Abstract

Civic crowdfunding for research purposes has been an emerging trend in scientific fields over the past few years. This paper presents findings from a mixed methods analysis of 152 social science research projects that campaigned for crowdfunding. A total of US$583,074 was raised through the support of 6,663 backers among the 150 successfully funded projects. This study offers specific lessons for social work researchers engaging in crowdfunding campaigns. The data show that projects supported by endorsers and initiated by faculties were able to solicit more backers and funds. Another key finding is that the campaigns that had videos for promotional purposes were the most successful but video length does not affect backers' consideration. The paper presents the potential ethical challenges for social work researchers in this crowdfunding arena. In what may first appear to be a democratic and emancipatory space, decisions are actually made about what topics are worthy of financing by people who have access to the online platforms and the disposable income to back the project. Nevertheless, these platforms offer a route to research funding for academics, practitioners and service user groups in a context where funding from research councils and foundations is increasingly limited and competitive.

Keywords: Practitioner research; Research ethics and governance; User led research; Research and evaluation

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Introduction

Locating sufficient research funding is a difficult exercise even for experienced members of the academic community. Writing a good research proposal and obtaining a grant can be a strenuous and painful experience. The selection committees for research grants only accept a small number of exceptionally distinguished proposals, which leaves many interesting and important studies unfunded. This situation is challenging for academics, as a record of external funding has become a prerequisite in the tenure and academic promotion ladder. With the "up-or-out" rule, if an individual is unable to obtain sufficient funding within a given period, their job security may be at risk. In this highly competitive environment of "publish or perish", the better able an individual is to solicit research funds and publish articles, the more likely they are to survive (Lacasse *et al.*, 2011; Mcgrail *et al.*, 2006). This paper explores the possibilities and challenges of using crowdfunding (or crowdsourcing) platforms to fund social work research projects. It aims to inform researchers and institutions about the potential limitations of crowdfunded research as well as the opportunities crowdfunding provides to get important projects started that otherwise may have gone unfunded.

Raising money for research through crowdfunding has been an emerging trend in the natural sciences over the past few years (Byrnes *et al.,* 2014; Grand *et al.*, 2015; Sharma and Devereaux, 2015; Walker, 2017; Wheat *et al.*, 2013). As grant applications to research councils have become increasingly demanding, arguably, the crowdfunding of

research (i.e., soliciting individuals' contributions to research projects via online platforms) not only serves as a "way out" but also offers a way to connect science and society in a powerful new way (Wheat *et al.*, 2013). However, in the social sciences, relevant online platforms are more limited.

This paper examines a total of 152 social science projects attempting to secure funds on a popular crowdfunding website and analyses their success factors. Among these projects, a total of 150 were successfully funded with a total of US$583,074 raised from 6,663 backers. As academics across the social sciences begin forays into the world of crowdfunding this paper discusses the implications for social work research.

It could be argued that in the UK context of limited government research funding, and a focus on support for evaluations of social care innovations, has resulted in a narrower social work research agenda. However, we understand social work research in its broadest sense and as a way to create knowledge that can be applied to social work policy and practice. Accordingly, in this study we examined projects across the social sciences that reflect this broad understanding. As Dominelli (2005) argues, social work research is distinctive because it has a "change orientation" and embraces an egalitarian relationship between researchers and informants. It also emphasises accountability to service users and the need to engage with research participants in a holistic manner. These characteristics fit well with crowdfunding, which underscores the propositions of novelty, participant-led, non-hierarchical, and inclusiveness.

The origin of crowdfunding and its latest developments in the social sciences

According to Short *et al.*(2017), funding a business through a group of independent individuals is not a new concept, but it has recently exploded in popularity and every year large amounts of money are invested worldwide. Inspired by ideas of micro-finance (Morduch, 1999) and crowdsourcing (Poetz and Schreier, 2012), crowdfunding refers to the direct solicitation of capital from a large pool of interested funders via online platforms such as Kickstarter or Indiegogo as a complement to traditional forms of entrepreneurial financing (Short *et al*., 2017). Interestingly, the "crowd" (i.e., a group of independent individuals who support the project on an ad hoc basis) is usually linked via the Internet or social media but, for the most part, the individuals do not have a prior connection with the entrepreneur or with each other. In short, crowdfunding can be defined as an activity in which innovators seek funding for their project ideas from a potentially large audience of interested but unrelated individuals.

Researchers may have ideas for projects that they cannot put into practice because they are constrained by the preferences and agendas (explicit or hidden) of a research funder. For example, some research councils have agendas that focus on projects in specific regions (e.g., the Global Challenges Research Fund in the UK) or they want to focus on projects that target specific industrial strategies. Furthermore, for university internal research funding, changes in leadership and government policies can shift funding agendas. Hence, the role of universities in fostering curiosity-driven research that aims to cultivate knowledge frontiers and targeting innovative studies driven by the needs of society can be impaired (Geuna, 2001; Rogers 2012). Accordingly, studies that address

personal academic curiosity and respond to certain unexplored societal needs may not necessarily be supported.

Financial support is not the only benefit of crowdfunding. For example, in product design, designers engaging in crowdfunding gain market research about their product or services viability, which can help them to develop strategies to target audiences, beneficiaries and future investors. Furthermore, Stiver *et al*. (2015) identify "*civic crowdfunding*" as a sub-type of crowdfunding based on citizen engagement that has mutual benefits for the researchers and the community. In a time of constrained economic growth, civic crowdfunding has the potential to connect people and their money for non-financial benefits, such as networking, collaboration and marketing (Ordanini *et al*., 2011). The term was first used in 2012 by online platforms such as Spacehive and Neighbour (Davies, 2015). Stiver *et al*. (2015) differentiate civic crowdfunding from the typical reward-based crowdfunding (Belleflamme *et al*. 2013; Mollick, 2014; Short *et al*., 2017) that often provides backers with a gift or incentive for their monetary contribution. Backers who engage in civic crowdfunding normally have no expectation of tangible returns in terms of equity or investment opportunities. Davies (2015) suggests that notions of participation, social equality and redistribution, and the role of government are the most prominent themes in civic crowdfunding discourse. Nonetheless, there is limited academic discussion on the crowdfunding of civic projects that include the development of tangible or intangible public assets, and there is a dearth of literature that explores civic crowdfunding in social sciences research

This is a timely paper that explores the possibilities and challenges for researchers and institutions engaging with this novel funding strategy for social sciences research.

The following two research questions guide the study: 1) What factors affect the number of backers and funds raised? And 2) Does civic crowdfunding foster public engagement and how?

Methods

The authors studied the content of 152 research proposals submitted to solicit financial support from backers on a crowdfunding platform. Ethical approval was not sought as the data were available in the public domain. All data analysed by the authors were shared by project initiators with the public via "*Experiment*" (http://experiment.com), which is a site that aims to democratise science by discovering, funding, and sharing scientific research. At the time of writing this paper, unlike the natural sciences, there was no specific crowdfunding platform for social research. Researchers can crowdfund their social sciences projects, but they do so on platforms originally intended for the natural sciences. There is currently an absence of projects on the website that identify as social work research. This may be due in part to the platforms relatively recent launch in 2012 and its initial focus on the natural sciences. As the platform becomes more established as a tool for social scientists it will be interesting to monitor whether future projects identify as social work. For the purposes of this paper we examined social science studies from fields related to social work and consider the potential application for social work researchers in the discussion. we reviewed and examined projects that were categorised under "Political Science", "Psychology" and "Social Science" as of August 2018. Quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS). In addition to quantitative data analysis, the author selected three cases for detailed exploration. These projects were selected because

they all had the support of many backers, received a very small or large amount of

funding, and made good use of the online crowdfunding platform to foster public

engagement other than fundraising only.

The basic demographics of the projects examined are as follows (Table 1). **Table 1**

Demographic information[1] (N=152)

Major category[2] (in alphabetical order)	%	N
Political science	1.3	2
Psychology	53.3	81
Social science	45.4	69
Fundraising ended in	%	N
2012	0.7	1
2013	7.2	11
2014	17.8	27
2015	20.4	31
2016	25.0	38
2017[3]	21.7	33
2018	7.2	11
Project duration	%	N
Within 12 months	9.9	15
13 months to 24 months	6.6	10
25 months or more	0.7	1
Not specified	82.9	126

Analysis

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[1] All information from May 2012 to August 2018.
[2] Projects were categorised under "Social Science" in this study if they were categorised under more than one major category including "Social Science".
[3] Two projects in 2017 were not successfully funded

Descriptive statistics of the success rate, original funding goal, amount of funds raised, funded percentage, number of backers, and average donation per backer were examined. The number of backers and amount of funds raised, which were the major components that marked a project's success, were then associated with a number of different factors. A bivariate correlation and chi-square test were applied. Median values were compared using the Mann-Whitney U non-parametric test because the dataset was non-normally distributed and highly skewed, with a few cases accounting for extreme values. However, data were also normalised by taking the natural logarithm of the number of backers and amount of funds raised using the independent-sample t-test to compare mean differences as an alternative. Detailed information about the projects and comments of backers that were posted publicly on the crowdfunding platform were also examined and are presented as case studies.

Results of the study

Success rate and amount of funds raised

The success rate of crowdfunding was high in all categories (98.7%): 2 projects under the category of political science (100%), 80 projects under the category of psychology (98.8%), and 68 projects under the category of social science (98.6%) were funded with 100% or more of the original goal. However, the choice of the original goal could have an enormous effect on whether the project succeeded as the amount of the original goal varied greatly, from US$1 to $25,000 (M=3,587.7). It is worth noting that both the projects with the lowest and highest original goals were successfully funded with US$1 and $26,395, respectively. Detailed case studies of some of these projects (such as a

project which funding goal was as low as US$1) are included in the latter part of this paper. In addition to the high success rate, more than half of the projects (63.2%, N=96) were funded with 101% or more of the original goal. For the two projects that were not sufficiently funded, their final funded percentages were 3.2% and 7.7%, respectively.

Table 2

Number of successfully funded[4] project

	N	%
Projects that were sufficiently funded	150	98.68
Projects that were not sufficiently funded	2	1.32

Percentage of original goal funded

Category	Groups of funded percentage	N	%
Political Science (N=2)	0.00-99.99%	0	0
	100%-100.99%	1	50
	More than 100.99%	1	50
Psychology (N=81)	0.00-99.99%	1	1.2
	100%-100.99%	33	40.7
	More than 100.99%	47	58.0
Social Science (N=69)	0.00-99.99%	1	1.5
	100%-100.99%	20	29.0
	More than 100.99%	48	69.6
Total (N=152)	0.00-99.99%	2	1.3
	100%-100.99%	54	35.5
	More than 100.99%	96	63.2

A total of US$583,074 was funded by 6,663 backers for the 150 successful projects. The median number of backers was 31.5, and the median value of the average

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[4] Projects that are funded with 100% or more of the original goal

donation per backer was US$68.5. The lowest average donation per backer was US$1, and the highest average was US$1,015.2 in these projects. However, this group of data was not distributed symmetrically but was highly skewed to the right (skewness statistic=5.0), which indicated that the bulk of the data was at the left and the right tail was longer. Other than the average donation per backer, the skewness statistics of funds raised (2.9) and the number of backers (3.2) were also highly positive. The results suggested that peopletended to donate a lower amount of money and a relatively smaller number of projects could be substantially funded or supported by a large group of backers.

Table 3

Descriptive statistics of successfully funded projects (N=150)

	Min	Max	Sum	Mean	Median	SD	Skewness
Original goal (USD)	1.0	25,000.0	538,159.0	3587.7	3000.0	3640.8	3.0
Fund raised (USD)	1.0	26,395.0	583,074.0	3887.2	3316.0	3744.7	2.9
Percentage funded (%)	100.0	540.7	17245.4	115.0	103.4	47.0	7.3
Number of backers	1	284	6,660	44.4	31.5	41.9	3.2
Average donation per backer (USD)	1	1,015.2	15,253.9	101.7	68.5	105.8	5.0

Team composition and location

A total of 46.0% (N=69) of these funded project teams were composed of a single member, and 30.0% (N=45) were composed of two team members. All project teams included no more than 6 members, except one that had 15 members in total. A total of 46.7% (N=70) of project teams were led by students (e.g., PhD candidates or students at the undergraduate or postgraduate level); 27.3% (N=41) were led by faculty members (e.g., lecturing or professorial staff in the university, research fellows, or other faculty

members); and other projects were led by independent researchers (e.g., psychotherapists, private consultants, or physicians) who were not currently affiliated with any university or the project teams had not indicated the lead researcher or his/her background information. Among these 150 projects, only 18.0% (N=27) were collaborations between different universities. It is not uncommon for teams to include students, faculty, and independent researchers together in a single project. Most of the lead researchers (N=109, 82.0%) came from the United States. Researchers from Asia, the Middle East, South America, and Africa were underrepresented.

Project endorsers

The crowdfunding platform encourages project managers to seek endorsers to enhance the credibility of the projects. The endorser can be either an expert in the field or an academic referee of the researcher. The basic profile of endorsers (including affiliation, title, and photo) and their written recommendations are posted on the project webpage. Backers can decide whether to support the project after reading the recommendations given by endorsers. A total of 108 projects (72.0%) successfully solicited funding with the support of one or more endorsers. Fifty projects (33.3%) invited endorser(s) with different affiliations than the lead researcher, whereas 34 projects (22.7%) invited endorser(s) from the same university or affiliation and 53 projects (35.3%) had not specified.

The number of endorsers ranged from zero to ten (M=1.7, SD=1.9). Seven projects invited more than five endorsers to support their campaigns. The number of

project endorsers was significantly associated with the number of backers but with a relatively small Pearson correlation coefficient (0.203*, p=0.013*).

Mann-Whitney test was conducted to examine whether the existence of endorser(s) might affect the number of backers (Table 4). Projects with endorser(s) had a higher number of backers (M=47.1) than projects without endorsers (M=37.7), and the results showed that the relationship was significant (Mann-Whitney U =1759.5, p=0.033*).

Factors affecting the number of backers and funds raised

In addition to the existence of endorser(s), the authors were interested in investigating which factors might affect the number of backers and the total amount of funds raised. As shown in Table 4, whether the projects involved collaboration with different universities did not have a significant effect on the number of backers. Furthermore, it seems that backers were not influenced by the chosen research methods detailed on the crowdfunding platform. A significant effect of sharing the method with the number of backers could not be identified. Some initiators used only a picture to promote the project, whereas others attached a video on the crowdfunding site to draw potential backers' attention. The results showed that the presence of promotional video could solicit more support from backers (Mann-Whitney U=1933.5, p=0.003**).

Under the categories of social sciences, political sciences, and psychology, research topics varied from "Can extending sleep improve cognition in children with ADHD?", "How can tattoo artists help prevent human trafficking?", and "What if we could stop the brain from making risky decisions?" to "Educational computer games: How long do benefits last?", "What has the War on Terror cost in lives and dollars?", and

"Big data and the law: should we graph the entire justice system?". Hence, the projects did not necessarily involve direct engagement with human subjects. The results showed that whether the projects involved human subjects had a significant effect on the number of backers (Mann-Whitney U=1649.5, p=0.014*). More backers tended to fund projects that did not directly involve engaging with human subjects. For example, the project titled "Gun Policy, Gun Culture & Guns across the U.S.: What Makes Us Safer?", which did not directly involve human subjects but received the greatest number of backers and the highest amount of funds, is further discussed in the "Case Studies" section. Furthermore, the background of the lead researcher of the team influenced the number of backers (Mann-Whitney U=857.0, p=0.009**). Projects led by faculty members were more likely to obtain backers' support.

Table 4

Importance of different factors on the number of backers

Factor	Mean	Mann-Whitney U	Sig.
With endorser(s)?			
Yes (N=108)	47.1	1759.5	**0.033***
No (N=42)	37.7		
Human subjects involved?			
Yes (N=109)	39.7	1649.5	**0.014***
No (N=41)	56.7		

Collaborative project with different universities?			
Yes (N=27)	53.7	1346.5	0.124
No (N=123)	42.4		
Video for promotional purposes?			
Yes (N=86)	53.9	1968.5	**0.003****
No (N=64)	31.7		
Research methods shared?			
Yes (N=21)	49.4	1242.5	0.544
No (N=129)	43.6		
Lead researcher of the team			
Student (N=70)	34.3	1759.0	**0.008****
Faculty (N=68)	56.4		

Even though a project can attract a large number of supporters, it might still be unable to receive sufficient funding if every backer only contributes a small amount of money. Therefore, the author also examined the effect of different factors on the amount of funds raised (Table 5). Two factors that significantly affect the number of backers generated a similar effect on the amount of funds raised (i.e., video for promotional purposes, Mann-Whitney U=1847.5, $p=0.001$**, and lead researcher of the team, Mann-Whitney U=1813.5, $p=0.016$*). The results showed that for projects that had a video for promotional purposes and were led by faculty, a greater amount of funding could be raised.

Table 5

Importance of different factors on the amount of fund raised (USD)

Factor	Mean (SD)	Mann-Whitney U	Sig.
With endorser(s)?			
Yes (N=108)	3546.6	1985.0	0.236
No (N=42)	4256.0		
Human subjects involved?			
Yes (N=109)	3584.2	1772.5	0.051
No (N=41)	4692.6		
Collaborative project with different universities?			
Yes (N=27)	4467.7	1350.5	0.129
No (N=123)	3759.7		
Have video for promotion purpose?			
Yes (N=86)	4665.8	1873.5	**0.001****
No (N=64)	2840.9		
Research methods were shared?			
Yes (N=21)	3799.5	1274.0	0.663
No (N=129)	3901.4		
Lead researcher of the team			
Student (N=70)	3187.7	1813.5	**0.016***
Faculty (N=68)	4746.9		

Using video to promote research ideas on crowdfunding platforms

Unlike the typical exercise of writing a detailed research proposal to apply for funding from either research grant committees or private funders, a crowdfunding platform does not provide researchers with the opportunity to submit a research plan with a solid literature review and a sound methodological section for rigorous review. Furthermore, it does not allow the opportunity of presenting the research idea in front of a panel with the help of PowerPoint slides and answering queries of potential funders. As

shown in Table 4 and Table 5, backers of crowdfunding platforms do not seem to be significantly influenced by a specific research method or by whether the project is a collaboration between different universities. It seems one of the key factors that may help in soliciting more support is the availability of a video for promotional purposes. Hoefer (2012) supports the use of Internet fundraising for non-profits and donors respond more favourably to information in video form. However, similar research has not been done for civic crowdfunding.

The authors were also interested in investigating the effect of video length on the number of backers and funds raised. Of the 150 projects, 86 had videos for promotion and had video lengths ranging from 40 to 460 seconds. The results of the Pearson correlation test showed that a significant association could not be found between the video length and the number of backers (Pearson correlation=-0.058, p=0.596) or funds raised (Pearson correlation=0.006, p=0.953). Hence, longer or shorter videos did not significantly affect the consideration of backers.

Table 6

Video length (Second)

N	Min	Max	Mean	SD	Skewness
86	40	460	170.3	70.9	1.1

Correlations – Video length * Number of backers

		Video length	Number of backers
Video length	Pearson Correlation	1	-0.058
	Sig.		0.596
Number of backers	Pearson Correlation	-0.058	1

	Sig.	0.596

Correlations – Video length * Fund raised (USD)

		Video length	Fund raised
Video length	Pearson Correlation	1	0.006
	Sig.		0.953
Fund raised	Pearson Correlation	0.006	1
	Sig.	0.953	

Case studies

   Example 1: "Gun Policy, Gun Culture & Guns across the U.S.: **What Makes Us Safer"?** This was a successful project that raised US$22,305 from a total of 273 backers to support policy research on gun violence prevention. The researcher was an associate professor in the state of Alabama, which has a high gun ownership rate because Alabama has relatively liberal gun control laws in comparison with other states in the United States. The researcher did not invite any endorsers and had not collaborated with other universities. This project was promoted by a video with a length of 3 minutes and 57 seconds. The researcher was interested in investigating the state's gun polices and gun culture and whether the gun policies and gun culture affect firearm deaths, crimes, and gun access among youth. There was an explicit need to use crowdfunding to solicit financial support for this study because of the lack of funds made available at the Centers for Disease Control and Prevention (CDC) to advocate or promote gun control (Jamieson, 2013). The funding freeze resulted from an article, "*Gun ownership as a risk factor for homicide in the home*" (Kellermann *et al*., 1993), that concluded that keeping a gun in the home was strongly and independently associated with an increased risk of homicide. As

noted by the project initiator, researchers in the US who study gun policies have not been able to work on this topic. This is as a result of the National Rifle Association (NRA) lobbying Congress and the CDC, which resulted in funding decisions that stifled further studies on gun violence. This case serves as an example of how crowd funding platforms can support research projects of a public interest, which may have otherwise gone unfunded. Therefore, this case has relevance for social work researchers who are studying sensitive topics that may not be of interest to research funding bodies.

Example 2: "Physical Activity Interventions for Youth with Autism". Unlike the preceding example, this project involved human subjects and did not use video for promotion. However, it successfully received support from 61 backers and raised a total of US$10,032. The team did not consist of faculty members and university students but was led by a psychologist who had expertise in implementing and evaluating physical activity interventions for youth with autism spectrum disorder (ASD). This project had no endorser and was not a collaborative project with other universities. The researchers aimed to create feasible, effective, and sustainable group physical activity interventions for youth with ASD that increase their overall physical activity and psychosocial functioning. The intervention included social stories and videos that targeted both physical activity and psychosocial functioning for youth with ASD. A comment posted on the public discussion forum is cited here:

> "*I have a five year old with Autism. He's growing more interested in the sports and games he sees his typical peers participating in. Social stories are our magic*

and have helped us through dental visits, blood draws, concerts, and more. I

cannot express how excited I am about the product of this research. I would just

hope that is it readily accessible by the public following completion!" (Backer X)

The backers of this project included the parents of a five-year-old child with ASD. Although the project aimed to examine the effectiveness of interventions for young people, service users who had benefited from similar intervention approaches were eager to support this research and optimistic about the potential contribution this project could make to society. Service users or potential service users, who had been regarded merely as research subjects, changed their role from potential beneficiaries to funders of outcome studies.

Example 3: "Can a Meal Replacement Help Solve Hunger in America"? This project was initiated by a physician to examine whether access to a specific type of nutrient-rich meal of organic vegetables, fruits and seeds helps to improve the food security of at-risk populations and alleviate hunger in America. The researcher was interested in measuring whether using this meal helps visitors of a food pantry to save time and money and experience fewer instances of hunger in their household. The original goal of fund raising for this project was only US$1, and it eventually succeeded in raising US$1 from one backer, the researcher himself. This project was supported by two endorsers and was among the few that shared the results of the study via the online platform after the crowdfunding campaign. Although this case example has somewhat tenuous links to social work research it was selected for discussion as it was so effective in engaging the public. The project initiator clarified at the outset that he was using this platform to share the research efforts with the public rather than "seriously" conducting

fundraising. As the study had already been entirely funded by a non-profit food pantry, the initiator only wished to encourage participation through this highly transparent space for scientific dialogue. A backer's public response is cited here:

> "*Really great to see this platform being used exclusively for public engagement/science communication, there is a gap in the market for this! Along with raising awareness for a rare disease, this is one major reason why I began my project here. Although we are asking for funds, this is a very small amount considering the type of work we do. Even if we are not successful, documenting our project in this way and involving patients and the public in our research, at the start, is worth it. Best of luck with your project.*" (Backer Y)

Discussion

Opportunities

From our analysis, we have identified the following opportunities for social work researchers looking to engage with civic crowdfunding platforms.

Excellent success rate. The results of this study suggested that crowdfunding of social research has an exceptionally high success rate. Most of the crowdfunding campaigns were able to achieve their original funding goal and even solicited four to five times their targeted fund amount. However, because there is no lower limit for funding goals, achieving "success" can be an easy task if the project initiator targets only a very small amount of funds. Indeed, it is interesting to compare crowdfunding success rates to some of the small pots of money offered to researchers from universities. For example, one of the authors recently secured approximately $1500 dollars from their own

institution's pump-priming fund for a pilot project. There were 38 applications to this fund and only three were funded. Accordingly, in this context, crowdfunding platforms offer appealing opportunities for faculty members, students, and independent researchers to seek support from the public. The access to relatively modest amounts of funds are especially useful for projects such as pilot studies, participatory action research (PAR), exploratory studies of a specific topic at the preliminary stage, online surveys, and politically sensitive social research, which may be less likely to be funded by typical research grant councils (Rogers 2012). With the overwhelmingly positive success rate, the question begs as to whether some of the projects that receive funding should not?

Fewer entry barriers. Crowdfunding websites usually welcome anyone to submit research proposals regardless of the researcher's personal background, academic qualifications, and official affiliation. Although preliminary project review and approval is still a mandatory procedure operated by the administrative team, there are apparently fewer entry barriers than applying for an internal grant from a university by a PhD candidate. This could be beneficial in social work research, as it could offer financial support to practitioners engaged in research and service user led projects. This is potentially valuable, as they have no access to research council grants, which are often delivered only through universities. It is usually free of charge to start a project, but the crowdfunding platform might levy a fixed proportion of funds raised as administration fees if the project is fully funded. Backers fund the researcher directly and there is no overhead involved, compared to receiving a grant at a university. However, it is important to acknowledge that the funds are of a small scale and, unlike the research councils who meet full economic expenditures, it is unlikely that these crowdfunds meet

the indirect costs associated with employing a researcher and maintaining the facilities they use. Therefore, to meet the shortfalls in the actual costs of delivering a project, it seems reasonable that host institutions have input as to whether they can also support the work.

Instant communication with potential backers. Communications between people who were interested in these projects and the researcher were highly encouraged via the discussion forum of each project. Researchers could openly respond to queries or challenges to clarify critical concerns raised by potential backers or the public. During and after the fundraising period, the project team could provide the latest updates or upload laboratory notes to the website so that supporters could keep track of the progress. This could promote public engagement in research and enable backers to shape the research design. This benefit of communicating project progress provides an important lesson for researchers committed to engaging the public, whether they are crowdfunded or funded through conventional sources.

High transparency and short turnaround time. Information shared on the crowdfunding platform was highly transparent unless the project team restricted access to certain information to backers only. Researchers could learn from the successes (or failures) of other projects on the same platform and maximise their own success rate. As the campaigns end, researchers have immediate access to the results and do not have to wait for the final decision of a grant committee and an official announcement from the administration office.

Challenges

Despite these opportunities, utilising civic crowdfunding for social work research is not without challenges. The crowdfunding platform examined in this study adopted an "all-or-nothing funding model" (i.e., the project must reach the funding target). The project initiator must do whatever it takes to publicise the campaign within the given period of time; otherwise, no pledges can be received by the research team. Although the success rate was seemingly high, the success of the campaigns was difficult to determine since the project initiators could set low targets as well as fund their own projects (see example 3 in the case studies section), especially when the project was close to reaching the targeted funding goal but was running out of time. However, the mean and median funds raised were US$3,887.2 and $3,316.0, respectively, which indicates that relatively small-scale studies were more likely to be supported by backers on this crowdfunding platform, although the funds raised could reach up to US$25,000 in some cases. Project teams in developing countries were underrepresented. This shows that this globally accessible platform (based in the US) is currently being utilised predominantly by US scholars. At present, this is the only known crowdfunding platform that focuses solely on research. However, other platforms that primarily fund product development also have the scope to facilitate research funding. For example, Indiegogo recently promoted a campaign for a stem cell research project.

There are also ethical challenges to consider in this rapidly developing crowdfunding phenomena. Ethical policies and procedures are not always transparent on the platforms. Although institutional ethics review is required for projects involving human subjects, it is unclear as to whether projects accessing secondary data have been through ethics procedures. Furthermore, without the platforms supporting ethics review,

they undermine their potential for practitioners, service users and independent researchers to apply for funding as they are unlikely to have access to ethical review. Given these challenges, there is something to be said for the rigour of the funding proposals of university and research councils, where the ethical considerations of a project are written in detail and have to adhere to institutional ethics policies and procedures.

There are also ethical dilemmas in crowdfunding research that relate to the decision-making process. Firstly, who are the backers that decide what projects receive funding. For social work research, this of particular importance when you consider calls for anti-oppressive forms of research to include service users voices in the selection of the topics that get funding (Rogers 2012). There is also the potential for unpopular or sensitive topics that may be important to fail to get the backing of the crowd. Accordingly, it is important to acknowledge the power of the backers on these sites; first, they have access to the online platform, and second, they have the disposable income available to fund projects. Therefore, these sites could give a greater advantage to the wealthy and the scope they may have to shape research agendas that further their interests.

Strategies for researchers

Using video for promotional purposes. Using video to promote the research idea via a crowdfunding platform is highly encouraged. Backers might not be interested in reading a lengthy research proposal, a detailed literature review, and a sophisticated methodological section. Providing a short but precise video to introduce the major goals and significance of the project resulted in more support from backers and a larger amount of funds raised as well as extra funding. The importance of the video raises ethical

questions about the potential for bias, both conscious and unconscious, playing a role in the backers' decisions to fund the projects. For example, Watkins (2015) describes how one unsuccessful crowdfunding researcher felt their accent was a barrier to success: "*Matz, who is Russian, said he worries his accent may be turning off people who watch his video*".

Set the targeted funding goal realistically. Because civic crowdfunding serves the purpose of fundraising as well as publicity, collaboration, and public engagement, funding goals should be set at a reasonable level with reference to the affordability of potential backers of the project. If a project targets service users or citizens as major donors, every single individual should not be expected to support the campaign with a large donation. As long as the project can obtain as many backers as possible, it will eventually be successful even though people in the community are able to donate only a small amount of money on average. A realistic target for social research would be approximately US$3,000 to $5,000.

The Halo effect might not be fully applied. Seeking endorsers, such as renowned scholars in academia, to support a project may increase the number of backers but not the amount funded. Backers might not necessarily make their decisions by listening to experts' opinions. For many of the successful campaigns, no endorser was provided, and the project initiators were university students or independent researchers and did not work collaboratively with other universities.

Consider the involvement of human subjects. For backers engaging in civic crowdfunding of social research, studies that involved human subjects did not have

noteworthy advantages compared to studies that did not involve human subjects. Indeed, backers were most interested in studies that were relevant to their everyday life experiences and, more importantly, a research idea that they were able to follow. As seen in the example of gun policy research, a huge number of backers were successfully solicited because gun ownership and issues about guns on campuses were popular in that state. Researchers might not necessarily design studies that use a series of sophisticated scientific experiments involving human subjects to test certain hypotheses. Rather, studies that affect citizens' well-being or livelihood and inform policy change are also welcomed and might engage the public even more easily in the crowdfunding exercise. For example, studies using secondary data sets that relate to urban and community development, environmental protection, cyber culture, or social justice.

Test ground-breaking research ideas. Crowdfunding platforms might provide early career researchers and curiosity-driven researchers with a proper testing ground to put their most innovative research ideas into practice. The following research projects from the online platform are good examples of this: Can we "de-bias" someone? Could the underlying cause of marital dissatisfaction be the couple's inability to make meaning? Can Brazilian Jiu Jitsu help people living with brain and mind injuries such as PTSD or acquired and traumatic brain injury? These are research ideas that have proven to have a public interest, which is demonstrated by the generous financial support provided by the public.

Civic crowdfunding and public engagement

Increasingly, social work researchers want to produce "high-impact" studies that provide evidence for society through interdisciplinary collaborations and community engagement (Nurius *et al.*, 2012). The concept of "public engagement" has been used extensively among research communities across various academic disciplines. However, as Grand *et al.* (2015) proposed, public engagement in research can take multifarious and diverse forms. Often this involves participatory activities, which can vary from deliberative polling, focus groups, citizen juries, consensus conferences, stakeholder dialogues, Internet dialogues, deliberative mapping, lecturing, volunteer activities, and participatory action research. They found that researchers tended to focus on the idea that public engagement in research refers to encouraging researchers to influence policy or drive social change.

The results of the current study revealed that civic crowdfunding offers invaluable opportunities for the public (particularly the potential beneficiaries of these research projects) to engage with researchers in a direct, interactive, and productive manner. Findings show that studies that affected citizens' well-being or livelihood and/or those that addressed an explicit and specific need of a particular group of vulnerable members in the community were able to more easily solicit backers. Unlike reward-based crowdfunding, backers of civic crowdfunding in research do not expect any monetary return. Nonetheless, they invest in the possibility of receiving benefits in the future, such as a community in which children can live without harm or the developments of evidence-informed social or psychological interventions that may benefit themselves or their loved ones.

Conclusion

Using crowdfunding to solicit financial support is increasingly common in scientific and medical research fields, but this novel idea has not been fully applied in the social sciences and specifically in the field of social work. Indeed, "social work", and "social work research" in particular, have been defined differently across geographic regions. As noted in this study, only a limited number of projects on the crowdfunding platform were defined as being about social work. It reflects not only academics in social work have overlooked the opportunities to solicit funds online, but also social work research might have been placed (or misplaced) somewhat in-between political science and psychology. It raises concerns of broadening research themes in UK social work beyond social care and practice-related initiatives.

There is an increasing demand across academia for researchers to demonstrate research excellence by combining methods of public engagement and measuring the social impact of research (Davies *et al*., 2015). Crowdfunding platforms have the potential to facilitate both engagement and impact, and fit with the values of social justice at the centre of social work in practice and research (Nurius *et al*., 2012). More importantly, civic crowdfunding has the potential to provide social work researchers, including practitioner researchers and service user groups, with a rare platform to develop innovative, publicly engaging, research initiatives and solicit revenue for projects that are of public interest and service users' well-being as well. These online platforms are growing and changing at a rapid pace, and researchers and the institutions they work in need to adapt so that important social work research projects can access funding in ways that are as equitable and ethical as possible. This paper has presented the opportunities and challenges of crowdfunding social work research and offers strategies for

enthusiastic social work researchers to find ways to further their important work. However, there are limitations of this study as it focused on projects from one crowdfunding platform and retrieved only open and publicly available data. The generalisability of the findings could have been hindered and some important details about these projects may have been overlooked. Furthermore, amendments might have been made to some projects and these may not have been documented, as the purpose of the webpage is predominantly to secure funds. The authors' analysis was based only on information provided by project initiators prior to the study's commencement. Future research could compare and contrast projects listed across different crowdfunding platforms. Investigators could also consider interviewing project initiators, backers, endorsers, and beneficiaries through in-depth interviews or focus groups so that further examination could be conducted on the progress and effectiveness of these projects.

REFERENCES

Belleflamme, P., Lambert, T. and Schwienbacher, A. (2013). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing,* 10.1016/j.jbusvent.2013.07.003

Byrnes, J., Ranganathan, J., Walker, B. and Faulkes, Z. (2014). To crowdfund research, scientists must build an audience for their work. *PLoS One, 9*(12), e110329. 10.1371/journal.pone.0110329

Davies, R. (2015). Three provocations for civic crowdfunding. *Information, Communication & Society, 18*(3), 342-355. 10.1080/1369118X.2014.989878

Dominelli, L. (2005). Social work research: Contested knowledge for practice. In R. Adams, L. Dominelli, and M. Payne (Eds.), *Social work futures: Crossing boundaries, transforming practice* (pp. 223-236). Hampshire: Palgrave Macmillan.

Kellermann, A. L. (1993). Gun ownership as a risk factor for homicide in the home. *The New England Journal of Medicine, 329*(15), 1084-1091. 10.1056/NEJM199310073291506

Geuna, A. (2001). The changing rationale for European university research funding: Are there negative unintended consequences? *Journal of Economic Issues, 35*(3), 607-632. 10.1080/00213624.2001.11506393

Grand, A., Davies, G., Holliman, R. and Adams, A. (2015). Mapping public engagement with research in a UK university. *PLoS One, 10*(4), e0121874. 10.1371/journal.pone.0121874

Hoefer, R. (2012). From web site visitor to online contributor: Three internet fundraising techniques for nonprofits. *Social Work*, 57(4), 361-365. doi:10.1093/sw/sws002

Jamieson, C (2013). Gun violence research: History of the federal funding freeze. *Psychological Science Agenda*, February 2013. Retrieved from http://www.apa.org/science/about/psa/2013/02/gun-violence.aspx

Lacasse, J. R., Hodge, D. R. and Bean, K. F. (2011). Evaluating the productivity of social work scholars using the h-index. *Research on Social Work Practice*, 21(5), 599-607. doi:10.1177/1049731511405069

Lehner, O. M. (2013). Crowdfunding social ventures: A model and research agenda. *Venture Capital, 15*(4), 289-311. 10.1080/13691066.2013.782624

Mcgrail, M. R., Rickard, C. M., & Jones, R. (2006). Publish or perish: A systematic review of interventions to increase academic publication rates. *Higher Education Research & Development*, 25(1), 19-35. doi:10.1080/07294360500453053

Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing, 29*(1), 1-16. 10.1016/j.jbusvent.2013.06.005

Morduch, J. (1999). The microfinance promise. *Journal of Economic Literature, 37*(4), 1569-1614. 10.1257/jel.37.4.1569

Nurius, P. S., Kemp, S. P. and Soydan, H. (2012). Response: Social work, science, social impact. *Research on Social Work Practice, 22*(5), 548-552. 10.1177/1049731512444168

Ordanini, A., Miceli, L., Pizzetti, M. and Parasuraman, A. (2011). Crowd-funding:

Transforming customers into investors through innovative service platforms. *Journal of Service Management, 22*(4), 443-470. 10.1108/09564231111155079

Poetz, M. K. and Schreier, M. (2012). The value of crowdsourcing: Can users really

compete with professionals in generating new product ideas? *Journal of Product Innovation Management, 29*(2), 245-256. 10.1111/j.1540-5885.2011.00893.x

Rogers, J., (2012) Anti-Oppressive Social Work Research: Reflections on Power in the

Creation of Knowledge, *Social Work Education,* 31, 866–879.

10.1080/02615479.2011.602965

Sharma, A., Khan, J. S. and Devereaux, P. J. (2015). Is crowdfunding a viable source of

clinical trial research funding? *Lancet,* 386(9991),338. 10.1016/S0140-6736(15)61407-6

Short, J. C., Ketchen, D. J., McKenny, A. F., Allison, T. H. and Ireland, R. D. (2017).

Research on crowdfunding: Reviewing the (very recent) past and celebrating the present. *Entrepreneurship Theory and Practice, 41*(2), 149-160. 10.1111/etap.12270

Stiver, A, Barroca, L. Minocha, S, Richards, M. and Roberts, D. (2015). Civic

crowdfunding research: Challenges, opportunities, and future agenda. *New Media & Society, 17*(2), 249-271. 10.1177/1461444814558914

Walker, D. (2017). Crowdfunding: An innovative way to fund your project. *Nurse

Researcher (2014+), 25*(1), 24. 10.7748/nr.2017.e1425

Watkins, M., 2015. With Federal Funding Elusive, Professors Crowdfund Research. *The Texas Tribune*. Retrieved from: https://www.texastribune.org/2015/11/27/federal-funding-elusive-professors-crowdfund-their/ (accessed 7.24.18).

Wheat, R. E., Wang, Y., Byrnes, J. E. and Ranganathan, J. (2013). Raising money for scientific research through crowdfunding. *Trends in Ecology & Evolution, 28*(2), 71-72. 10.1016/j.tree.2012.11.001