Facilitators and Barriers to Recruiting Physicians for Psychological Research: The Personal Experience of a Graduate Student

Nathaniel J. Davin

Abstract
This article is a reflective piece on a master’s student’s journey, and my navigation through a perceived methodological failure. The article explores the challenges recruiting physicians as participants for psychological research, particularly when a graduate student. The interdisciplinary nature of this project bridged into the health field as the focus was on physicians’ knowledge surrounding autism spectrum disorder (ASD). There are unique difficulties with recruiting from a physician population. Facilitators and barriers regarding the techniques and methods utilized are described and recommendations are made. Implications regarding conceptualizing research failures for graduate students are discussed, as well as implications for supervisors and the research population.

Keywords
methods in qualitative inquiry, mixed methods, observational research, qualitative evaluation, case study

Introduction
I am a master of arts student studying applied psychology at a Canadian university. I began my professional and research journey studying Autism Spectrum Disorder (ASD) through personal experiences and a fascination with the disorder. I was fortunate enough to have had the opportunity to work as an intensive behavioural intervention (IBI) instructor therapist before my graduate work. Through this experience, I worked closely with children with ASD and developed a fondness for these individuals. The ambiguous and complex nature of ASD captured my interest, and I decided to pursue graduate studies in this field. I began graduate school with the intent to help advance the field to better support individuals with ASD and their families.

For my master’s research, I wanted to study the geographic differences in physicians’ knowledge pertaining to ASD, with an emphasis on the differences between physicians’ knowledge in northern and southern Ontario. Furthermore, I wanted to study the differences between rural and urban settings regarding physicians’ knowledge. Physicians are at the front line when it comes to care for individuals with ASD (Crais et al., 2014), and therefore it was essential to work closely with physicians for my proposed graduate research.

Unfortunately, these goals proved to be unreachable at the time. The intended study, needed to be revised for several reasons including methodological and strategic issues. Researchers have drawn attention to the importance of reflecting on, and publishing about their research failures (Ellis et al., 2014). Reflecting on research failures is important as it is an active learning experience. Furthermore, failures in research can offer valuable knowledge and insight for future research directions (Gregory, 2019). However, this opportunity is missed in many research disciplines, as the emphasis is overwhelmingly on publishing statistically significant results. Given that researchers, particularly students, often do not publish on these downfalls, this paper describes some of the challenges I faced during the completion of my master’s thesis...
data collection. Specifically, the focus of the following paper is on giving insight into the facilitators and barriers of recruiting physicians from my personal perspective as a graduate student, and a reflection of the personal process.

The identification and reflection on these facilitators and barriers in the recruitment of physicians is also taken from a somewhat unique perspective – psychological research. The perspective in the context of psychological research, as opposed to specifically medical or pharmacological research, provides information regarding specific challenges that may be faced in this context. Unique strategies and techniques may be more suitable to recruit physicians for psychological research as physicians may be hesitant to address mental health in their practice because of a perceived lack of resources, confidence, and weaknesses in their own competency (Loeb at al., 2012). While most studies specifically examine barriers to physician recruitment in the context of physician-to-physician recruitment in primary care research (e.g., Asch et al., 2000; Johnston et al., 2010), to the researcher’s knowledge, there is no literature analyzing these barriers from the perspective of a graduate psychological student researcher. Subsequently, I reflect on the process and outcomes of “failing” in the aspect of graduate research and reflect on the personal effects of failure during my graduate research and my process to conceptually reframe this failure.

Physicians as Participants in Psychological Research

Difficulty recruiting and retaining physicians for medical and pharmacological research has been previously discussed in the literature (Asch et al., 2000; Borgiel et al., 1989; Goodyear-Smith, 2009; Hoddinott at al., 2007; Johnston et al., 2010; Levinson et al., 1998; Loeb et al., 2012; Rahman et al., 2011; Thorpe et al., 2009), and is still a persistent problem (Noel & Huang, 2018; Ziegenfluss et al., 2014). In fact, researchers have shown that most clinical research does not obtain the intended recruitment targets (Rahman et al., 2011), and response rates are continually declining (Keating et al., 2008; Taylor & Scott, 2019; Turnbull et al., 2015). Some of the challenges or reasons physicians decline to participate in various research studies include: time constraints, the population being heavily studied, and research outside their scope of practice, or more specifically, an area in which they feel they are not performing well in or are not very knowledgeable.

Presently, there is a paucity of research concerning physician recruitment for qualitative research, specifically pertaining to the facilitators and barriers that influence response rates and best practices in recruitment for (graduate) psychological research. In the context of my proposed master’s thesis research, this challenge is particularly relevant as the prevalence of ASD continues to rise, with estimated prevalence rates increasing from 1 in 68 in 2014 to 1 in 44 in 2021 according to the Centers for Disease Control and Prevention. Furthermore, there are a number of physical problems associated with ASD, such as gastrointestinal problems, epilepsy, and feeding and eating issues that require the care of a physician (Geier et al., 2012). As physicians are often the first line of care for both medical concerns and mental illnesses (Loeb et al., 2012), their perspectives on caring for individuals with ASD are important to improving overall outcomes.

My Proposed Study

The current study was designed to identify and assess physicians’ levels of knowledge and self-efficacy pertaining to ASD and how they feel about their ability to identify, diagnose, and help treat ASD. My study was originally guided by three specific research questions:

1. What do Ontario physicians know about ASD diagnosis?
   a. Are there significant differences in physicians’ levels of knowledge and self-efficacy regarding diagnosis in northern Ontario compared to southern Ontario?
   b. Are there differences in physicians’ knowledge and self-efficacy regarding diagnosis and treatment between rural and urban communities?
2. What are the factors/facilitators that contribute to increased knowledge among physicians?
3. What are the factors/facilitators that contribute to increased self-efficacy among physicians?

Questionnaires and Semi-Structured Interviews

A mixed methods approach was employed, consisting of an initial survey, which included two questionnaires: The Health Care Professional Questionnaire, adapted from the Health Care Student Questionnaire (Isaacs et al., 2012; Minnes et al., 2012), and the Knowledge about Childhood Autism among Health Workers Questionnaire (KCAHW; Bakare et al., 2008). Both questionnaires were accessed through REDCap (Research Electronic Data Capture). REDCap is a secure, web-based software platform designed to support data capture for research studies (Harris et al., 2009).

The semi-structured interview consisted of 15 open-ended questions, which allowed physicians to discuss how they became physicians (e.g., their journey) and their knowledge regarding ASD in general as well as their comfort level regarding assessment, diagnosis, and treatment of ASD. Additionally, the interview guide was designed to understand physicians’ perceived competencies and knowledge regarding ASD. All interviews were transcribed and analyzed using thematic analysis (Braun & Clarke, 2013). Initially, the content was read and re-read to code and generate the themes. The analysis of the interviews was conducted to enrich the quantitative results obtained from the phase I surveys. Unfortunately, very few physicians that filled out the survey agreed to participate in the semi-structured interview (3 out of 17, ~18%).
Initially, it was established that I would need a sample size of 80 Ontario physicians to statistically compare the differences geographically and cross-disciplinarily to answer my primary research questions. Personally, I was more interested in studying the statistical findings that the questionnaire portion of the study would provide, because I wanted to see if there were specific knowledge differences between regions in Ontario, given regional differences in the average age of diagnosis for ASD across the province (Ouellette-Kuntz et al., 2009). However, given the lack of questionnaire responses, a major shift in study focus occurred subsequent to the methodological challenges. The focus shifted from the quantitative analysis to a more qualitative focus as a lot of information can be gleaned from the semi-structured interviews conducted for this study.

Study Challenges

Administrative difficulties obtaining ethics, committee member departure, and methodological issues (namely participant recruitment), led to the desired sample size not being obtained. The perceived failures in physician recruitment (e.g., challenges/difficulties) resulted in substantial amendments to my proposed study design and essentially significantly delayed my graduation, causing a lot of stress across multiple contexts (e.g., financial, career, and personal sense of inadequacy). Table 1 outlines the methods or techniques I employed to recruit physicians.

Why Physicians Did Not Participate

There are a plethora of reasons why physicians may choose not to participate in research including: lack of peer to peer recruitment, physician time constraints, competing research and participation in previous research, outside of their scope, fear of evaluation, lack of recognition/rewards/incentives, and a lack of perceived relevance to the population. These barriers to participation specifically pertain to my study and are subsequently discussed in detail. Table 1 below describes the specific methods I employed during the current study.

Table 1. Methods Employed.

| Method/Technique employed | Strategies utilized |
|---------------------------|---------------------|
| Peer-to-Peer recruitment  | -Recruited a “peer” – an individual working closely with physicians  
-“Peer” belonged to a community organization capable of referring a large number of physicians  
-Consulted with a professional in the field  
-My recruitment script was disseminated in large gatherings (e.g. conferences) of physicians  
-Met with other professionals in the research field who agreed to disseminate the recruitment script on my behalf |
| Conference attendance     | -I personally attended multiple conferences (three; two relating to children and one related to advanced life care)  
-Contacted directors and conference organizers to get table space for my recruitment script to be handed out -arranged to have an announcement of my study to all physicians in attendance |
| Phone calling             | -Physicians with no fax number listed on college of Physicians and surgeons of Ontario (CPSO)  
-Some gatekeepers (e.g., administrative staff and administrative assistants) were gracious enough to provide an email address for the physician |
| Faxing                    | -Fax numbers for physicians in Ontario are listed on the CPSO website  
-Systematically faxed physicians based on alphabetical order and region of the province  
-Used a regular fax machine as well as free online fax services (e.g., gotfreefax.com, faxzero.com, myfax.com) |
| Social media              | -I advertised on my own social media accounts  
-Friends shared the recruitment script  
-Contacted other health care teams via facebook to disseminate my recruitment script |
| Advertisement in medical magazines/newsletters | -Took out paid advertising in a medical journal |
| Snowball sampling         | -Participating physicians were asked if they could refer colleagues that may be interested in participating in the research  
-Physician peers with whom I had previously networked with passed out my recruitment script to peers at medical conferences  
-Recruitment script was sent to multiple colleagues working for physicians and medical students who had access to physicians  
-Friends with family members as registered physicians referred me to those individuals  
-Contacted medical organizations (administration) and they agreed to disseminate my recruitment script to physicians on their specific list servers |
Lack of Peer-to-Peer Recruitment

The following barriers to recruitment are issues this specific study faced, and which are common themes in the literature. One of the most prevalent barriers faced in this study, and a barrier that is corroborated by previous literature, was a lack of peer-to-peer recruitment (Asch et al., 2000; Carey et al., 1996; Ellis et al., 2007). All data collection and recruitment were completed by me, a master’s student in the field of psychological studies. Additionally, there was no affiliation with a medical organization for the current study. Close connections with local medical organizations have been identified as being a facilitator in physician recruitment (Carey et al., 1996). I was personally asked by potential participants if the study was affiliated with a medical organization or peers of the physician.

Physician Time Constraints

Physicians have many responsibilities that are even increasing in some areas (Konrad et al., 2010), which represents another significant barrier to physician recruitment (Rahman et al., 2011). My personal experience recruiting physicians for this study also confirms the barrier of time constraints, as I was told over the phone by administrative assistants that the physicians would not have time for my study. Additionally, I was given the reason of insufficient time in face-to-face interactions with physicians in various capacities (e.g., at the office, at conferences).

Competing Research and Participation in Previous Research

Competing research has also been cited as being a significant barrier for recruiting physicians for research (Cave et al., 2009). If previous research on the topic at hand has been conducted recently, it can act as a barrier to physician recruitment (Asch et al., 2000). My study had similarities to other studies being conducted at a similar time (e.g., Ghaderi & Watson, 2018; 2019). My peers working at, and affiliated with, medical organizations were also told directly by physicians when they were assisting with recruitment for the current study, that the physician had participated in a similar study and would not be willing to participate in the current study. If the topic has been exhausted from the physician’s perspective and experience, they will be overly hesitant to allocate their time to the new study.

Outside Scope

While in the field recruiting for this study, it was discovered that physicians declined participation if they felt the research was outside of their scope of practice. Research of this nature (i.e., psychological research) poses a somewhat unique difficulty as physicians may perceive psychological research to be outside of their scope in some cases. To give further support for the fact that physician recruitment in psychological studies is crucial, researchers have shown that many individuals with a psychological issue will consult with a physician prior to a mental health expert (Steel et al., 2006). If physicians feel that they are not able to provide the support for a particular group or feel that they are not competent in the specific area, they may be less inclined to participate in research (Asch et al., 2000). When I was personally recruiting, I had potential participants tell me that they do not deal with issues of that nature. This indicates that the topic at hand, ASD, may be outside their perceived scope.

Fear of Evaluation

Fear of evaluation has also been cited as being a potential barrier to recruiting physicians for research (Asch et al., 2000). Fear of evaluation may be an even bigger factor or influence in not participating in psychological research as physicians may see research in this area as an evaluation of their skills in diagnosing and treating individuals with ASD. In psychological research, the physician may not feel as competent in the domain or concept being researched, and therefore may be more hesitant to participate in the study. If time allows, informing participants that there is no evaluation aspect to the research study may be important to include in the informed consent. However, even if physicians are told that they are not being evaluated, they still might feel that they are being assessed or judged by the researcher, or they may have fears about what may happen to them as physicians if they reveal that they are not knowledgeable about a topic, such as ASD. Additionally, physicians may fear that they may disclose practices that could not be ideal even if the study is not evaluation focused. Disclosure of malpractice is a specific barrier to the physician population, as their approaches are criticized heavily if they employ questionable practices (Cave et al., 2009). Furthermore, physicians may not be confident in their knowledge and practices regarding ASD (Unigwe et al., 2017).

To further substantiate the issues regarding topics outside of the physician’s medical scope, this is a quote from one of the physicians that agreed to participate in this study:

If I wasn’t exposed to them [individuals with ASD] I would probably not be too willing to add them to my list because some of my colleagues find them very overwhelming. So, I understand where they’re coming from but, me having exposure for a long time, I don’t really have a problem with working with those children.

When declining the invitation to participate, I was told by some physicians that they do not “do that kind of thing” (i.e., participate in research regarding ASD), or that they do not have any individuals with ASD in their practice.
Lack of Recognition/Rewards/Incentives

Lack of recognition or rewards were also described as a potential barrier in the literature; however, this barrier should be assessed carefully. Deciding on an appropriate or adequate amount of compensation to stimulate higher response rates poses a substantial challenge (Turnbull et al., 2015). Before undergoing research, it is important to carefully evaluate if an incentive should be used. I decided not to provide any monetary incentives as it has been cited that they do not seem to be either a facilitator or a barrier (e.g., Asch et al., 2000; Draper et al., 2009). However, competing research also states that, in some cases, incentives, and specifically monetary incentives, have been cited as contributing to higher response rates (VanGeest et al., 2007). In the case of this study, incentives may have increased response rate as the target sample size was unable to be reached in the absence of incentives. Alternatively, some studies have found physicians respond negatively to incentives (Cunningham et al., 2015). Therefore, it is appropriate to consider the context of the specific study at hand and to assess if incentives should be used.

Relevance to the Population

In a classic study completed by Sudman (1985), results revealed that the participant must perceive the study to have relevance professionally, the questionnaire should be focused on a single topic, and the results of the study should reach beyond the investigator’s interests and career advancement (Klabunde et al., 2013). The last variable may be a particularly difficult barrier for psychological research at the graduate level. Specifically, much of the research conducted by graduate students can be perceived as being for their interest or career advancement, especially in the context of a thesis, as opposed to professionals who engage in research. Therefore, with regards to the current study, it was likely that the research was perceived as career advancement project.

Recommendations to Overcome Barriers and Facilitate Physician Recruitment: Lessons Learned

Participant recruitment is potentially the most difficult aspect of the research process in general (Blanton et al., 2006). The issue of physician recruitment has plagued research in the context of substance and quality and has been a major problem in health research for a long time (Borgiel et al., 1989; Levinson et al., 1998; Rahman et al., 2011; Taylor & Scott, 2019); and in multiple geographical areas (Chan et al., 2018; Goodyear-Smith et al., 2009; Hoddinott et al., 2007).

One of the most common facilitators to physician recruitment and retention is peer-to-peer recruitment. As part of graduate or psychological based research, it may be important to include a physician as part of the research team to assist with recruitment. It may also be good practice for psychological research involving physicians to recruit a physician or “peer” to the research team. To help facilitate recruitment of a physician or a peer to the research team, it may be appropriate to at least offer authorship as lack of recognition has been cited as a barrier (Cave et al., 2009). If physicians know each other prior to physician-to-physician recruitment, this strategy contributes to higher participation rates because there may be an established level of comfort in the relationship. The familiarity aspect also contributes to a networking perspective and continued contact with the participant. Ongoing contact has also been shown to increase physician response rates.

At the conferences I attended, I was able to get physicians to mention my study and that I was recruiting participants (and pass out my recruitment script). The strategy of physician-to-physician recruitment may be the biggest factor for successful physician recruitment as researchers have illustrated that physician to physician, or perceived peer-to-peer recruitment produces much higher and successful participation rates (Asch et al., 2000), as does affiliation to related medical organizations (Chan et al., 2018). Attending these conferences also allowed for another facilitator, specifically recruiting outside of the conventional vocational setting, or outside of work hours.

Medical conferences have an inherent underlying understanding that the event/conference is for educational purposes (Mishra, 2016). Additionally, it was identified that besides the educational function, physicians appreciate medical conferences because they have time to interact with peers. The level of comfort for interaction was apparent at the medical conferences I attended. I was able to interact with groups of physicians that seemed to be more willing to hear about my study than if it was in a vocational setting (i.e., clinic). Physicians freely engaged in conversations with me, and I was able to take advantage of this informal approach. There was much more enthusiasm about research in general in this context compared to other settings where I recruited in (e.g., hospitals, family health teams, clinics). Furthermore, attending a medical conference is an opportunity to learn and contribute to new relevant ideas and research, and develop consensus for improving health care delivery and patient results. Therefore, recruiting physicians at medical conferences allowed for a unique setting where physicians seemed to be more likely to participate.

Additionally, close connections with local medical organizations have been identified as being a facilitator in physician recruitment (Carey et al., 1996; Chan et al., 2018). Having an affiliation with other physicians or medical associations can be related to peer-to-peer recruitment, as fellow medical professionals likely have knowledge of, or may even be connected through local medical organizations. For graduate research, it may be beneficial to associate with a relevant local or national medical organization. Even having a heading that includes physicians who were supporting or affiliating with the study can increase response rate (Cunningham et al., 2015).
A medical organization in this context can be quite broad. For example, hospitals, community care networks, educational medical organizations, and provincial or state associations (e.g., the Ontario Medical Association [OMA]; the College of Physicians and Surgeons of Ontario [CPSO]) can be allies concerning physician recruitment. Being associated with other medical organizations may also help articulate the broader importance of the study and give more weight to the study from the perception of the physician. In addition, affiliation with a medical organization may also contribute to more successful snowball sampling. The medical affiliation procured, whether it be a physician or medical association, will likely have colleagues or contacts that may become additional participants. My affiliations with various medical associations, such as Ontario Medical Review [OMR], Dufferin Family Health Team, and Family Health Teams of Ontario aided in my physician recruitment.

As previously mentioned, a potential barrier that may hold more weight for a graduate researcher is the perception by the physician that the intentions for the study go beyond the scope of the researchers’ interests and career advancement (Klabunde et al., 2013). Mitigating the perception that the research being conducted is for purposes other than career advancement can be challenging. One potential recommendation for overcoming this barrier includes the necessity of the researcher to clearly articulate or delineate the impact the research will have beyond personal interest and career advancement. Particularly with graduate student research, it may be important to describe how the research may benefit others in society, or society as a whole. I found establishing the benefits of the research to be helpful in appealing to physicians’ moral and ethical obligation to advance medical research. Additionally, it is beneficial to the physician, or their patients, clearly show the relevance in the recruitment script or in the recruitment pitch.

I did attempt to establish the relevance of the research to the physician population. I tried to articulate, when I was able, that this research was intended to identify what areas of knowledge are prevalent, and which are lacking, for physicians in Ontario pertaining to ASD. The research was intended to identify how education and knowledge can be transferred more effectively in order for physicians to help care for individuals with ASD.

Additionally, in the context of scope, all of the participants who agreed to participate in the semi-structured interview were paediatricians, and all were working with individuals with ASD. Moreover, all physicians that participated in the semi-structured interview indicated that they either had a family member with ASD or had experiences with individuals with ASD growing up. The physicians that participated conveyed genuine interest in this field and described feelings of competency working with individuals with ASD. All three physicians that participated in the semi-structured interview had between 10 - 15 years experience, and therefore likely felt more comfortable participating given the length of their careers in the field. If appropriate, specifically recruiting physicians that perceive the research at hand to be within their scope, may act as a facilitator.

Furthermore, as competing research was cited as a barrier (Cave et al., 2009), it is important to draft recruitment scripts in a unique way, highlighting how the research will specifically contribute to new knowledge/information, or how the research differs from previous research in the field. My research was similar to other research conducted by researchers affiliated with the same university. As previously mentioned, physicians articulated that they were not willing to participate in studies that seemed to be the same. Unfortunately, it can be very hard to illustrate the differences and the importance of these differences between the studies in a one-page recruitment script. A recommendation to effectively mitigate this barrier is to consider consulting with physicians during a pilot study. The physician may lend suggestions on how to clearly describe the importance of the study and how it differs from similar research, in a way that speaks to the specific population of physicians.

Some physicians may have a rational or irrational fear that they will accidentally disclose practices that are not ideal (Cave et al., 2009). Minimizing this perception can reduce the fear of evaluation barrier. Minimizing the perception of fear can be achieved by drafting a disclaimer articulating that this is not the intention of the research. Furthermore, it is recommended that the disclaimer or informed consent be piloted by receiving feedback from the specific participant pool (e.g., physicians).

Physicians may be more hesitant to participate in research that they perceive as being outside of their scope of practice. A suggestion to alleviate this barrier is motivational messaging (Chan et al., 2018). More specifically, highlight the findings of the research and their potential impact. Furthermore, make the physician cognizant of their possible contribution to address the problem, and articulate the importance of research participation. This approach may lead to grabbing the attention and support of the physician and can be embedded into the recruitment script. For example, this is a brief message I included in my recruitment script: “The information we gather will be used to identify areas within health care curricula that may need additional attention. It will also be used to improve the confidence, perceived competence, and knowledge of future physicians regarding developmental disabilities and ASD.”

Moreover, my paid advertisement in a medical journal included a motivational messaging example, “Research participation opportunity for physicians! Why? Identify areas where physicians are seeking more professional development about Autism Spectrum Disorder (ASD) and better support individuals with ASD and their families.” Messages like this may also provide more transparency in the research, simultaneously reducing fear of evaluation. Taking out a paid advertisement in this study was a facilitator which may have also addressed the barrier of reaching physicians outside of their demanding schedule.
In a study completed by Brtnikova and associates (2018), they found that follow up emails or reminders increased physician participation. Additionally, a handwritten reminder boosted physician response. The researchers would send out a reminder every three to four days if they had not received a response from that specific physician. Therefore, it would be helpful to identify a smaller pool of physicians and track the progress of each specific physician, rather than trying to recruit every physician in an area that meets the criteria. Identification of smaller samples and targeting them with follow up emails and personal handwritten letters may increase response rate. Moreover, follow up phone calls increased physician participation, particularly if it is a physician to physician follow up phone call (Martins et al., 2012). Furthermore, studies have confirmed that having multiple contact methods (i.e., mail in, internet access, phone call support) increases physician response rates (Brtnikova et al., 2018; Scott et al., 2011).

The use of incentives has been inconsistent in the research (Asch et al., 2000; Cook et al., 2016; Cunningham et al., 2015; Draper et al., 2009; Martins et al., 2012; VanGeest et al., 2007). However, some researchers have shown that potentially the timing of the incentives, namely providing up front incentives, increases physician response rate (Denevo et al., 2004). An upfront incentive was shown to induce higher response rates than a promised or future incentive.

Physician recruitment for medical research is crucial for the field to advance. Studies, including the study at hand, agree that more research is needed with regards to recruiting physician for research (Cook et al., 2016; VanGeest et al., 2007). Before undertaking research involving physicians, it is helpful to consult information about the facilitators and barriers that contribute to higher response rates. Additionally, a guide to physician recruitment may be a worthwhile task to draft in terms of delineating the fundamentals in research with this population, as it is so vital in continuing to better health care for society.

Overall Recommendations and Reflection: Personal Reflections on How These Challenges Impacted Me and Lessons Learned

The barriers I faced in recruiting participants for my thesis contributed to a variety of negative feelings and had significant personal/mental, and academic impacts. The subsequent final discussion addresses these domains and their effect on my life because of the previously described challenges and failures in my research.

Personal/Mental

I took the issues with physician recruitment as a personal failure. Because my personal identity includes my research and work, the perceived failure in my research had consequences for me mentally. The way I had cognitively framed this challenge was at a detriment to my work in the end. Because of the difficulties in recruitment, my thesis was significantly delayed, and I had constant stress and feelings of inadequacy. We as graduate students are conducting research that is near and dear to us and a huge toll can occur when challenges happen. At times, it seemed overwhelming to me with all the variables at play. During this time, time management was integral; however, because of the perceived failures and how I internalized these challenges, it was difficult for me to reorient myself back to completing my thesis.

I conceptually framed my challenges in a drastic, and in an ultimately unproductive and negative way. Because my research was so important to me, and because it is so integrated in who I am, the recruitment challenges had more consequences than they should have had on me personally. Reflexivity is important as a graduate student when challenges occur in order to overcome these obstacles or barriers. Addressing these failures and reflecting on them allowed for me to understand why these failures occurred, and what strategies and steps were needed to take to overcome them.

Academically

My academic timelines were also impaired because of the difficulties in physician recruitment. I had a personal expectation for my timelines, which again added to the stress as more and more time passed without me graduating. It was important for me to come to the realization that everyone’s academic journey is different. I realized in reflecting on my experiences that it is important not to compare my timeline to any external source, but rather structure the academic timeline personally. This tentative timeline should be flexible as amendments may need to be implemented. Realizing that the challenges may not have to be perceived as failures, and reframing the narrative, helped me to move forward and eventually overcome these obstacles.

Framing and Conceptualizing Failure

It is important for graduate students to reflect on the perceived challenges and failures of the research process, and to accurately consider them from a personal (productive) perspective. Reflection and reframing allow a medium to express emotions, feelings, and need for changes in a productive way. This reflection on perceived challenges and failures may facilitate learning and personal growth, not in a traditional or conventional manner, but in a nuanced personal way. For example, problems that occurred during my thesis as discussed previously caused frustration and created an additional barrier. I overcame these barriers when reflecting and when realizing the need to amend my initial intentions and expectations, which allowed me to keep progressing through the journey of my master’s degree.
Reflection throughout the research process is critical, particularly in qualitative research where reflexivity is largely practiced (Mortari, 2015). Looking back at my frame of mind during the extended recruitment process, I see how these delays negatively affected me personally, as well as professionally. My recruitment process was significantly prolonged because I had an initial target in mind in terms of my sample size. I was too rigid in terms of amending aspects such as target sample size, and general changes to my thesis. This rigidity negatively impacted my frame of mind and delayed my thesis.

As I am reflecting back on the journey that is the master’s experience, no matter how many times I was told it will not go as planned, and to not get married to my ideas or intentions, it was hard to imagine the changes that would paint the picture of my personal journey. I would recommend heeding these words of advice and keeping an open, flexible frame of mind when completing graduate research. I am sure that there are challenges or failures that occur with every student; I am sure that both occurred in my personal experience. These challenges or failures in research do not have to be perceived as negative but can be analyzed through a different lens to motivate, cultivate, and integrate a fruitful learning experience for you, me, the scientific community, and the public. I could not see nor appreciate the benefits that manifest when reflection and reframing occur during the research process. Looking at the situation differently seemed to me to be an inherent failure; however, this thought process ultimately led to a delay in research and maladaptive behaviour (e.g., not physically sitting down and finishing the writing process). Had reflection and reframing happened earlier, it would have mitigated some of the barriers I faced in my research. I think that students should keep in mind that changes may be necessary, and to ‘roll with the punches’ instead of getting caught up in a perceived personal failure.

Implications for Supervisors

Reflection should occur through multiple lenses throughout the graduate journey. Another lens in which reflection should occur if challenges or failures arise is through the eyes of the supervisor. Supervisors are in place to give alternative or reframed options to facilitate in overcoming challenges or failures. I will conclude with some considerations for supervisors when challenges arise in your student’s research.

It would be helpful to collaboratively create and establish an agreed upon time frame for different aspects of the research process. Additionally, consider breaking up the process in unique and pertinent ways for the specific study. For example, with the current study, a timeline for the recruitment phase would have been beneficial. Providing the student with suggestions on moving forward after the established time frame has expired would also benefit with the progression of the study. Additionally, brainstorm (i.e., being proactive) predictable challenges or barriers that may arise, prior to the research. Having multiple amendment ideas should a predicted barrier arise can help the process along and may mitigate the magnitude of effect that it could have on your student. For example, with the current study, an alternative plan could have been established if delays exceeded a certain amount of time. Furthermore, checking in on your student at appropriate times may help reorient your graduate student and help to get the research back on track. It is hard to predict what may happen, but you as a supervisor can be a source for support to help navigate through challenging times in research.

Conclusion

Failures and challenges are inevitable in research, and in a master’s journey. This article brings to light the importance for reflexivity, not just to overcome these challenges or failures, but to help conceptualize and frame the reasons in a productive, proactive manner to alleviate some of the negative consequences that a master’s student may face (i.e., personal/mental and academic). Moreover, being reflexive will help a student to make amendments to their research and come to terms with the changes needed should they be necessary. Additionally, physicians are an important component to research; in this paper, I have helped to frame and assess methods and techniques used for physician recruitment from the perspective of a graduate student, and in general. The barriers and facilitators explored will help to inform future research with regards to the best methods for physician recruitment; however, further research on this topic is still needed.

Acknowledgments

I would like to thank my co-supervisors, Dr. Watson and Dr. Harding for helping me through the whole process. This article would not have been possible without their expertise, feedback, and patience.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research has been funded by an Ontario Graduate Scholarship (OGS).

Ethical Approval

Ethics approval was received from the Laurentian University Ethics Board and is in line with the Canadian Tri-Council Recommendations for Research with Human Participants.

ORCID iD

Nathaniel J. Davin © https://orcid.org/0000-0002-2687-4617
References

Asch, S., Connor, S. E., Hamilton, E. G., & Fox, S. A. (2000). Problems in recruiting community-based physicians for health services research. *Journal of General Internal Medicine, 15*(8), 591–599. https://doi.org/10.1046/j.1525-1497.2000.02329.x

Bakare, M. O., Ebigbo, P. O., Agomoh, A. O., & Menkiti, N. C. (2008). Knowledge about childhood autism among health workers (KCAHW) questionnaire: Description, reliability and internal consistency. *Clinical Practice and Epidemiology in Mental Health, 4*(1), 17–25. https://doi.org/10.1016/j.1475-1562.2007.08.004

Blanton, S., Morris, D. M., Prettyman, M. G., McCulloch, K., Redmond, S., Light, K. E., & Wolf, S. L. (2006). Lessons learned in participant recruitment and retention: The EXCITE trial. *Physical Therapy, 86*(11), 1520–1533. https://doi.org/10.2522/ptj.20060091

Borgiel, A. E. M., Dunn, E. V., Lamont, C. T., Macdonald, P. J., Evesen, M. K., Bass, M. J., Spasoff, R. A., & Williams, J. (1989). Recruiting family physicians as participants in research. *Family Practice, 6*(3), 168–172. https://doi.org/10.1093/fampra/6.3.168

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. SAGE Publications, Inc.

Brtnikova, M., Crane, L. A., Allison, M. A., Hurley, L. P., Beaty, B. L., & Kempe, A. (2018). Physician response rates to a mail survey by specialty and timing of incentive. *American Journal of Preventive Medicine, 26*(3), 234–236. https://doi.org/10.1016/j.amepre.2003.12.013

Draper, H., Wilson, S., Flanagan, S., & Ives, J. (2009). Offering payments, reimbursement and incentives to patients and family doctors to encourage participation in research. *Family Practice, 26*(3), 231–238. https://doi.org/10.1093/fampra/cmp011

Ellis, S. D., Bertoni, A. G., Bonds, D. E., Clinch, C. R., Balasubramanyam, A., Blackwell, C., Chen, H., Lischke, M., & Goff, D. C. (2007). Value of recruitment strategies used in a primary care practice-based trial. *Contemporary Clinical Trials, 28*(3), 258–267. https://doi.org/10.1016/j.cct.2006.08.009

Ellis, S., Carette, B., Ansee, F., & Lievens, F. (2014). Systematic reflection: Implications for learning from failures and successes. *Current Directions in Psychological Science, 23*(1), 67–72. https://doi.org/10.1177/0963721413504106

Geier, D. A., Kern, J. K., & Geier, M. R. (2012). A prospective cross-sectional cohort assessment of health, physical, and behavioral problems in autism spectrum disorders. *Maedica, 7*(3), 193–200

Ghaderi, G., & Watson, S. L. (2018). In medical school, you get far more training on medical stuff than developmental stuff*: Perspectives on ASD from Ontario medical practitioners. *Journal of Autism and Developmental Disorders, 49*(2), 683–691. https://doi.org/10.1007/s10803-018-3742-3

Ghaderi, G., & Watson, S. L. (2019). Autism spectrum disorder Knowledge, training and experience: Ontario physicians’ perspectives about what helps and what does not. *Journal on Developmental Disabilities, 24*(2), 51–60

Goodyear-Smith, F., York, D., Petousis-Harris, H., Turner, N., Copp, J., Kerse, N., & Grant, C. (2009). Recruitment of practices in primary care research: The long and the short of it. *Family Practice, 26*(2), 128–136. https://doi.org/10.1093/fampra/cmp015

Gregory, K. (2019). Lessons of a failed study: Lone research, media analysis, and the limitations of bracketing. *International Journal of Qualitative Methods, 18*(2), 1–10. https://doi.org/10.1177/160940691882450.

Harris, P.A., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. G. (2009). Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support. *Journal of Biomedical Informatics, 42*(2), 377–381. https://doi.org/10.1016/j.jbi.2008.08.010

Hoddinott, P., Britten, J., Harrild, K., & Godden, D. J. (2007). Recruitment issues when primary care population clusters are used in randomised controlled clinical trials: Climbing mountains or pushing boulders uphill? *Contemporary Clinical Trials, 28*(3), 232–241. https://doi.org/10.1016/j.cct.2006.08.004

Isaacs, B., Minnes, P., Burbidge, J., Loh, A., & Versnel, J. (2012). *Comparison of medical, nursing and allied healthcare students’ training in developmental disabilities*. Poster presented at the
Ontario Association on Developmental Disabilities Research Special Interest Group Meeting

Johnston, S., Liddy, C., Hogg, W., Donskov, M., Russell, G., & Gyorfi-Dyke, E. (2010). Barriers and facilitators to recruitment of physicians and practices for primary care health services research at one centre. *BMC Medical Research Methodology, 10*(1), 109. https://doi.org/10.1186/1471-2288-10-109

Keating, N. L., Zaslavsky, A. M., Goldstein, J., West, D. W., & Ayanian, J. Z. (2008). Randomized trial of $20 versus $50 incentives to increase physician survey response rates. *Medical Care, 46*(8), 878–881. https://doi.org/10.1097/mlr.0b013e318178eb1d

Klabunde, C. N., Willis, G. B., & Casalino, L. P. (2013). Facilitators and barriers to survey participation by physicians: A call to action for researchers. *Evaluation & The Health Professions, 36*(3), 279–295. https://doi.org/10.1177/0163278713496426

Konrad, T. R., Link, C. L., Shackleton, R. J., Marceau, L. D., von Dem Knesebeck, O., Siegrist, J., Arber, S., Adams, A., & McKinlay, J. B. (2010). It’s about time: Physicians’ perceptions of time constraints in primary care medical practice in three national healthcare systems. *Medical Care, 48*(2), 95–100. https://doi.org/10.1097/MLR.0b013e3181c126a

Levinson, W., Dull, V. T., Roter, D. L., Chaumeton, N., & Frankel, R. M. (1998). Recruiting physicians for office-based research. *Medical Care, 36*(9), 934–937. https://doi.org/10.1097/00005650-199809000-00016

Loeb, D. F., Bayliss, E. A., Binswanger, I. A., Candrian, C., & Degruy, F. V. (2012). Primary care physician perceptions on caring for complex patients with medical and mental illness. *Journal of General Internal Medicine, 27*(8), 945–952. https://doi.org/10.1007/s11606-012-2005-9

Martins, Y., Lederman, R. I., Lowenstein, C. L., Joffe, S., Neville, B. A., Hastings, B. T., & Abel, G. A. (2012). Response rates from physicians in oncology research: A structured literature review and data from a recent physician survey. *British Journal of Cancer, 106*(6), 1021–1026. https://doi.org/10.1038/bjc.2012.28

Minnes, P., Isaacs, B., Burbidge, J., Loh, A., & Versnel, J. (2012). Predictors of healthcare students perceived competence working with individuals with developmental disabilities. Poster presented at the Ontario Association on Developmental Disabilities Research Special Interest Group Meeting

Mishra, S. (2016). Do medical conferences have a role to play? Sharpen the saw. *Indian Heart Journal, 68*(2), 111–113. https://doi.org/10.1016/j.ihj.2016.03.011

Mortari, L. (2015). Reflectivity in research practice: An overview of different perspectives. *International Journal of Qualitative Methods, 14*(5), 1–9. https://doi.org/10.1177/1609406915618045

Noel, H., & Huang, A. R. (2018). The effect of varying incentive amounts on physician survey response. *Evaluation & The Health Professions, 42*(1), 71–81. https://doi.org/10.1177/0163278718809844

Ouellette-Kuntz, H. M., Coo, H., Lam, M., Yu, C. T., Breitenbach, M. M., Hennessey, P. E., Holden, J. J., Brown, H. K., Noonan, A. L., Gautier, R. B., & Crews, L. R., (2009). Age at diagnosis of autism spectrum disorders in four regions of Canada. *Canadian Journal of Public Health, 100*(4), 268-273. DOI:10.1007/BF03403945.

Rahman, S., Majumder, M. A. A., Shaban, S. F., Rahman, N., Ahmed, M., Abdulrahman, K. B., & D’Souza, U. J. (2011). Physician participation in clinical research and trials: Issues and approaches. *Advances in Medical Education and Practice, 2*(2), 85-93. https://doi.org/10.2147/AMEP.S14103.

Scott, A., Jeon, S. H., Joyce, C. M., Humphreys, J. S., Kalb, G., Witt, J., & Leahy, A. (2011). A randomised trial and economic evaluation of the effect of response mode on response rate, response bias, and item non-response in a survey of doctors. *BMC Medical Research Methodology, 11*(1), 1–12. https://doi.org/10.1186/1471-2288-11-126

Steel, Z., McDonald, R., Silove, D., Bauman, A., Sandford, P., Herron, J., & Minas, I. H. (2006). Pathways to the first contact with specialist mental health care. *Australian & New Zealand Journal of Psychiatry, 40*(4), 347–354. https://doi.org/10.1080/14401614.2006.101801.x

Sudman, S. (1985). Mail surveys of reluctant professionals. *Evaluation Review, 9*(3), 349–360. https://doi.org/10.1177/0193841x8500900306

Taylor, T., & Scott, A. (2019). Do physicians prefer to complete online or mail surveys? Findings from a national longitudinal survey. *Evaluation & The Health Professions, 42*(1), 41–70. https://doi.org/10.1177/0163278718807744

Thorpe, C., Ryan, B., McLean, S. L., Burt, A., Stewart, M., Brown, J. B., Reid, G. J., & Harris, S. (2009). How to obtain excellent response rates when surveying physicians. *Family Practice, 26*(1), 65–68. https://doi.org/10.1093/fampra/cmn097

Turnbull, A. E., O’Connor, C. L., Bau, B., Halpern, S. D., & Needham, D. M. (2015). Allowing physicians to choose the value of compensation for participation in a web-based survey: Randomized controlled trial. *Journal of Medical Internet Research, 17*(7), 1–10. https://doi.org/10.2196/jmir.3898

Unigwe, S., Buckley, C., Crane, L., Kenny, L., Remington, A., & Pellicano, E. (2017). GPs’ confidence in caring for their patients on the autism spectrum: an online self-report study. *British Journal of General Practice, 67*(659), 445–452. https://doi.org/10.3399/bjgp17X690449

VanGeest, J. B., Johnson, T. P., & Welch, V. L. (2007). Methodologies for improving response rates in surveys of physicians: A systematic review. *Evaluation & The Health Professions, 30*(4), 303–321. https://doi.org/10.1177/01632780707307899

Ziegenfuß, J. Y., Tilburt, J. C., Lackore, K., Jenkins, S., James, K., & Beebe, T. J. (2014). Envelope type and response rates in a survey of health professionals. *Field Methods, 26*(4), 380–389. https://doi.org/10.1177/1525822x14527726