The Inclusion of the LGBTQIA+ Community in Research: a Rapid Scoping Review on

Barriers and Facilitators

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Abstract

Introduction: The LGBTQIA+ community is consistently underrepresented in research. This causes limitations in the generalisability of results and creates gaps in knowledge and inaccurate representations. The inclusion of the LGBTQIA+ community in research is challenging. Nevertheless, specific barriers and facilitators to research inclusion have been identified, but not collected and summarised within one paper. Therefore, the goal of this study is to perform a rapid scoping review and provide an overview of barriers and facilitators for the inclusion of the LGBTQIA+ community in research. **Methods:** Literature was collected by searching the database PsychINFO. After a comprehensive search, a total of 16 studies were selected and study characteristics, barriers and facilitators were extracted. The extracted data were thematically analysed, summarised and presented in tables. **Results:** A great variety of study topics, participant groups and research methods were found in the selected articles. Four categories with nineteen themes were established to sort barriers and facilitators based on their topic. **Discussion:** This scoping review examined a multitude of barriers and facilitators for research inclusion of the LGBTQIA+ community. An emphasis was placed on the importance of principles of trust, transparency, honesty, collaboration and respect to promote inclusive and respectful research practices. Future research should investigate participants' experiences directly and ethical guidelines should be established for respectful and inclusive measurement practices.

Keywords: LGBTQIA+, research inclusion, barriers, facilitators

Introduction

In today's interconnected world, diverse individuals with various backgrounds, ethnicities, sexual identities, skin colours, religions, cultures and so forth contribute to the populations in many countries. However, this diversity is not always represented in the sample populations in scientific research. Studies have highlighted significant underrepresentation of certain groups, including women in clinical cancer research (Jagsi, 2009), elderly in trials for rheumatoid arthritis, osteoarthritis and antiepileptic drug trials (Desmarais et al., 2018; Palmowski et al., 2019) and Asians and Asian subgroups in North American biomedical research (Nguyen et al., 2021).

This underrepresentation of minority groups poses a problem for the generalisability of research findings. According to the National Institute of Health (2001), the purpose of including minority groups in research is to ensure that research findings are generalisable to entire populations. Generalisation is the act of drawing inferences from certain observations to general statements (Tsang, 2014). In empirical research, generalisability is the process of observing specific characteristics of a sample of a population and inferring its information onto the whole population (Tsang, 2014). Without generalisation, research evidence is limited in its ability to infer information about individuals outside of the sample and context studied (Polit & Beck, 2010). Hence, the concept of generalisability is an important aspect of research nowadays. Additionally, in today's standard evaluation of the quality of a study, generalisability is a major criterion (Polit & Beck, 2010). To achieve generalisability, the study sample should resemble the population that is targeted. Consequently, including all minority groups that are found within the population studied is necessary for most studies.

Corbie-Smith, Miller and Ransohoff (2004) further describe that the inclusion of minorities in research can serve a multitude of additional purposes. One purpose of including minorities in research can be the equitable distribution of potential benefits and risks of research participation (Corbie-Smith, Miller, & Ransohoff, 2004). As some research contains benefits or risks for its participants it is only fair to distribute such benefits or risks across all subgroups of the population. In addition, Lucassen et al. (2017) highlight that failure to recruit individuals from minority groups for research can further add to disenfranchisement as only the voices of the majorities are heard within research results. Furthermore, current gaps in knowledge about, for instance, the health of diverse populations can be explored more accurately if minorities are included in the sample (Corbie-Smith, Miller, & Ransohoff, 2004).

One topic that is affected by such gaps in knowledge is the health system. Nguyen et al. (2021) describe health disparities between population groups and the need to include diverse participant samples to reduce such health disparities. In 2001 the National Institute of Health (NIH) of the United States established guidelines regarding the inclusion of women and minorities in research (National Institute of Health, 2001). The introduction of this inclusion policy of women and minorities in research was explained with "a primary aim of research is to provide scientific evidence leading to a change in health policy or standard of care, it is imperative to determine whether the intervention or therapy being studied affects women or men or members of minority groups and their subpopulations differently" (National Institute of Health, 2001, Summary section, para. 1).

Historically, sexual and gender minority individuals have been consistently underrepresented in research with few studies researching their health outcomes. More recent research has provided knowledge regarding mental health difficulties in sexual minority

individuals, although not enough; however research regarding, for instance, this minority group's physical health is still lagging immensely (Lick et al., 2013). Establishing this missing knowledge is detrimental to the basic understanding of the LGBTQIA+ community and their experiences, as this can improve the accurate representation of this community (Macapagal et al., 2017). For instance, to design sexual health education and interventions the sexual development of sexual and gender minority youths must be understood. Moreover, to understand the needs and challenges in family leisure, the perspectives of, for instance, gay fathers must be explored (Bauer & Giles, 2020).

However, the inclusion of LGBTQIA+ individuals in research is not without its challenges. Identification and recruitment of participants can be difficult as some potential participants do not openly talk or publicly identify as members of the LGBTQIA+ community (Radis & Sands, 2020). Others may perceive risks of prejudice, stigmatisation and discrimination (Schmitz et al., 2019; Lucassen et al., 2017). Additionally, there seems to be no consensus on the assessment of gender and sexual identifications, and their classification for research is difficult as more identifications continue to be established (Singh et al., 2013). Lastly, the study of gender and sexual identities can be complex and researchers studying this community often share similar identities, which can elevate the risk of bias as their intimacy with participants can influence research and potentially create ethical dilemmas. (Radis & Sands, 2020).

Scientific research has overlooked and inadvertently marginalised the LGBTQIA+ community and other minority groups, which has caused a significant gap in knowledge about their lives and perspectives. This gap limits our understanding of LGBTQ-specific concerns, such as physical health, social stress, prejudice and further. By adopting inclusive practices, researchers can gain insight into these issues and promote equity. Consequently, there is a crucial

need to investigate possible barriers and facilitators of LGBTQIA+ community inclusion in research. Therefore, this research paper's goal is to perform a rapid scoping review and provide an overview of barriers and facilitators for the inclusion of the LGBTQIA+ community in research. More specifically, situations limiting study participation and situations enhancing the participation of the LGBTQIA+ community in research will be explored and discussed.

Methods

Search Strategy

A systematic search was conducted using the Psychinfo database. The search strategy consisted of a combination of keywords related to research inclusion, LGBTQ, barriers and facilitators (see Appendix A). These keywords were established through multiple steps. First, potential terms were discussed with the supervisor and websites, from governments and LGBTQIA+ organisations, were screened to establish inclusive terms. Further, a preliminary literature search was done. After screening through the obtained sample, literature related to the topics of the LGBTQIA+ community and general research inclusion of minority groups, and further snowball sampling, the final terms were chosen. The search was limited to peer-reviewed articles that were published in the English language between 2013 and 2023. Therefore, the inclusion criteria consisted of published in English, published within the last ten years (2013-2023) and published within Human studies. The focus was placed on articles examining the LGBTQIA+ community directly as a participant group or examining marginalised populations while mentioning the LGBTQIA+ community specifically. Additionally, articles had to directly discuss barriers or facilitators for research inclusion in order to be considered eligible. Literature reviews of any kind were excluded.

Study selection

One reviewer screened the articles for eligibility by titles and abstracts using the software Covidence. This screening and extraction tool is used for conducting systematic literature reviews (Covidence, 2023). After the title and abstract screening, the full-text articles were obtained and screened against the inclusion and exclusion criteria for final inclusion.

Data extraction and synthesis

One reviewer extracted relevant data from the included studies. Those data items include the first author's name, study topic, study location, participant group and sample size. The type of research study, the used research methods and whether the study had the purpose of investigating barriers and facilitators as well as described barriers and facilitators for research inclusion. Due to the nature of a rapid review, a narrative synthesis approach was employed to summarise the findings. First, study characteristics were identified, extracted and sorted in a table. Second, barriers and facilitators were identified and placed in a table. Third, a theme title, describing the content of the mentioned barrier or facilitator and thereby summarising the meaning in a few words, was given. These theme titles were preferably chosen based on the terms used by the original authors in the literature or, if no fitting term was found, a new term was chosen by the reviewer. Fourth, barriers and facilitators were sorted into themes. Each theme was further summarised into four categories.

These categories were produced to sort the themes into the moments or situations that they were applicable to within research. The category 'Recruitment' was established to summarise barrier and facilitator themes that are related to the recruitment of LGBTQIA+ individuals. The category 'Research methods' includes barrier and facilitator themes which describe research methodologies that have been established and used throughout all kinds of research. Barrier and facilitator themes within the category 'Measurement' are related to the measurement within a study, for example, the sex and gender measurement of individuals. The category of 'Aspects outside the frame of research studies' was established to summarise barriers and facilitator themes that are present but are not directly related to research. These are aspects

which have to do with the surroundings, for instance, the country or society, in which the study takes place, and cannot be changed or adapted by researchers. After themes and categories had been established and barriers and facilitators were sorted into it the results were presented in a table. In Figure 1 the flowchart of the literature search is presented (see below).

Quality appraisal

The quality of the included literature was evaluated through the use of the JBI critical appraisal tool for qualitative research (Lockwood et al., 2015). This tool consists of ten questions examining the congruity of the paper, the influence of the researcher on the results as well as the representation of participant opinions through questions like "Is there congruity between the research methodology and the methods used to collect data?" and "Is the influence of the researcher on the research, and vice-versa, addressed?" (see Appendix B). These questions were answered by one researcher within the answer options "Yes", "No", "Unclear" and "Not applicable". Each answer with a "Yes" and "Not applicable" counted as one point, whereas each answer with a "No" or "Unclear" did not count as a point. Questions were answered with "Unclear" whenever information was missing. For example, Schmitz et al. (2019) did a qualitative study and used face-to-face interviews to collect their data. Therefore, the question of "Is there congruity between the research methodology and the methods used to collect data?" was answered with a yes. The question "Is the influence of the researcher on the research, and vice-versa, addressed?" was also answered with a yes, as Schmitz et al. (2019) describe their own identities and how this might have affected participants. On the other hand, Kaida et al. (2019) did not specify how they as researchers might have affected the research, therefore the question was answered with a no and no point was given. After reviewing and scoring each

question for each article, a sum score was calculated. Scores between zero and four were considered low quality, scores between five and seven were considered moderate quality and scores of eight or higher were considered high quality. One reviewer assessed the certainty of evidence independently. A summary of findings is shown in Table 1 (see below)

Additionally, four articles did not do qualitative research but did reflection pieces. Two of those reflection pieces, namely Bauer and Giles (2020) and Radis and Sands (2020), reflected on their own recruitment process throughout another study they did. In those cases, the original paper that those articles were based on, were examined regarding their quality. Both original papers of Bauer and Giles (2020) and Radis and Sands (2020) were deemed of high quality. Price et al. (2020) did an opinion paper that was not based on a specific study, therefore no quality appraisal could be done. Similarly, Williams and Fredrick (2015) is a response paper based on a literature review, therefore no quality appraisal was done.

Table 1

Quality appraisal

Author	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Sum score	Quality appraisal ranking
Arayasirikul et al. (2016)	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	8	High
Beckford Jarrett et al. (2020)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10	High
Johnson & Martínez Guzmán (2013)	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Unclear	Yes	7	Moderate
Kaida et al. (2019)	Yes	Yes	Unclear	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	7	Moderate
Katz-Wise et al. (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9	High
Lucassen et al. (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	Yes	9	High
Macapagal et al. (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10	High
McCormack (2014)	Yes	Yes	No	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	7	Moderate
Pinto et al. (2015)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10	High
Puckett et al. (2020)	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	8	High
Schmitz et al. (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9	High
Waling et al. (2022)	Yes	Yes	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	9	High

Figure 1

Flowchart literature search
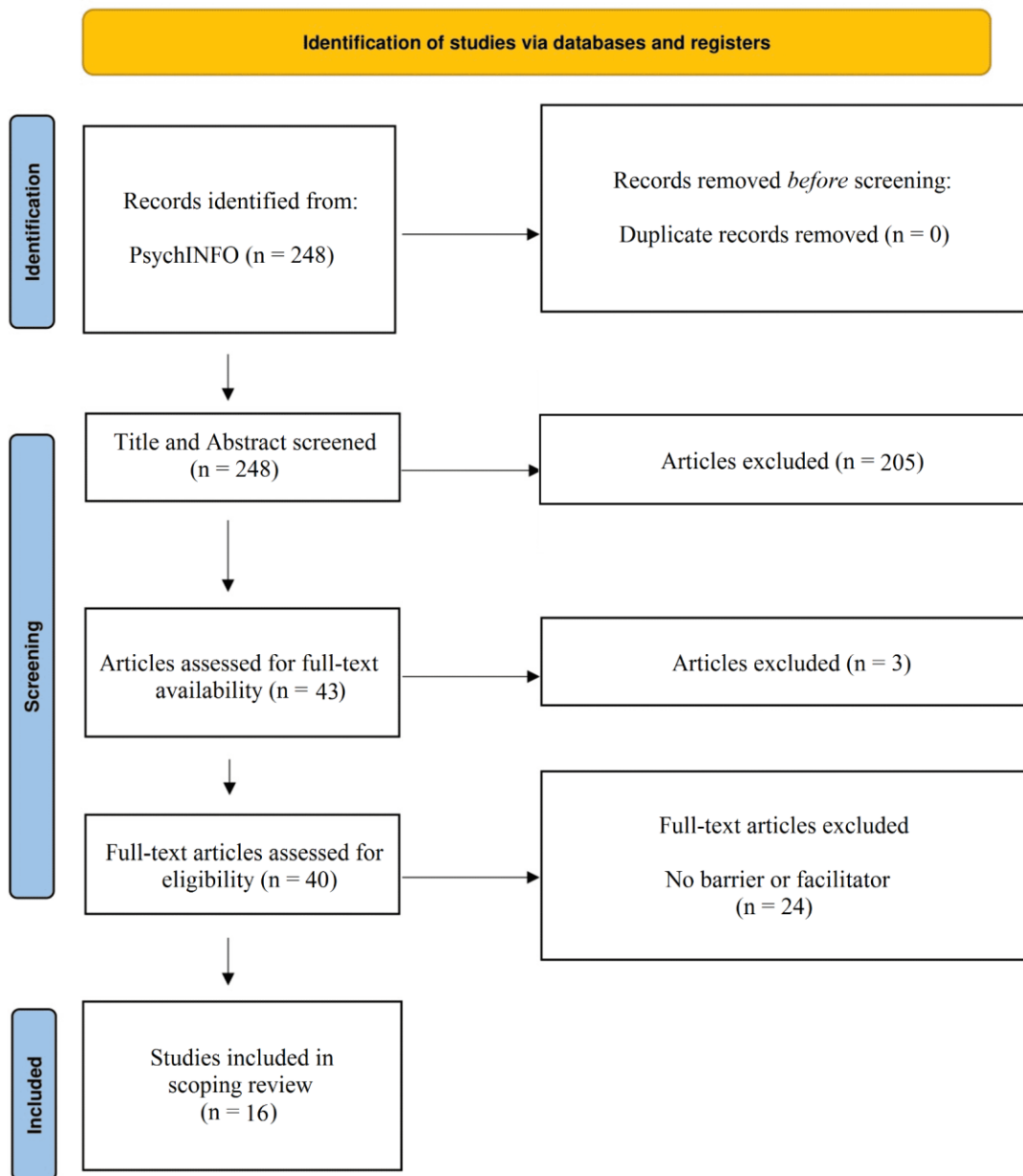
Results

Study Characteristics

In total, 16 studies were included in this scoping review. In Table 2 (see below) the study characteristics are presented. While most articles' study topics were focused on exploring the general research inclusion of certain populations ($n = 12$), another articles' study topic was focused on exploring how certain research designs would work in the light of research inclusion of marginalised populations ($n = 1$). One article focused on exploring the pros and cons of a certain research measurement in the inclusion of the LGBTQIA+ community ($n = 1$), whereas two articles explored sex research without focusing on marginalised populations ($n = 2$). Multiple articles chose the LGBTQIA+ community as a population group ($n = 14$), with five focusing on a particular LGBTQIA+ identity ($n = 5$) and nine on a variety of LGBTQIA+ identities ($n = 9$). Two studies did not specify their population group to LGBTQIA+ individuals while still describing important barriers or facilitators to research inclusion of the LGBTQIA+ community specifically ($n = 2$). Sample sizes varied between 15 and 938 participants per study, with three studies not including participants due to being opinion and reflection pieces ($n = 3$) and one not indicating their sample size ($n = 1$). Study locations were Australia ($n = 1$), Canada ($n = 3$), Jamaica ($n = 1$), New Zealand ($n = 1$), the United Kingdom ($n = 1$) and the United States ($n = 7$). One study took place in Spain and the United Kingdom ($n = 1$) and one took place in Spain and the United States ($n = 1$).

The included articles varied in the type of research study, with five studies doing qualitative research ($n = 5$), four studies doing a mixed methods study ($n = 4$), two studies doing a longitudinal study ($n = 2$) and one doing a cross-sectional study ($n = 1$). Two reflections ($n = 2$), one opinion paper ($n = 1$) and one response paper ($n = 1$). The research method of the

included studies was divided between qualitative ($n = 10$), quantitative ($n = 1$) and mixed methods ($n = 5$). More specifically, one study adopted a quantitative survey approach ($n = 1$), while ten studies adopted methods of qualitative research varying between interviews ($n = 4$), interviews and focus groups ($n = 2$) and narrative writing ($n = 4$). Five studies combined qualitative and quantitative methods in interviews and surveys ($n = 3$), focus groups and surveys ($n = 1$) and diaries and surveys ($n = 1$). Furthermore, some articles included in this review had the study purpose of investigating barriers and facilitators to the inclusion of the LGBTQIA+ community ($n = 6$), whereas other articles did describe barriers and facilitators of research inclusion, but did not have the study purpose of examining such ($n = 10$). Those articles investigated, for instance, the risks and benefits of sex research or leisure activity of families with gay fathers and came across barriers and facilitators during their research. While some articles reported both, barriers and facilitators, to LGBTQIA+ individuals' inclusion in research ($n = 14$), one article only described barriers to inclusion ($n = 1$) and one only mentioned facilitators ($n = 1$).

Table 2

Study characteristics

Author	Study purpose of examining barriers and facilitators	Study Topic	Population group	Sample size	Study Location	Type of research study	Research method	Category	Barriers	Facilitators
Arayasirikul et al. (2016)	No	Respondent-driven sampling in social media recruitment	Young transwomen	300	United States	Longitudinal	Quantitative survey	● Recruitment	● Respondent-driven sampling	● Respondent-driven sampling ● Social media
Bauer & Giles (2020)	No	Participant recruitment in leisure research	Gay fathers	-	Canada	Reflection paper	Narrative writing	● Aspects outside the frame of research studies ● Recruitment	● Community and local organisations ● Privacy and confidentiality ● Social media ● Stigma	● Advisory boards ● Community and local organisations ● Trust
Beckford Jarrett et al. (2020)	Yes	Barriers and facilitators in HIV research	Men who have sex with men and transgender women	52	Jamaica	Qualitative	Interview & Focus group	● Aspects outside the frame of research studies ● Measurement ● Recruitment ● Research methods	● Sex and gender measurement ● Practical matter ● Privacy and confidentiality ● Stigma ● Trust	● Community-based participatory research ● Motivation ● Trust
Johnson & Martínez Guzmán (2013)	No	Participatory action research in stigmatised populations	LGBT and trans-collective adults	-	Spain and United Kingdom	Qualitative	Interview & Focus group	● Research methods		● Participatory Action Research
Kaida et al.	No	Peer research	Women	37	Canada	Longitudinal	Interview	● Research	● Community-based	● Community-based

(2019)		associates in recruitment and facilitation of research	living with HIV					methods	participatory research	participatory research
Katz-Wise et al. (2019)	No	Community-based participatory research	Transgender and gender non-conforming youth and their families	33	Canada	Mixed	Interview & Survey	● Recruitment ● Research methods	● Community-based participatory research ● Researchers identity	● Community-based participatory research ● Community and local organisations ● Researchers identity
Lucassen et al. (2017)	Yes	Tips for research recruitment	Sexual minority youth with depressive symptoms	25	New Zealand	Qualitative	Interview	● Aspects outside the frame of research studies ● Recruitment	● Practical matter ● Stigma	● Motivation ● Practical matter ● School ● Social media ● Stigma ● Trust
Macapagal et al. (2017)	No	Risks and benefits of sex research	Sexual and gender minority adolescents	74	United States	Mixed	Focus group & Survey	● Recruitment	● Guardian consent and IRB committees	● Guardian consent and IRB committees ● Motivation
McCormack (2014)	Yes	Sampling and recruitment in sexuality research	Bisexual men	90	United Kingdom	Qualitative	Interview	● Aspects outside the frame of research studies ● Recruitment	● Stigma ● Snowball sampling	
Pinto et al. (2015)	No	HIV research recruitment in clinical practices	Underrepresented populations	282	Spain and United States	Cross-sectional	Interview & Survey	● Recruitment	● Practitioners	● Practitioners
Price et al. (2020)	No	Sex research in minority populations	Sexual minority adolescents	-	United States	Opinion paper	Narrative writing	● Recruitment	● Guardian consent and IRB committees	● Advisory boards ● Language ● Motivation
Puckett et al.	No	How to ask	Transgender	695	United States	Mixed	Diary &	● Measurement	● Sex and gender	● Sex and gender

(2020)		about gender	and gender diverse				Survey		measurement	measurement
Radis & Sands (2020)	Yes	Conducting research with minority populations	African American Lesbian Mothers	15	United States	Reflection paper	Narrative writing	● Aspects outside the frame of research studies ● Recruitment	● Language ● Political context	● Researchers identity
Schmitz et al. (2019)	No	Motivations for research participation	LGBTQ+ young adults in university	65	United States	Qualitative	Interview	● Aspects outside the frame of research studies ● Recruitment ● Research methods	● Stigma ● Trust	● Motivation ● Participatory action research ● Researchers identity ● Trust
Waling et al. (2022)	Yes	Recruiting stigmatised population through social media	Older LGBTQ individuals	938	Australia	Mixed	Interview & Survey	● Aspects outside the frame of research studies ● Recruitment	● Political context ● Social Media	● Social Media
Williams & Fredrick (2015)	Yes	Stigma of intersectional identities	Sexual minority women of colour	-	United States	Response paper	Narrative writing	● Measurement ● Recruitment	● Social Media	● Advisory Boards ● Intersectional identities ● Respondent-driven sampling ● Social media

Result section of articles with a study purpose of examining barriers and facilitators

  To examine the extent to which the results should weigh in the decision on how to include LGBTQIA+ individuals in research, the results have been split between those articles with a study purpose of examining barriers and facilitators, and those who came across barriers and facilitators while doing research with another purpose. First, the results of the articles directly examining barriers and facilitators will be displayed in Table 3 (see below).

Recruitment

  The category of recruitment includes ten themes, starting with advisory boards. Williams and Fredrick (2015) describe increased participation with demographic diversity through the use of online advertisements on advisory boards and similar online platforms (Williams & Fredrick, 2015). The theme of language has been explained by Radis and Sands (2020), demonstrating the importance of choosing terminology potential participants can identify themselves with through the experience of using unfitting terms and receiving feedback that the target group would describe themselves with different terminologies. To create motivation for study participation, Beckford Jarrett et al. (2020) recommend the use of incentives, such as cash, charitable donations, phone cards or hygiene care packages, with cash being recommended the most. Lucassen et al. (2017) expand this list with vouchers and the recommendation to ensure no out-of-pocket expenses for participants. Participants' expectation of experiencing a therapeutic situation or experiencing their participation as helpful to others has been highlighted as a motivator while presenting the study as interesting and intriguing is crucial in increasing motivation (Lucassen et al., 2017).

  Certain practical matters have been described as a theme in study participation. The study location of in-person studies, potential travel times and the workload and time needed for

participants to take part in a study have been mentioned as influencing participation (Lucassen et al., 2017). Beckford Jarrett et al. (2020) describe that inconvenient study hours and the safety of and stigmatisation associated with study locations, for instance, a location being associated with the LGBT community while not having disclosed one's identity, can pose a barrier to study participation. On the other hand, the ability to bring a supportive friend to assessments works as a facilitator (Lucassen et al., 2017). The two following themes belong to pre-established recruitment methods, which have been used within all kinds of research before. Williams and Fredrick (2015) explored the usage of respondent-driven sampling (RDS) within hard-to-reach populations and discovered that it has been effective in a population such as transwomen. Snowball sampling, on the other hand, has been described as potentially causing a biased representation of sexual and gender minorities as only those, who have openly disclosed their identity, are likely to be recruited through the referral of other participants (McCormack, 2014). Another theme is privacy and confidentiality, which has been described as necessary for the participation of the LGBTQIA+ community. Beckford Jarrett et al. (2020) describe participants' fear of being outed and thereby associated stigma, due to potentially missing privacy or confidentiality.

The theme of researchers' identity shows that research participation can be increased if researchers belong to the LGBTQIA+ community and share such identity when reaching out to potential participants (Radis & Sands, 2020). Specific to sexual minority youth, the theme of school has been described as effective in recruiting participants (Lucassen et al., 2017). By displaying posters or leaflets and asking for support from school guidance counsellors, school therapists and LGBTQIA+ school clubs, participant numbers can be increased (Lucassen et al., 2017). Lastly, the theme of social media platforms has been shown effective for recruiting

geographically diverse populations within the LGBTQIA+ community, particularly for those who have not disclosed their sexual orientation (Waling et al., 2022). Lucassen et al. (2017) emphasise the valuable means of promoting research online for sexual minority youth, while Williams and Fredrick (2015) describe the usefulness of Facebook's option of sponsoring advertisements based on demographics in recruiting hard-to-reach populations. At the same time, the demographic variety can be limited through limited access to technology and the Internet (Williams & Fredrick, 2015). Moreover, it is important to consider how advertisements are received in public spaces. Hostility and negative commentary directed towards the target group have been observed which can affect the mental health and social well-being of participants (Waling et al., 2022).

Research methods

The category of research methods includes one theme from articles with a study purpose of examining barriers and facilitators. Community-based participatory research has been described by Beckford Jarrett et al. (2020) as an effective approach for LGBTQIA+ communities. By acknowledging power differences while using the unique strengths of all involved individuals this approach has been proven particularly valuable in fostering trust, demonstrating researchers' commitment and empowering participants (Beckford Jarrett et al., 2020).

Measurement

In the category measurement, two themes were described. First, Beckford Jarrett et al. (2020) imply that subcategories of sex or gender should be avoided during the measurement of sex and gender in research to ensure acknowledgement of all identities as distinct. Participants have indicated that subcategorisation can be perceived as insensitiveness. Additionally, Williams

and Frederick (2015) emphasise the need for increased specificity in measuring and analysing intersectional identities. Recommending the exploration of as many intersectional identities as possible while acknowledging the challenge of such.

Aspects outside the frame of research studies

Three themes were found in this category, political context, stigma and trust. Radis and Sands (2020) describe participants' fear of study participation in the light of the political context and resulting concern for their families' safety. Waling et al. (2022) observed that the political context influenced the level of safety perceived by participants. Increased rates of verbal assault and physical violence towards LGBTQIA+ people were observed, limiting their willingness to participate in research. Further, stigmatisation has been shown to negatively affect participants' motivation to engage in research (Lucassen et al., 2017), and has been consistently identified as a barrier to study participation (Beckford Jarrett et al., 2020). McCormack (2014) describes that bisexual individuals are often stigmatised within straight and lesbian-gay communities. Therewith causing an additional barrier for those suffering from multiple stigmatisations (McCormack, 2014). Trust has been described as a facilitator for study participation (Beckford Jarrett et al., 2020) and is of fundamental importance when working with marginalised groups (Lucassen et al., 2017). By treating participants with respect, being mindful of experienced stigma, meeting in person and allowing them to bring a supportive friend, a comfortable and inclusive environment can be established which creates trust (Lucassen et al., 2017). Collaboration, openness and transparency further foster trust, whereas a lack of trust in fellow participants has been observed to limit study participation (Beckford Jarrett et al., 2020).

Table 3

Barriers and Facilitators of articles with a study purpose of examining barriers and facilitators sorted by Theme

Category	Theme	Description of Theme	Author	Barrier	Facilitator
Aspects outside the frame of research studies	Political context	The political situation in a country can affect participants of LGBTQIA+ communities	Radis & Sands (2020)	● Concerns for safety due to political context	
			Waling et al. (2022)	● Increased assault and violence towards LGBTQIA+ members during marriage equality campaign, affecting perceived safety	
	Stigma	Stigmatisation of a participant groups, inside and outside of the study, can affect whether they are willing to participate in a study	Beckford Jarrett et al. (2020)	● Stigma adds a significant barrier	
			Lucassen et al. (2017)	● Decreased motivation due to stigma	● Inclusive environment through respect and mindfulness
			McCormack (2014)	● Double stigmatisation of bisexual individuals	
	Trust	Participants trust in the researcher and in fellow participants can affect study participation	Beckford Jarrett et al. (2020)	● Distrust in fellow participants	● Collaboration and transparency creates trust ● Trust enhances study participation
			Lucassen et al. (2017)		● Meeting in person and bringing a supportive person creates trust ● Trust is of fundamental importance when working with marginalised groups
Measurement	Sex and gender Measurement	The way sexuality and gender are measured can affect the willingness of participants to take part in studies	Beckford Jarrett et al. (2020)	● Sub-categorising one gender into another should be avoided	

	Intersectional identities	Measuring intersectional identities is difficult but should be enhanced	Williams & Fredrick (2015)		● Exploration of as many intersectional identities as possible is important
Recruitment	Advisory boards	Advisory boards can be used to reach potential participants	Williams & Fredrick (2015)		● Increased participation through online advertisement
	Language	Language used during recruitment can affect participation rates	Radis & Sands (2020)	● Potential participants did not identify with chosen terms during recruitment	
	Motivation	Motivation to participate in a study can greatly affect participation numbers. Motivation is further affected by many aspects which therefore affect participation	Beckford Jarrett et al. (2020)		● Incentives can facilitate study participation
			Lucassen et al. (2017)		● Emotional therapy aspect, interest, vouchers all facilitate study participation
	Practical matters	Practical matters, like the workload for participants, travelling time, location of a study and study hours can affect whether participants are willing to engage in a study	Beckford Jarrett et al. (2020)	● Unsafe or stigmatised study locations limit participation ● Inconvenient study hours are a barrier for working participants	
			Lucassen et al. (2017)	● Study location far away limit participation ● Workload and time needed for research participation can be a barrier	● Being able to bring a supportive person enhances trust and participation
	Pre-established recruitment method - Respondent-driven sampling	Respondent-driven sampling can be effective for LGBTQIA+ communities	Williams & Fredrick (2015)		● Effective for hard-to reach populations
	Pre-established recruitment method - Snowball sampling	Snowball sampling, used to recruit participants, can cause biased results	McCormack (2014)	● Potentially causing biased results from the referral process	
	Privacy and confidentiality	Fear of a lack of privacy and issues with confidentiality affects potential	Beckford Jarrett et al. (2020)	● Lack of privacy and fear of being outed	

participants

	Researchers identity	Participants are more likely to trust and participate in a research, in which a researcher shares a similar identity as the participant group	Radis & Sands (2020)		● Similarities and LGBTQIA+ identity of researcher
	School	Schools can be effective in recruiting sexual minority youth	Lucassen et al. (2017)		● Effective promotion through school counsellors, therapists and LGBTQIA+ clubs, leaflets and posters
	Social media	Social media platforms can be used to reach potential participants, but are limited in their access and can expose participants to hostility	Lucassen et al. (2017)		● Valuable means of social media for sexual minority youth recruitment
			Waling et al. (2022)	● Hostility and negative commentary on social media advertisement	● Effective for geographically diverse populations ● Particularly for those with undisclosed sexual orientations
			Williams & Fredrick (2015)	● Limited demographic variety through limited access to internet/ technology	● Sponsoring advertisement assists in recruiting hard-to-reach populations
Research methods	Community-based participatory research	This is an effective research method that enhances relationship building and the relevance of a study for LGBTQIA+ members but extensive training and time is needed	Beckford Jarrett et al. (2020)		● Effective for LGBTQIA+ communities ● Valuable for building trust, showing researchers commitment and empowering participants

Result section of articles without a study purpose of examining barriers and facilitators

Recruitment

The category of recruitment is derived from ten themes. Seven of them have previously been described by articles with a focus of examining barriers and facilitators as well and will be described first. First is the theme of Advisory boards which represent academic-based partnerships between researchers and participants and have been shown to be effective for recruitment by building trust and relationships and actively incorporating feedback (Bauer & Giles, 2020; Price et al., 2020). Price et al. (2020) show that respectful and understandable language, which is the second theme, can facilitate recruitment. For the theme of motivation, Schmitz et al. (2019) highlight that individuals' motivation for participation is influenced by the research topic, level of invasiveness and method of data collection. Motivation can be personal or structural, with personal motivation arising when personal benefits are perceived (Schmitz et al., 2019). Being able to receive knowledge has been shown to increase motivation (Macapagal et al., 2017), while being able to share one's story, receiving validation and having a therapeutic outlet can further enhance motivation (Price et al., 2020; Schmitz et al., 2019). Altruism or helping others with one's participation is another personal motivator (Schmitz et al., 2019). Structural motivators are the ability to contribute to scientific research and knowledge production, as well as the belief to enact social change and promote advocacy (Price et al., 2020; Schmitz et al., 2019).

The theme of respondent-driven sampling (RDS) describes the effectiveness of this method for marginalised groups like trans women, even though this research method functions on the assumption that the hidden populations, like the LGBTQIA+ community, are connected with one another (Arayasirikul et al., 2016). This has not yet been proven and therefore is a

concern for bias, especially in the light of weak social ties and social isolation found in young transwomen (Arayasirikul et al., 2016). Bauer and Giles (2020) described the fifth theme of privacy and confidentiality with participants' concerns surrounding data confidentiality being able to limit participation. The theme of the researchers' identity shows that sharing one's own LGBTQIA+ identity if belonging to this community, as a researcher can have a positive impact on participants (Katz-Wise et al., 2019; Schmitz et al., 2019). This shared identity enhances trust and legitimacy, while an outsider identity raises participant concern about the researcher's intentions (Katz-Wise et al., 2019). The theme of social media is described as a barrier as well as a facilitator. Arayasirikul et al. (2016) explained that by utilising Facebook advertisements and creating dedicated research pages, successful recruitment of sexual minority adolescents was achieved. However, Bauer and Giles (2020) described difficulties finding individuals who were willing to share their study advertisements in the respective Facebook groups.

Further, three themes were described by articles without a study purpose of examining barriers and facilitators only. The first theme of community and local organisations highlights the substantial support from community organisations in recruiting sexual minority youth (Katz-Wise et al., 2019). Bauer and Giles (2020) also described the use of organisations as effective, however only when well staffed, as limited staff has caused them to be rejected from organisations when asking for their support during recruitment. The second theme is specific to health-related research. General health practitioners have been described as an effective strategy for the recruitment, data collection and facilitation of interventions (Pinto et al., 2015). Due to practitioners' familiarity with their communities, they show great willingness to include patients if they perceive benefits for them. Nevertheless, insufficient training, time constraints and limited financial resources are barriers to their inclusion in research (Pinto et al., 2015).

Lastly, in the theme of guardian consent and IRB committees, Macapagal et al. (2017) mentioned that individuals under the age of 18 are required to obtain guardian permission to participate in research, which has been shown to decrease participant numbers (Macapagal et al., 2017). LGBTQIA+ youths have reported pre-disclosed identities and missing support as a barrier to obtaining guardian consent (Macapagal et al., 2017). This can bias samples as only those who have disclosed their identity and those with guardian support are likely to seek permission (Macapagal et al., 2017), but it additionally is inconsistent with the research principle of inclusiveness and justice (Price et al., 2020). Institutional review boards (IRBs) have the authority to grant waivers for guardian consent but are often reluctant to grant these waivers due to concerns of distress (Macapagal et al., 2017). Surveys revealed that most youths are comfortable with answering sexual questions, thereby suggesting an overestimation of risk from IRBs (Macapagal et al., 2017). Approximately 45% of researchers encounter difficulties obtaining waivers, inclining them to exclude sexual minority youth from their studies (Price et al., 2020). Consequently, many have called for a Goodness-of-Fit model, matching the consent process to the educational and developmental status of potential participants (Macapagal et al., 2017).

Research methods

Two themes are included in the category of research methods. Community-based participatory research (CBPR) has been previously described by articles with a study purpose of examining barriers and facilitators as well. According to Katz-Wise et al. (2019), it is a collaborative, relationship-building method that is valuable for marginalised populations. Peer research associates, who are individuals selected to provide input and become advocates within their communities, increase participation rates and the relevance of a study (Kaida et al., 2019).

However, extensive training, support, employment and time are necessary to consider (Kaida et al., 2019; Katz-Wise et al., 2019). The second theme, participant action research (PAR), has only been described by those articles without a study purpose of examining barriers and facilitators. It is deemed valuable and effective for working with marginalised groups (Johnson & Martínez Guzmán, 2013), through an involved participant role of the researcher, democratisation of power dynamics and collaborative and equitable research that addresses social inequalities (Schmitz et al., 2019).

Measurement

For the category of measurement, only one theme was described from articles without the research purpose of examining barriers and facilitators. This theme is sex and gender measurement and has been explored briefly by one article with the study purpose of examining barriers and facilitators before. The commonly used binary sex and gender measurement in research has been described as introducing bias and misinformation in research through the inaccurate categorisation of sex and gender (Puckett et al., 2020). Some studies gather gender information based on voice, external appearances or the sex assigned at birth, thereby aiding bias and misinformation. While it is common practice to measure sex and gender through pre-established categories, this can pose challenges for individuals with unique combinations of identities (Puckett et al., 2020). For accurate and inclusive measurement researchers should clearly describe the purpose of gathering gender information while defining questions and response options, and providing disclaimers about the choice of words (Puckett et al., 2020). Allowing multiple responses ensures a correct representation of unique combinations of identities and options for queer and nonbinary individuals should be added while acknowledging

that grouping any sex or gender category can be invalidating. Lastly, a two-step method should be employed by asking about sex and gender separately (Puckett et al., 2020).

Aspects outside the frame of research studies

In this category, two themes were described which have both previously been described by articles with a study purpose of examining barriers and facilitators as well. The first theme of stigma has been mentioned by Bauer and Giles (2020) highlighting participants' concern about the exposure of their families to stigma. The enduring prejudice and discrimination experienced by the LGBTQIA+ community across various social domains and the historical violations of human subject rights are described as presenting a significant barrier to research participation (Schmitz et al., 2019). The second theme of trust describes a general sense of mistrust towards researchers and research-sponsoring organisations and data usage (Schmitz et al., 2019). Fear of being outed through participation has been described as a further barrier resulting from limited trust (Schmitz et al., 2019). Establishing trust with marginalised and stigmatised groups is therefore crucial. This can be accomplished by building positive rapport through open communication and mutually beneficial relationships (Schmitz et al., 2019), while recognising participant needs and avoiding further stigmatisation, through anonymity and confidentiality (Bauer & Giles, 2020).

Table 4

Barriers and Facilitators of articles without a study purpose of examining barriers and facilitators sorted by Theme

Category	Theme	Description of Theme	Author	Barrier	Facilitator
Aspects outside the frame of research studies	Stigma	Stigmatisation of a participant groups, inside and outside of the study, can affect whether they are willing to participate in a study	Bauer & Giles (2020)	● Stigma affecting safety of participants families	
			Schmitz et al. (2019)	● Enduring prejudice and discrimination ● Historical violation of human subject rights	
	Trust	Participants trust in the researcher and in fellow participants can affect study participation	Bauer & Giles (2020)		● Recognising needs and avoiding stigmatisation creates trust
			Schmitz et al. (2019)	● Fear or being outed through participation ● Mistrust towards researcher or research-sponsoring organisations and data usage	● Trust through positive rapport and open communication
Measurement	Sex and gender Measurement	The way sexuality and gender are measured can affect the willingness of participants to take part in studies	Puckett et al. (2020)	● Assuming gender by voice or appearance ● Inaccurate categorisation can cause bias and misinformation	● Disclaimers and definition of study purpose and response options ● Multiple responses, open-questions and two-step methods
Recruitment	Advisory boards	Advisory boards can be used to reach potential participants	Bauer & Giles (2020)		● Incorporating feedback can enhance recruitment outcomes
			Price et al. (2020)		● Building trust and relationship ● Effective for recruitment
	Community and local organisations	Local LGBTQIA+ organisation can be used to recruit participants	Bauer & Giles (2020)	● Rejection from local organisations due to being understaffed	● Effective if local organisation are not understaffed
			Katz-Wise et al. (2019)		● Substantial support during recruitment

Language	Language used during recruitment can affect participation rates	Price et al. (2020)		● Respectful and understandable language
Motivation	Motivation to participate in a study can greatly affect participation numbers. Motivation is further affected by many aspects which therefore affect participation	Macapagal et al. (2017)		● Knowledge production through participation
		Price et al. (2020)		● Emotional therapy aspect ● Knowledge production ● Validation
		Schmitz et al. (2019)		● Altruism, emotional therapy aspect, social change, scientific research ● Personal and structural motivation ● Research topic, level of invasiveness and data collection method
Practitioners	General health practitioners can help recruiting participants	Pinto et al. (2015)	● Training, time and financial resources are needed	● Support during recruitment, data collection and facilitation of interventions
Pre-established recruitment method - Respondent-driven sampling	Respondent-driven sampling can be effective for LGBTQIA+ communities	Arayasirikul et al. (2016)	● Assumes connections between hidden populations	● Effective for marginalised groups like trans women
Privacy and confidentiality	Fear of a lack of privacy and issues with confidentiality affects potential participants	Bauer & Giles (2020)	● Concerns about confidentiality limit participation	
Researchers identity	Participants are more likely to trust and participate in a research, in which a researcher shares a similar identity as the participant group	Katz-Wise et al. (2019) Schmitz et al. (2019)	● Outsider identity raises concerns of intention	● Insider identity enhances trust and legitimacy ● LGBTQIA+ identity of researcher has positive impact
Social media	Social media platforms can be used to reach potential participants, but are limited in their	Arayasirikul et al. (2016)		● Advertisement and recruitment through facebook was successful for sexual minority youth

		access and can expose participants to hostility	Bauer & Giles (2020)	• Difficulties recruiting via Facebook	
	Youth - Guardian consent and IRB committees		Macapagal et al. (2017)	• Difficulty obtaining consent waivers from IRB committees • Guardian consent and fear of being outed • Sample bias to those who have disclosed sexual identity and those with supportive guardians	• Goodness-of-Fit model is needed • No distress while answering sexual questions
			Price et al. (2020)	• 45% experiencing difficulties obtaining IRB's waiver for guardian consent • Guardian consent being inconsistent with principles of inclusion and justice	
Research methods	Community-based participatory research	This is an effective research method that enhances relationship building and the relevance of a study for LGBTQIA+ members but extensive training and time is needed	Kaida et al. (2019)	• Extensive training and support is needed • Time consuming	• Peer research associates increase participation rates and enhance relevance of the study
			Katz-Wise et al. (2019)	• Lots of time needed for partnership building and balancing power differences	• Emphasis relationship building • Valuable for marginalised populations
	Participatory action research	Participatory action research has been shown to be effective and valuable through a collaborative nature	Johnson & Martinez Guzman (2013)		• Valuable and effective for working with marginalised groups
			Schmitz et al. (2019)		• Inclusive research through collaboration and a participant role of the researcher

Comparison

Most studies within this review used a qualitative design only, however, some did longitudinal studies, cross-sectional designs, mixed method designs, response, opinion or reflection papers. By examining the results some differences were found. Four themes, namely 'practical matter', 'recruitment method snowball sampling', 'school' and 'participatory-action research', were only described by studies with a qualitative design. The themes 'recruitment method snowball sampling' and 'school' were only described in one article, whereas the themes 'practical matter' and 'participatory-action research' were described in two articles each. Furthermore, the theme 'intersectional identities' was only described in one article, a response paper, while the theme 'practitioner' was only mentioned by Pinto et al. (2015) who did a cross-sectional study. All other themes mentioned by qualitative articles were also mentioned by e.g. mixed method articles. Themes found within longitudinal studies were also reported in reflection papers.

Similarly, by examining potential differences between articles with quantitative and qualitative methods, no differences were found. Since most articles used qualitative methods to collect results some themes are only described by articles with qualitative methods, however, no theme has only been described by research using e.g. quantitative methods. Further, results from articles directly investigating participants' opinions through interviews, focus groups or surveys, and results from articles not directly investigating participants' opinions, for example, reviews or response papers were compared. No difference in themes or categories could be found. All proposed barriers or facilitators from articles directly investigating participants' opinions were in line with barriers and facilitators proposed from articles not directly investigating participants' opinions.

However, differences were found between articles with a study purpose of examining barriers and facilitators and articles who came across barriers and facilitators while doing research with another purpose. Those studies that had the purpose of examining barriers and facilitators described themes, which were not mentioned in articles without this specific study purpose. For example, the theme of 'political context' was only described by Radis and Sands (2020) and Waling et al. (2022), two articles with the study purpose of examining barriers and facilitators to the research inclusion of the LGBTQIA+ community. The theme of 'intersectional identities' was described by William and Fredrick (2015) alone, whereas the theme of 'practical matter' was mentioned by Beckford Jarrett et al. (2020) and Lucassen et al. (2017).

Further, the recruitment method snowball sampling was explained by McCormack (2014) and the 'school' theme was addressed by Lucassen et al. (2017). All those articles had the research purpose of examining barriers and facilitators and described themes that were not described by other articles without this research purpose. On the other hand, the themes 'community and local organisation', described by Bauer and Giles (2020) and Katz-Wise et al. (2019), and 'practitioners', explained by Pinto et al. (2015), were only mentioned in articles that came across barriers and facilitators without the study purpose of investigating such. The same goes for the theme of 'guardian consent and IRB committees' which Macapagal et al. (2017) and Price et al. (2020) mention and 'participatory action research' addressed by Johnson & Martinez Guzman (2013) and Schmitz et al. (2019).

When looking at the study characteristics it becomes apparent that all studies have taken place in high or higher-middle-income countries according to the World Bank classification from 2022 (World Bank, 2022). However, Jamaica, where the study from Beckford Jarrett et al. (2020) took place, is listed as a developing country, whereas the other countries, Australia,

Canada, New Zealand, Spain, the United Kingdom and the United States are listed as developed

countries (Department of Foreign Affairs and Trade, 2022). Nevertheless, no difference was

observed between the study from Jamaica and the studies from different countries as barriers and

facilitators mentioned by Beckford Jarrett et al. (2020) are either also mentioned with similar

aspects by other articles, or are in line with other articles' results. For example, Beckford Jarrett

et al. (2020) describe community-based participatory research (CBPR) as effective for the

LGBTQIA+ community, while Katz-Wise et al. (2019) describe CBPR as valuable for

marginalised populations.

The quality appraisal revealed that most articles included in this review are of high

quality. The articles by Johnson and Martinez Guzman (2013), Kaida et al. (2019) and

McCormack (2014) were categorised as being of moderate quality. They described the themes

'participatory action research', 'community-based participatory research', 'stigma' and

'snowball sampling'. Most of these themes were described by other articles as well, however,

snowball sampling was only described by McCormack (2014). Therefore, this theme should

potentially be given less weight in the overall exploration of barriers and facilitators.

Furthermore, on two articles no quality appraisal was done as they are opinion and response

papers. Price et al. (2020) described the themes 'advisory boards', 'language', 'motivation' and

'guardian consent and IRB committees'. All themes were additionally discussed by other

articles. Williams and Fredrick (2015) described the themes 'advisory boards', 'social media'

and 'respondent-driven sampling', which were mentioned by other articles as well. The theme

'intersectional identities' however was only described by Williams and Fredrick (2015).

Discussion

This rapid review has examined barriers and facilitators to research inclusion of the LGBTQIA+ community through the review of 16 articles. During the review of the proposed barriers and facilitators four main categories with nineteen themes were established and discussed what can limit and what can aid the inclusion of the LGBTQIA+ community in research. They vary from aspects related to the recruitment process to aspects of measurement and pre-established research methods, as well as aspects related to society and politics outside of research examining the LGBTQIA+ community.

To contextualise the identified barriers and facilitators, it can be helpful to compare them with findings from broader research. Some of the themes discussed in this review have also emerged as factors influencing study participation in research unrelated to LGBTQIA+ communities. For instance, trust has been recognised as a facilitator of participation, while mistrust hinders participation (Beckford Jarrett et al., 2020; Schmitz et al., 2019). This observation is supported by multiple studies across various domains. Shea et al. (2022) identified the importance of trust-building among participants from diverse racial and ethnic backgrounds, while Tamlyn et al. (2023) underscore the critical role of trust in recruiting participants for health research. Hence, trust appears to be a general facilitator of research participation, rather than a LGBTQIA+ community-specific factor. Similarly, several other themes relevant to research participation have been found not to be exclusive to LGBTQIA+ populations, such as practical matters, like transportation, time constraints and study duration, confidentiality and motivators like altruism. While time constraints and lengthy study durations can limit participation (Shea et al., 2022; Tamlyn et al., 2023), well-explained and properly implemented confidentiality

measures facilitate participation (Headrick et al., 2023). Perceived benefits, such as altruism, can serve as motivators for participants in research (Al-Shami et al., 2022; Shea et al., 2022).

Additionally, CBPR has been highlighted as a valuable approach for racially diverse participant groups (Shea et al., 2022), and financial compensation has been identified as a motivating factor for participants across various demographic traits (Al-Shami et al., 2022; Tamlyn et al., 2023). Sampling methods, including snowball sampling and RDS, have proven effective for many hard-to-reach populations (Arayasirikul et al., 2016; McCormack, 2014). Social media platforms and online websites, such as advisory boards, have been found useful regardless of the target population (Williams & Fredrick, 2015; Yuan et al., 2014) and healthcare practitioners have been recognised as valuable for reaching participants in health research (Pinto et al., 2015). Schools are effective in recruiting youth participant groups (Lamb et al., 2001) and guardian consent acts as a barrier to youths regardless of their sexual orientation (Tamlyn et al., 2023). Additionally, the political context has been shown to influence the willingness to participate of individuals from various populations (Ferguson et al., 2022), while stigma of any kind can limit research participation (Mitchell et al., 2021).

Nevertheless, certain barriers and facilitators appear to be specific to certain populations. The engagement of communities and local organisations, highlighted as effective in reaching LGBTQIA+ participants within this review, has also been advocated in research involving racially and ethnically diverse participants (Shea et al., 2022). It could be speculated that the usability of local organisations may be specific to minority groups. This could be due to either the relative ease of recruiting participants from majority groups, thereby eliminating the need for assistance from local organisations, or the limited presence of local organisations for majority populations. For example, many cities host local organisations for LGBTQIA+ individuals,

however local organisations for heterosexual individuals appear to be rare. Depending on the country and population, local organisations may primarily serve specific minority groups, thereby being primarily helpful for recruiting these minority groups. Another theme discussed in this review is the identity of the researcher or research team. Sharing a similar sexual or gender identity with participants has been recognised as beneficial (Katz-Wise et al., 2019; Radis & Sands, 2020). Similarly, being of a different race than participants has been shown to limit research participation (Radis & Sands, 2020). Given the absence of other identity-related factors identified in the literature that might affect participation, it could be hypothesised that researchers' identity predominantly serves as facilitators or barriers in the domains of sex and gender research and race and ethnicity research.

Although additional research specifically addressing language as a barrier or facilitator could not be found, outside of the aspect that a study needs to be in the participants' spoken language, it appears logical that the chosen terms used in a study should align with the participants' used terminology. This may be specific to sex and gender terms, which are subject to change as new identities are being established. Regardless of the specific domain of change, researchers must adopt language that resonates with how participants identify themselves. Similarly, sex and gender measurement has been identified as limiting participation if not used in a respectful and inclusive manner (Puckett et al., 2020). This topic is specific to the LGBTQIA+ community as individuals outside of this community are heterosexual and thereby already represented in the commonly used binary sex and gender measurement of research.

With the comprehensive description of facilitators and barriers, it becomes essential to explore potential strategies that can be used to overcome barriers. Some barriers, such as practical matters like lengthy study durations or study locations necessitating transportation, can

be addressed by optimising participation time and selecting study locations in close proximity to

research participants (Beckford Jarrett et al., 2020; Lucassen et al., 2017). Additionally, offering

reimbursements to cover transportation-related costs has proven effective (Tamlyn et al., 2023).

For the commonly existing barrier of binary sex and gender measurement, it has been suggested

that open-ended questions, allowing participants to define their gender identity using their

chosen terms, represents a respectful and inclusive approach to measuring sex and gender

(Cameron & Stinson, 2019). Motivation is a critical factor for encouraging research

participation, thus necessitating the incorporation of methods to enhance it. Beckford Jarret et al.

(2020) recommend the use of personal benefits such as incentives, while Lucassen et al. (2017)

emphasise that motivation is heightened when research is perceived as interesting, beneficial to

others, or oneself through, for instance, validation. This is further extended by Schmitz et al.

(2019), acknowledging that research should be perceived as contributing to scientific knowledge,

enacting social change and promoting advocacy. Literature beyond the scope of this review

reinforces the importance of factors like personal benefits and altruism as motivation enhancing

(Nappo et al., 2013). Evidently, providing personal benefits for participants or enabling them to

perceive broader societal and individual advantages stands out as the primary motivator for

research participation.

Lastly, the barrier of mistrust is consistently highlighted by researchers, both within and

beyond this review. To address or minimise this barrier, open communication and transparency,

respect and collaboration have been recognised as essential for building trust (Beckford Jarrett et

al., 2020; Lucassen et al., 2017). This notion is supported by Tamlyn et al. (2023), explaining

that trust can be built by creating positive experiences, connections and communications

throughout research. Moreover, pre-existing trust in institutions, individuals or cultural and

religious community groups can be harnessed through partnership to further enhance trust (Shea et al., 2022; Tamlyn et al., 2023). Headrick et al. (2023) and Heumann et al. (2023) emphasise that relationship building, which enhances trust, is of fundamental importance in research.

Throughout this review, numerous specific barriers and facilitators have been identified. While these factors hold importance in research engagement, it is noteworthy that terms such as trust, transparency, honesty, collaboration and respect have consistently been described in the majority of reviewed articles. Although these terms have not been explicitly labelled as facilitators, their consistent description by various authors makes them appear to be of profound importance. Barriers like binary sex and gender measurement, mistrust, lack of confidentiality or non-inclusive language can likely be effectively addressed by adhering to these principles. While the line between inclusivity and potential offence to minority groups can be nuanced, a dedicated commitment to upholding these principles in research practices is a big step. These recurring terms underscore the fundamental foundation of inclusive and respectful research, thus representing the core values essential for successful research.

Limitations

This scoping review is subject to several limitations. The first limitation concerns inter-rater reliability. The process of study selection and data extraction was done by a single researcher, which introduces the potential for human error and the possibility of missing relevant articles, thereby limiting the reliability of results. Secondly, the exclusive use of the database PsychInfo may have resulted in the exclusion of articles with valuable information that were published on different platforms. Thirdly, the quality assessment conducted in this review could not be done on two articles which are opinion and response papers. Their input was still

considered, therefore a potential bias in the results cannot be ruled out. Even though a quality assessment was done, it was conducted by one researcher only, potentially limiting the quality of the study results.

Fourthly, fifteen out of the sixteen studies used qualitative research methods or mixed research methods with qualitative methods included. Therefore, the study heavily relies on barriers and facilitators discovered during qualitative research. There might be additional aspects that are specific to quantitative research methods that have not been discovered during this review. For instance, participants in quantitative research are more likely to reveal personal or uncomfortable information due to the anonymity associated with e.g. surveys and not in-person examinations. Quantitative research might be able to discover barriers and facilitators to research inclusion that are personal to the participants. Additionally, quantitative research is said to be more representable due to a larger sample, thereby allowing quantitative research within this domain to determine which barrier and facilitator is more common and potentially holds more weight.

Recommendations

This review has identified and described numerous barriers and facilitators in the context of LGBTQIA+ individuals participating in research. However, it is important to note that this is an evolving research domain and future studies will continue to provide information. This topic should be kept updated by future research. Additionally, it is worth noting that only some studies have directly investigated the experiences of LGBTQIA+ individuals regarding barriers and facilitators to research participation. There is a need for further research that directly investigates the experience of LGBTQIA+ individuals in research to identify new barriers and facilitators and

assess those already presented. Moreover, mostly research with qualitative research methods has been examined, calling for a need to further investigate other research methods. It might also be interesting to study the differences between qualitative and quantitative research methods in the future to examine whether, for instance, individuals feel more comfortable sharing private aspects that act as a barrier to research participation through anonymous quantitative research like online questionnaires.

Moreover, organisations that have established ethical principles for sex and gender measurement, such as the American Psychological Association, should openly integrate information on respectful and inclusive measurement practices. This can enhance researchers' awareness and accessibility to specific information to ensure an inclusive approach to sex and gender measurement. By adopting the recommendations established in this review and by previous research, even studies outside of sex and gender studies can implement inclusive sex and gender measurement. While the generalisability and accuracy of the presented barriers and facilitators require further research, this rapid review has provided a comprehensive range of barriers and facilitators to consider when planning research involving the LGBTQIA+ community. These findings might enable the inclusion of the LGBTQIA+ community in research by guiding researchers in using appropriate recruitment strategies, measuring in a respectful manner and focusing on constructing collaborative, transparent and inclusive research.

Conclusion

This review provides valuable insights into the barriers and facilitators to the inclusion of the LGBTQIA+ community in research. Key findings include the importance of principles of trust, transparency, honesty, collaboration and respect. Building a foundation of respect and trust throughout all stages of research, while also prioritising confidentiality and inclusiveness, is essential. Effective means of recruiting participants, such as LGBTQIA+ organisations, schools and healthcare providers, social media and respondent-driven sampling should be employed. Practical matters, motivational factors and language choices must be viewed from the perspective of participants. Future studies should directly investigate participants' experiences to identify new factors and evaluate existing ones. Moreover, it is crucial to establish ethical guidelines that promote inclusive measurement practices. By adopting recommended strategies and focusing on the key principles, researchers can improve research inclusivity for the LGBTQIA+ community.

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Appendix

Appendix A. Search String

"inclu* research*" OR "research* inclu*" OR "research* particip*" OR "particip* in research*" OR "study particip*" OR "particip* in study*" OR "co-design*" OR "involv* in research*" OR "research* involv*" OR "research* represent*" OR "represent* in research*" OR "sample divers*" OR "divers* in sample" OR "research* divers*" OR "divers* research*" OR "divers* in research*"

"gender minorit*" OR "sexual minorit*" OR "sexual* divers*" OR "gender divers*" OR "gender ident*" OR "sexual* ident*" "sexual orient*" OR LGB* OR gay OR queer OR homosex* OR lesb* OR transgender OR "lgb* inclus*"

barrier* OR obstacle* OR difficult* OR challenge* OR issue* OR problem* OR disenable* OR hindrance* OR hindering* OR practice* OR strateg* OR technique* OR facilitat* OR motivat* OR enable* OR involv*

Appendix B. JBI critical appraisal tool for qualitative research

	Yes	No	Unclear	Not applicable
1. Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☐	☐	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐	☐
6. Is there a statement locating the reseacher culturally or theoretically?	☐	☐	☐	☐
7. Is the influence of the researcher on the research, and vice-versa, addressed?	☐	☐	☐	☐
8. Are participant, and their voices, adequately represented?	☐	☐	☐	☐
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis or interpretation, of the data?	☐	☐	☐	☐

Overall appraisal: ☐   Include ☐   Exclude ☐   Seek further info. ☐