about the complexity of logging into repositories and journal websites was raised, highlighting time consumption of using affiliated institutional logins to remove paywalls. Ease of access, for some students, motivated ebook piracy. As one remarked:

When I need to download an article, I may give up the download if I am restricted by some conditions. For example, I need account registration, which makes me think if my personal information will be leaked. – Student E.

The user interface of Z-Library reflected accessibility, whereas paywalls did not. So, another student who felt that Z-Library was easier to use because they could “...find the documents, books and materials we need very efficiently and conveniently”. – Student H. Interestingly, students desired instantaneous knowledge accessibility. If a journal or book was essential to academic research, but hidden behind a paywall, it angled students towards piracy, rather than seeking to login using institutional access. For example, a student echoed a social media user and remarked: “I have limited access to academic books in the English medium, so I have to look online... once similar pages are closed, my sources of information are blocked”. – Student K. Debate was raised during the takedown as to the impact of social media in highlighting Z-Library to the authorities; the students interviewed became familiar with the website because of social media diffusion, noting “I found Z-Library from a Chinese social media called “Xiao hongshu”. – Student J.

Not all students felt positively about Z-Library, such as Student L who remarked:

Z-Library was breaking copyright law, so deserved to be shut down. As we all know, the goal of copyright is to safeguard the author's or artists intellectual property in their work. It establishes the expectation that, unless a third party is granted a license, they have the sole right to utilize their product and profit from it. Copyright also encourages intellectual innovation in this way by encouraging an artist to work freely, allowing them to be recognized for their talent, and safeguarding their financial security. – Student L

Those students who advocated for Z-Library did so in contrast to the needs, much like those in the subreddit, identifying often impact on learning because of its takedown:

The removal of Z-Library has affected me in some way. Electronic resource materials were for me the biggest way to find free resources for my studies. Its removal prevented me from finding more free learning resources and caused me a lot of distress. Although the e-resource is not systematic, it can be an inspiration for my ideas. Being able to freely read any book and knowledge resource is a blessing to me, as a student I don't have much money to support me to buy genuine book resources like Z-Library can make my reading easier, it's not necessarily very formal, but it can give me some different ideas. – Student M

For students facing censorship to knowledge, the importance of being able to access knowledge transposed copyright. Hence, book piracy seemed less of an immediate concern, and any obstruction faced, including login landings or payments, simply drove them further into piracy:

I really don't like being restricted when downloading books. For example, you need to become a member first, and you need to register and log in first and even pay. However, it is strange that in order to collect all kinds of books and articles related to the subject of research papers, I paid for the purchase of VPN. When I use the purchased VPN to find information, I actually have an inexplicable sense of superiority. I feel that the knowledge I spend money on may not be found by others, so I have more learning resources than them. So I think those knowledge platforms that need to pay also use consumer psychology to a certain extent, making this phenomenon more and more popular. – Student N

Overall, however, the most dominant theme was cost, as stressed in one student remarking:

For students in remote and poor areas, they may not be able to acquire knowledge in time, which is easy to cause the inequality of educational resources. Z-Library can help them acquire knowledge faster and more conveniently, which can eliminate the lack of educational resources in a certain sense. – Student M

Discussion

Despite two diverse groups, one globally situated on a social media platform, one from China, similar views were found and pinpointed that poverty led a decision to engage in piracy.

Post-digital 'Robin Hood' Knowledge Redistribution?

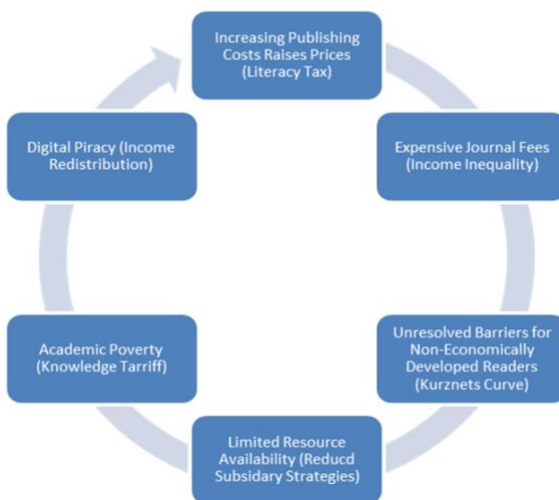
Both groups, then, felt that the expense of books, the impact of pay-walling and publisher exclusivity impacted knowledge access. This was exacerbated by limited access to physical copies of books not held in libraries, or books that had translations. Hence, students and social media users alike felt Z-Library had been a safe space to help them find texts and deploy knowledge in their lives. The greatest divergence seemed to be predicated on if this could be considered a crime. Across the Chinese students, many felt that Z-Library was a necessary tool and without it, they were unable to succeed. However, they knew this broke the law, and a few challenged its use; law abiding tendency is higher in collective Asian cultures, where higher education often serves as a tool to create social order (Waters & Day, 2022).

Debate was prevalent about whether academic journal pricing conflicted with liberal academic values; both groups seemed to suggest their ability to learn was tied to the capacity to afford

higher books costs, forcing them to limit their consumption. This led to a pseudo-Robin Hood effect, whereby information, so knowledge as a resource born from literature, was seen as stolen from Z-Library and redistributed fairly, so that economic inequality, created by academic publishers' high prices, could be balanced. Publishers, then, were seen as taxing everyday consumers disproportionately for resources necessary to prosper. Similarly, Haner et al. (2022) found that digital cybercrime was linked to outcome-based morality; people supported cybercrime if they personally aligned to the outcomes of the criminals. With this in mind, [Fig. 1] offers a representational diagram that summarises an overview of motivations for using Z-Library expressed as a vicious cycle that both users and students identified.

Figure 1

A Model of 'Robin Hood' Outcome-Based Morality for Digital Piracy



The study demonstrated students resorting to digital piracy can be attributed to several factors. One is convenience and, perhaps, convergence of where the digital and social overlap spatially, and temporally. Pirated content can be accessed from anywhere, eliminating the need to physically visit a library. Digital piracy, it seemed, offered a solution by providing students with an array of content that may not be readily available at their institution. Or, where their university could not afford to pay for subscriptions (Day, 2024a; 2024b). COVID-19 intensified students desire to engage use shadow libraries. Digital piracy of ebooks reflected, also, a communal identity. There was no sense of a personal 'thrill' of stealing literature. Many were aware of enforceable consequences, which felt further away than, for example, failing a course. Yet, students and social media users acknowledged their activity impacted creators. Both recognised to stop digital piracy of learning materials, it was essential for the publishing industry to consider the underlying reasons that drove this behaviour. By better understanding the factors that contribute to piracy, this research has shown the sector needs to work towards implementing

strategies to change this issue; it is unsustainable, and digital piracy is shown to be a manifestation of the digital divide in HE.

Conclusion

Consequently, Z-Library, as a platform, has been shelved by the FBI. This article therefore sought to gain understanding of two core questions:

RQ1: What motivations drive Chinese students' digital piracy and use of Z-Library?

RQ2: How do globally situated social media users overlap with such Chinese HE students, concerning their motivations to pirate digital knowledge?

In answer to the first question, Z-Library was found to offer personalisation, tailored recommendations, and results. It helped students overcome academic poverty and gave instant access to knowledge. In answer to the second, regardless of geography, there was motivation to use Z-Library to support lifelong learning. Meanwhile, amongst both groups there was a shift towards digital literature as a mechanism of online communal interaction. The findings presented, then, show a change in reading habits, which has implications the future of HE, and has been echoed in other studies (U.S. Department of Education, 2023).

The convenience and availability of content in shadow libraries, such as Z-Library, pushed students to digitally pirate ebooks; the scale of resources was far grander than in their universities. University leaders must consider the conditions that create academic piracy in the first place. Undoubtedly, nobody in either sample felt a solution was forthcoming. It is, of course, important to educate students about digital piracy and to devise content that helps them to understand alternate ways to get the material they need, especially in the wake of the takedown of Z-Library. The preference for physical textbooks was present. Many reasons were put forward, which included reading comfort, annotation ease, and the perceived tactile learning experience (See: Amirtharaj et al., 2023; Millar & Schrier, 2015; Direct Textbook, 2021).

Not all students, or social media users, had reliable Internet access. However, the ability to find information easily in one online place, so Z-Library, off-set this concern. Enabling students to find other references and resources via books recommended by Z-Library promoted the platform. Students' preference for piracy and ebooks was thus found to be influenced by a combination of factors, not just a lack of appreciation for legality. Put another way, universities had failed to produce a conducive resource environment for academic achievement, by requiring students to turn to less legal mechanisms.

There are limitations of this study. It had a relatively small sample size, which may not be representative. As a result of the chosen groups, there is self-selection bias, whereby participants who chose to participate represent the most engaged in a learning environment and, likely, analysis; their views may not be representative of the student population, or comparable to the social media group, as no demographic information was found. In working with students in an authoritative setting, social desirability bias increases, whereby responses are given by students believed as desirable, limiting their comprehensiveness. There are potential gaps in

completeness of the data collected through social media platforms, which could affect reliability, as Reddit is continually updated.

The term 'post-digital' does not seek to suggest the end of digital functionality, rather synchronous with life. The findings show Chinese students and social media users demonstrated a 'post-digital' sense of outcome-focused morality. So, ebook piracy emerged around a 'Robin Hood' mentality, with those using Z-Library platform to resist publisher 'knowledge tax'. Consequently, there is need for universities to re-consider the digital divides faced by socioeconomically and digitally disadvantaged students, alongside publishers, who must rethink their approach by making open-access research more commonplace and thus pro-human.

Conflict of Interest

The author(s) disclose that they have no actual or perceived conflicts of interest. The author(s) disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university. The author(s) have not used artificial intelligence in the ideation, design, or write-up of this research as per Crawford et al. (2023). The authors list the following CRediT contributions: MJD contributed all aspects of the paper. The author(s) confirm an IRB was enacted for the fieldwork undertaken in China, via the host university, XJTLU, under ethics approval ID ER-AOFE-11000068720230222195423.

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