Original Research

Pharmacists' views on involvement in pharmacy practice research: Strategies for facilitating participation

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ABSTRACT

In order for community pharmacy practice to continue to evolve, pharmacy practice research on potential new services is essential. This requires the active participation of community pharmacists. At present the level of involvement of community pharmacists in pharmacy practice research is minimal.

Objectives: To ascertain the attitudes of a group of research-experienced community pharmacists towards participating in research; to investigate the barriers and facilitators to participation; to identify potential strategies to increase the involvement of community pharmacists in research. Methods: A focus group was conducted with a purposive sample of 11 research-experienced community pharmacists. A pharmacist academic moderated the focus group using a semi-structured interview guide. The participants were asked about their attitudes towards research, previous involvement in research, barriers to their involvement and strategies to overcome these barriers. The session was audio-taped and notes were taken by an observer. Thematic analysis of the notes and audio-tape transcripts was conducted. Results: Three themes emerged around pharmacists' attitudes towards research: pharmacists' perception of the purpose of research, pharmacists' motivation for involvement in research, and pharmacists' desired role in research. Barriers to research participation were grouped into four themes: pharmacists' mindset, communication, infrastructure (time, money and staff), and skills/knowledge. Strategies to address each of these barriers were suggested. Conclusions: Participants recognised the importance of research towards advancing their profession and this was a motivating factor for involvement in research. They perceived their role in research primarily as data collection. A series of

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practical strategies to overcome the barriers to

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Keywords: Pharmacies. Focus Groups. Attitude of Health Personnel. Australia.

RESUMEN

Para que la práctica farmacéutica continúe evolucionando, es esencial la investigación de farmacia práctica sobre nuevos servicios. Esto requiere la participación activa de farmacéuticos comunitarios. Actualmente, el nivel de participación de los farmacéuticos comunitarios en la investigación en farmacia práctica es mínimo. Objetivos: Evaluar las actitudes de un grupo de farmacéuticos comunitarios con experiencia en investigación; investigar las barreras y facilitadores para la participación; identificar las posibles estrategias para aumentar la participación de los farmacéuticos comunitarios en investigación. Métodos: Se realizó un grupo focal con una muestra conveniente de 11 farmacéuticos comunitarios con experiencia en investigación. Un profesor de farmacia moderó el grupo focal utilizando una guía de entrevista semi-estructurada. Se preguntó a los participantes sobre sus actitudes hacia la investigación, participación previa en investigaciones, barreras para su participación y estrategias para superar esas barreras. La sesión fue grabada y un observador tomó notas. Se realizó un análisis temático de las notas y de las transcripciones del as cintas. Resultados: Emergieron tres temas sobre las

Resultados: Emergieron tres temas sobre las actitudes de los farmacéuticos hacia la investigación: la percepción de los farmacéuticos del propósito del a investigación, la motivación para la participación de los farmacéuticos en investigación y el papel que desean los farmacéuticos en la investigación. Las barreras para la investigación se agruparon en cuatro temas: mentalidad de los farmacéuticos, comunicación, infraestructura (tiempo, dinero y personal) y habilidades/conocimientos. Se sugirieron estrategias para afrontar cada una de esas barreras. Conclusiones: Los participantes reconocieron la importancia de la investigación para el avance de su profesión y este era el factor motivador para su participación en la investigación. Percibían su papel

en la investigación fundamentalmente como de recogida de datos. Se ofrecieron varias estrategias para superar las barreras a la participación que los investigadores deberían considerar cuando promocionen los resultados de investigaciones y cuando diseñen proyectos de investigación.

Palabras clave: Farmacias. Grupos focales. Actitud del personal sanitario. Australia.

(English)

INTRODUCTION

Over recent decades the profession of Pharmacy has begun to undertake major changes in practice. Driven by marketplace realities the profession has recognised the need to provide cognitive services in addition to the traditional role of product supply. As a consequence of this change there is a need to establish evidence-based practice for these novel services. Only practices that are supported by a solid evidence base will be accepted by other health care practitioners; furthermore, consumers are becoming more informed and demanding in terms of accepting information and services.

In order to retain ownership of these new practices, and in order for services to be relevant to practice, pharmacists must have input into and actively participate in the research needed to establish the required evidence-base.

Surveys of UK pharmacists' attitudes towards pharmacy practice research have found that 32% to 48% of pharmacists express an interest in participating in research, but actual involvement rates as low as 6% have been reported. An Australian survey found that while 77% of research-experienced pharmacists expressed an interest in further research involvement, only 34% of research-inexperienced pharmacists were interested in participating in research.

In order to increase pharmacists' interest in research and facilitate their involvement, there is a need to fully investigate the barriers and facilitators to this new role.

The objectives of this study were, to ascertain the attitudes of a group of research-experienced community pharmacists towards participating in research, to investigate, in depth, the barriers and facilitators to participation and to identify potential strategies to increase the involvement of community pharmacists in research.

METHODS

Study Design

In this qualitative study, a focus group discussion was used to assess the attitudes, feelings, beliefs and experiences of a group of research-experienced community pharmacists.

An initial focus group was conducted with a purposive sample of 11 community pharmacists.

Pharmacy schools that were members of an Australian national pharmacy research support centre (www.cprsc.org.usyd.edu.au) selected the participants. Each school was asked to invite two community pharmacists who had previously been involved in research to participate in the focus group. Participants were reimbursed for travel expenses and were provided with food and beverages.

A pharmacist academic moderated the focus group using a semi-structured interview guide. A second pharmacist academic was present as an observer and took detailed notes. The interview guide reflected the research objectives and was developed based on the literature and comments received from pharmacists involved in research previously. Initially, the participants were asked broad, open-ended questions about their attitudes towards and previous involvement in research. They were then asked to identify barriers to their involvement in research and possible strategies to overcome these barriers. Sub-sets of probing questions enabled the facilitator to promote discussion and elicit detailed responses.

Following on from this initial focus group, three new groups were formed. Each new group consisted of 3-4 community pharmacists and 3 pharmacist academics. Each group was asked to further discuss possible solutions to the barriers identified during the initial focus group.

All sessions were audio-taped and transcribed verbatim.

Data Analysis

A phenomenological approach - where the experiences of a phenomenon are understood via statements, meanings, themes and general descriptions - was used in this study. Thematic analysis of the notes and audio-tape transcriptions was undertaken. Thematic analysis breaks the text down into units (eg words, statements) that are categorised into emergent themes and subthemes.

To ensure validity of the conclusions of the study, the thematic analysis was conducted separately by two of the authors (one of whom was the observer) and then discussed to obtain consensus. The third investigator (who acted as the facilitator) subsequently reviewed the findings.

RESULTS

Attitudes towards research

Three themes emerged from the discussion around pharmacists' attitudes towards research:

- 1) Pharmacists' perception of the purpose of research (overall perspective).
- Pharmacists' (personal) motivation for involvement in research.
- 3) Pharmacists' desired role in research.
- 1) Pharmacists' perception of the purpose of research

The community pharmacists recognized the importance of research to the profession. They

expressed the view that current practice has evolved from previous research.

"Really an evolution from that [research project] and the other national projects that were all based around pharmacy practice research, so I think it made a great difference in some ways to practice."

and noted that if the profession wanted to change and develop future models of practice, an evidence base would be needed; evidence of both health benefits and economic viability.

"I think that if we're going to look forward to new areas of pharmacy practice, we'll obviously need behind us ... research ... that stands up to scrutiny"

"I think it's inevitable that pharmacy in general has accepted that we have to change what we do, we can't be label stickers any longer, we need to be a lot more professional and do other things. And in order to bring our profession up to the level ... that we are expecting of them we're going to have to be able to say, you know there is this research, there is this evidence ..."

2) Pharmacists' motivation for involvement in research

Pharmacist's identified several reasons why they participate in research.

Several indicated that they were motivated to participate due to a belief that research is needed to establish the evidence base for the required future changes to pharmacy practice and in order to identify services that will be of future economic benefit.

"You know I'm very conscious of what's going to be and where our profession is in 10 years time because I still want to be practicing in 10 years time, and that's what drives me more than anything."

- "...but it's driving me, the fact that four or five years ago we did that big project on HMR's [Home Medication Review] and now it's in place ... and we're getting paid for it."
- "... the survival of pharmacy as a medical practice as we know it rather than going into WoolworthsTM or ColesTM, you know having a point of difference that we are doing something of great benefit here."

One pharmacist indicated that their involvement in research had stimulated them to plan for the future and think about new ways of running their business.

"...putting in my mind that I could do something different and then starting to look at aspects of my business and saying 'Well next time I do a shop fit, I'm gonna change this.' "

Several pharmacists indicated that they became involved in research projects because the research topic was of personal interest to them or of particular relevance to their patients and/or business.

- "...we did it ... because we found the thing fascinating and the results quite interesting."
- "... was a big project for us to undertake because it took a lot of resources, ... I suppose we weighed it up against for us that was a valuable piece of information seeing we had been reviewing that part of our business operation."
- "... it [participation in research] provides a lot of professional satisfaction..."

Some felt that involvement in research improves professionalism and the perception of the profession in community.

- "At the end of the day you are a better practitioner than you were before you started."
- "... improves your perception in the community as providing another service, it gives you more professionalism."

Another motivating factor was the opportunity to do something outside of the everyday routine.

- "... it's interesting to be involved in it because ... it's a little outside the square of what you're doing on a daily basis ..."
- 3) Pharmacists' desired role in research

When pharmacists were asked about what role they would like to play in research, most of them indicated that community pharmacists and academics have very different skills and interests and therefore will have very different roles to play in research projects. They felt it was important to establish a relationship between researchers and community pharmacists so that each set of skills is used productively.

"... I think that you just have to recognize expertise. I don't want to be a research assistant or whatever and you don't want to be the practicing pharmacist. So I think ... you try to work together..."

"Community pharmacists know about what they are doing, academics know about what they're doing and I think what we're on about is maximizing benefit and utilizing the appropriate skills."

The pharmacists indicated they were interested in being involved in the initial development of the ideas (although they felt that in most instances this would be done by academics), designing the implementation of the research project (ie how it might work in practice), the professional delivery of the service, and the collection of data.

- "I do think it's important that the pharmacist be involved in developing the methodology ...it's important that both pharmacist and the University work very closely."
- "... the practicality of it, like how much time will that interview actually take with that patient and

how long does it take to organize the appointment, how long does it take to do that audit. Like what will actually happen practically in the pharmacy."

"...happy to be involved in the data collection, interviewing patients."

They were not interested in analysing the data or writing research articles.

"We're in the ideal spot to collect the information, let the experts analyse it."

"All I want to be involved is the professional delivery of service... I'm happy to do the doing but I don't want to have to organize the doing."

"...[most pharmacists] probably would like to be involved in initial stages, in actually doing the set-up of data collection that sort of bit. But they don't really want to be involved in numbercrunching, statistics, methodology, reporting, writing articles, and responding."

However, they did want feedback on the outcomes of the research.

"The accessibility of that data back to the community pharmacists ... is so critical."

Barriers to Participation in Research

Four themes emerged as barriers to pharmacists' participation in research.

- 1) Mindset
- 2) Communication
- 3) Infrastructure (Time, money and staff)
- 4) Skills and Knowledge

Within each theme several subthemes were identified.

1) Mindset

It was felt that many pharmacists lack confidence in their ability to do research and that pharmacists in general underestimate or undervalue what their profession is capable of.

- "...pharmacists on the ground ...my experience is that they feel a little bit intimidated by it and not capable or able."
- "...as a profession we often undersell or under appreciate what we're doing and what we're capable of doing"

Those present felt that while they knew that research was an integral and normal part of pharmacy practice, other pharmacists didn't share this perception.

"If more pharmacists knew that there was research going on, ... was happening all the time as part of normal pharmacy practice, then more pharmacists would put their hand up for it because they'd consider it not unusual..."

"...most people have left university thinking that was the end of their academic work...".

They also felt there was a perception amongst some pharmacists that research was not good for

business and that research projects had poor potential to lead to economically viable services.

- "I think it's a ... slight negative perception by certain pharmacists that have been out for a time, it's good for the profession, good for the patients, but it's not good for business."
- "...if it ain't viable it will remain an academic sort of exercise."

They also raised the issue of a separation or divide between academics and pharmacy practitioners (an 'us vs them' attitude).

"'That's a bunch of academics doing that work and they've got no idea what goes on in the real world' so they don't take any notice."

2) Communication

Many of the participants felt that there is a lack of awareness amongst pharmacists of research in general and that the results of research are not communicated effectively or adequately promoted. It was noted that the traditional method of publishing journal articles is not an effective means of communicating with most pharmacists.

"I think many pharmacists would tell you they don't read it... interested or not. It gets printed up once in one of the journals and you think 'Oh we've done it' but you haven't, you've got to sell it ten times."

Although some pharmacists felt that they had had lots of support and "hand holding" as they got involved in research, others felt that there had been little communication from researchers once the project had started. This had influenced their decision about future involvement.

"You know I'd put my hand up for that again because it was just seamless. If every single research project was like that, there would be more done."

Similarly some participants indicated that the aims and purpose of research projects are not always clearly communicated to the pharmacists.

- "...with research projects the actual aim is a bit muddy and it's not always clear to the person collecting the data ... actually what the aim of the project is, even where the project will go, ... what will happen with the information that's collected, ... who's going to use it and what are the chances of that information being used to your benefit."
- 3) Infrastructure (time, money and staff)

Pharmacists felt that the amount of time required to conduct research was a barrier both to conducting research and to generating ideas for research.

"I'd say it probably adds, in a lot of cases, probably an extra hour or two hours a day to vour workload."

"You've got to run the store, you've got to do all the administrative stuff you normally do and over the top of that you're doing the research. Something eventually has to give ..."

Related to this pharmacists felt they should be adequately compensated for their time, either financially or with replacement pharmacists. However, some indicated that there are workforce issues with finding replacement pharmacists, particularly in rural areas.

"...for those pharmacies to be involved in research you need to facilitate the research by adequately funding it."

"I think the biggest issue is the time release, that's fine, but in our area, you could give us a million bucks for time release, wouldn't make any difference there wouldn't be anyone to work it. So that's a big issue."

Lack of support from business partners and employee pharmacists was also raised as a barrier to participation.

"I work with about six other pharmacists and they're not interested."

"...when I set aside the day that I'm going to really get stuck into the project... they don't cut me any slack you know, if they get a little bit busy, I've got to go and help them..."

4) Skills and Knowledge

Most pharmacists felt that they lacked some of the skills and/or knowledge necessary to carry out research, although the skills they identified as necessary differed. Specific skills mentioned included: how to recruit patients, how to organize the research activity within the pharmacy, and techniques specific to particular research projects.

"I'm struggling with involvement in research because I haven't got the skills or the knowledge, the understanding; I haven't had the background..."

They also felt they lacked the ability to apply the results of research to their own practice.

"...the skill sets that are required to use the data that you capture that it's going to be of benefit to the profession ... I don't believe that many community pharmacist have that ability"

Potential Strategies

The participants suggested several strategies to address the barriers that they had identified, these are summarised in Table 1 along with illustrative quotations.

Following on from the initial focus group, community pharmacists were regrouped with pharmacist academics and asked to continue to discuss strategies to address the barriers raised in the initial session. Some additional strategies arose during this session.

- Changing mindset: placing honours students in community pharmacies to conduct research
- Improving communication: creating a database of innovative services currently being offered in

community pharmacies; holding a national "Pharmacy Awareness Week"; utilising the local press to promote research projects and their successful outcomes; group discussions at training and wrap-up meetings to describe success and failures; improving communication with other health care professionals by involving them in the research project

- Addressing time and staffing issues: involving pharmacy staff in the project work; encouraging staff to attend research training; holding staff meetings to discuss the project
- Providing skills and knowledge: providing research methods training

Finally, incentives such as offering accreditation or an honorary affiliation with the University were suggested as means to increase pharmacist participation in research.

DISCUSSION

In order for community pharmacy practice to continue to evolve in response to changing health care needs and marketplace competition, pharmacy practice research on the effectiveness and economic viability of new services is essential. This research cannot be accomplished without the active participation of community pharmacists. At present the levels of involvement of community pharmacists in pharmacy practice research are less than ideal. This qualitative study of research-experienced pharmacists has provided a rich source of data on their attitudes towards research and what motivates participation. The barriers that these pharmacists have encountered whilst participating in research projects, as well as their perceptions of barriers that may exist in the wider pharmacy community have also been identified. A key strength of this study is that in addition to identifying these barriers, it has revealed a series of practical pharmacist-suggested strategies that may be implemented to overcome increase pharmacists' these barriers and participation in future practice-based research.

Participants generally had very positive attitudes towards research and recognised the importance of research towards advancing the profession. Advancement of the profession was also the motivating factor for participating in research for some, while others reported more personal motivations such as finding research topics interesting or gaining professional satisfaction from involvement. These factors are consistent with previous research showing that interest in the research topic^{1,4} and belief in the importance of pharmacy practice research⁴⁻⁶ influence pharmacists involvement in research.

The participants saw their role in research to be very different from that of academics. They wanted to be involved in the practice elements of research projects and felt they were ideally placed to collect data, but did not desire involvement in the research design, data analysis or report writing. However some felt that pharmacists could contribute by coming up with ideas for research projects and

several felt it important that pharmacists contribute to the design of research protocols to ensure that protocols are practical to implement in pharmacy.

Four categories of barriers were identified: pharmacists' mindset, lack of communication, infrastructure (time, staff, money), and skills/knowledge. Several strategies were suggested to address each of these barriers and these will be discussed in turn.

Changing mindset: The participants felt that community pharmacists in general perceive research to be difficult and not a part of 'normal' pharmacy practice and therefore lack confidence in their ability to conduct it. Others may not see any economic benefit in research participation. To address these issues a long-term strategy of educating undergraduate pharmacy students about the importance of evidence-based practice, and the role that pharmacists play in this, is required. A more immediate approach is also needed to educate pharmacy practitioners that current government-funded services are in place because of research conducted in the past and if new services are to be developed and funded in the future the involvement of practitioners is essential.

Improving communication: The participants felt that there is a lack of awareness of research amongst community pharmacists and that the outcomes of research are not being promoted effectively to Several strategies to improve practitioners. awareness and to promote participation were raised including: using continuing education sessions and conferences as venues for promoting the outcomes of research and the benefits of involvement (it was generally agreed that presentations by community pharmacists would be more effective than presentations by academics); development of a database/website where interested pharmacists could peruse upcoming research projects and sign up to receive emails on research topics of interest; and sending out research bulletins or newsletters. Communication between academics and practitioners during research projects also arose as an issue. It is suggested that researchers take special care to clearly communicate the short and long term goals of their research and the implications for pharmacy practice. Furthermore once projects are ongoing, researchers should be in frequent contact with the pharmacists to give updates and provide the results of the study once it is complete.

Minimising demands on time/ money/ staff: Consistent with previous research 1-6 all of the participants agreed that time was a significant barrier to participation in research. Many reported that research was very time-consuming and that the paperwork involved was onerous. To address this barrier provision of adequate compensation for the time spent on research activities either financially or in the form of relief staff is essential. Researchers can also help alleviate this burden by being very mindful of time constraints when designing research protocols and paperwork; consulting practitioners at this stage of planning would be prudent. Some participants suggested that researchers tailor the protocol to fit the individual pharmacy setting so that it is streamlined into the operation of the pharmacy as much as possible. Researchers and pharmacists should consider how other pharmacy staff can be involved in the research project (ie using pharmacy assistants to recruit study participants), both to provide relief and to encourage a supportive working environment. Although the participants felt that adequate financial compensation was important they did not feel that research need be profitable and indeed some indicated that financial incentives were unlikely to increase the number of pharmacists involved in research. This is consistent with previous research where lack of financial incentive has been reported as a barrier to participation in some studies, whereas others have found that it may not play a key role in facilitating pharmacists' involvement and does not affect their recruitment of patients. 4-6

Providing skills/knowledge: A lack of skills and/or knowledge to conduct research was identified as a potential barrier to participation and this was closely associated with lack of confidence. A lack of expertise or training has also been reported as a barrier to participation in previous studies. 1,2 Although a few pharmacists reported lacking knowledge of research in general as a barrier, as a group they did not wish to have training in research methods. Rather they wanted training specific to individual research projects: how to organise and implement the project into their practice; how to recruit patients; and how to utilise any special software or equipment required. This type of training should be integral to any research project. Researchers can further aid this by providing organisational and administrative support throughout the project and perhaps by putting pharmacists with less research experience in contact with those who are more experienced.

Limitations

The sample may not be representative of pharmacists who have participated in research. Neither does it reflect the attitudes and opinions of non-research experienced pharmacists.

CONCLUSION

Active promotion of practice research by academics and the implementation of the practical suggestions raised in this study when designing research projects would go some way to reducing the barriers that pharmacists face when attempting to become involved in and conduct pharmacy practice research, thus improving the level of participation of practitioners and the quality of pharmacy practice research.

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Raymond, J. Spark, K. Stewart, C. Thompson, J. Wilkinson).

Table 1. Strategies		
Barrier	Strategy	Quotations
Mindset	 Teach undergraduates that research is an integral part of practice. Communicate to pharmacists that research is good for business. Communicate to pharmacists that many current services are funded due to success of previous research projects. Design research projects that have a realistic chance of becoming economically viable. Projects should include an economic analysis. 	"it starts at third or fourth year college that this is an ongoing role of a pharmacist to be involved in community-based research If you start out thinking it's a normal part of your practice, you're less scared, reluctant" "I think that's an important thing we haven't got out to community pharmacy yet You're looking after those top 20% of your customers who are potentially 80% of your business, a very good investment." "These are the things you've got to go and sell to the wider community, 'because we've done this we can prove this and this is why you're getting paid for it now'"
Communication	To create awareness of research and promote research outcomes: newsletters information sessions at continuing education sessions and conferences (both by academics and pharmacists) word of mouth communication between pharmacists use signage/recognition certificates to let the community know when a pharmacy is involved in research	"A précis of research every 6 months" "Gettingthe academic people in pharmacy practice research areas out there putting on the information sessions as part as the continuing education programs" " you could take one of the pharmacists who's done the research to talk for two minutes about what they've gained from it and how easy it was"
	To increase interest in participation: design research projects that are of interest/meaningful to pharmacists utilize ideas from pharmacists database/website of research projects for interested pharmacists to register targeted emails to interested pharmacists create a special interest group of pharmacists interested in research target younger pharmacists provide continuing education points for research participation	" letting the community know you're being involved in the research. Your customers have to know that you are involved in the research." " specifically targeting, the diabetes-interested pharmacies, Webster-pak™ interested pharmacies and things like that you'll get a lot more feedback as to who wants to get involved" "if there's 4000 pharmacies out there at least half of them could have ideas" "There's a web site if you're interested in diabetes click on thisput me on your mailing list for this." "You've got a greater chance of getting a newer gradate being involved in this than you have a mid-career, end-of-career pharmacist"
	To improve communication between academics and practitioners: the aims, long term goals and potential benefit of research projects should be clear clear and frequent communication during research projects provide feedback on results of research projects and describe how to apply the outcomes in pharmacy	"If the benefit is clearly explained and you can see a future in it then you are more interested in actually going with the project"

Table 1. Strategies		
Barrier Time/ Money/ Staff	Strategy Utilize research project staff to relieve pharmacist. Provide adequate compensation for time (ie funds or provide replacement pharmacists).	Quotations "that person from the University, a pharmacist, would workand they dispensed for you to give you time to go out and do those home visits that was greatly appreciated"
	 Take time constraints into consideration when designing research protocols. Tailor project to suit the pharmacy (shouldn't interfere with running of business). 	"the only way you can convince those other pharmacists is to pay them and pay them more than what currently is done, and pay them in a fashion that they think their time is worth it." "doesn't have to be profitable, just pay the opportunity costs, so you don't degrade the business."
		"Payment for involvement in research is also never going to be the prime motivator for pharmacists being involved in research. But some sort of payment for involvement in research is an acknowledgementit's extremely important." "the data collection has to be possible to do in
Skills/Knowledge	 Provide administrative/organizational support and lead the project. Provide training specific to the research project (eg blood testing, recruiting patients, public speaking). Have research-experienced pharmacists mentor novices. 	that environment that's moving along all the time." "we wereled and supported all the way through by the school. And I think that's one of the things which made the project the successful project that it wasthe skills that we didn't have, we were able to access." "It's really just practical work-shopping we had a weekend we did blood testing of various thingshaving done it once, the next time you do
		it, it isn't a problem" " how do you actually get people to say yes to being involved in a project." " if you're doing it, I'll do it too, we can work together."

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