Let's chat about sex, baby!

Leveraging chatbots for sexual health promotion

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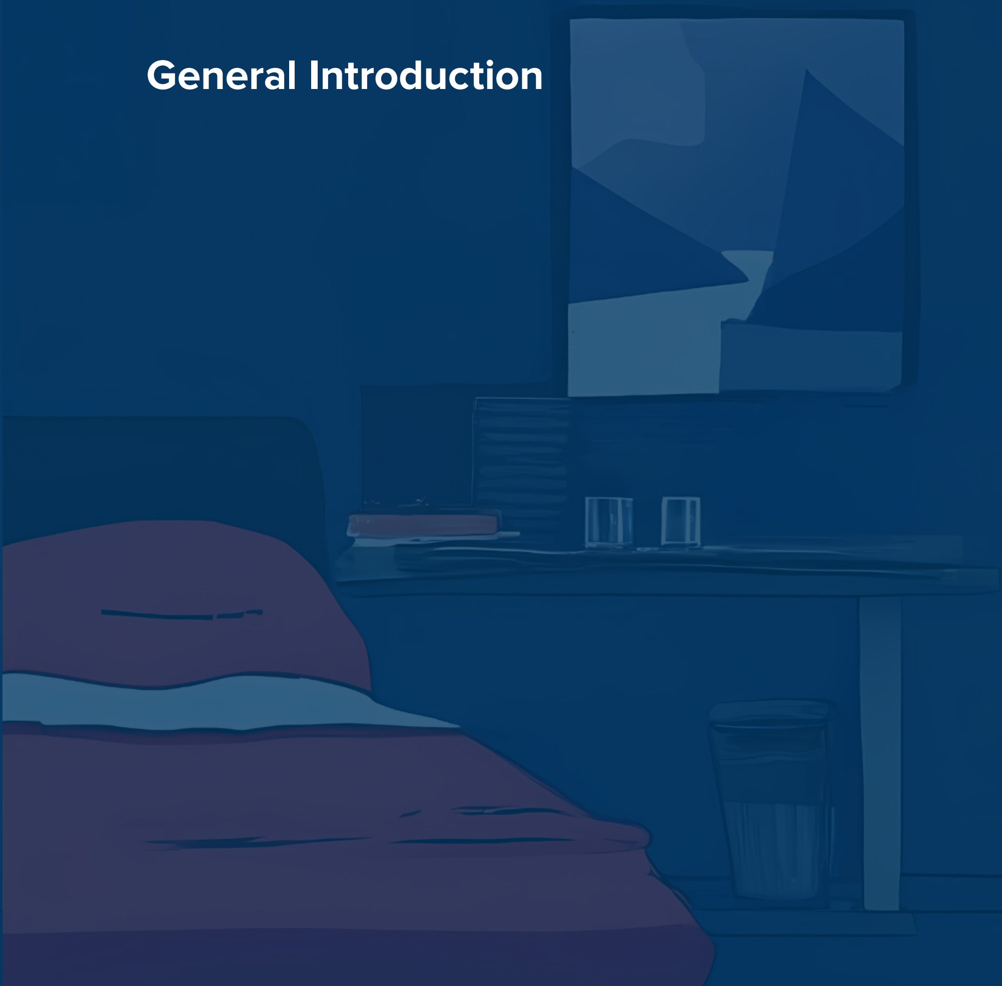
CHAPTER 1

General Introduction



General Introduction

The increasing prevalence of sexually-transmitted infections (STIs) poses a significant public health concern. More than one million STIs are acquired everyday worldwide, and repetitive and untreated STIs increase the risk of long-term health issues such as infertility, cancer, and susceptibility to the human immunodeficiency virus (HIV). A report from the European Centre for Disease Prevention and Control discusses the “sharp increase” in STIs across the European Union, and the resulting challenges such as long-term health complications and increasing antibiotic resistance (Geretti et al., 2022). Young adults are at a particularly high risk for acquiring STIs; a recent national Dutch surveillance report (Kayaert et al., 2024) found that as of 2023, the number of STI-positive cases has increased among those aged 15-24 years, and STI positivity (in %) was observed to be the highest in both women and heterosexual men below the age of 20 (in comparison to other groups identified in the survey).

Condom use remains one of the most effective methods to prevent STIs. Contrary to popular belief, research suggests that young people tend to be more consistent with condom use during casual sexual encounters, and become less so in new, monogamous relationships (Comer & Nemeroff, 2000; Fielder & Carey, 2010; Lewis et al., 2012; Milhausen et al., 2013). Reasons for this include linking condom use solely to pregnancy prevention (Crosby et al., 1999; Milhausen et al., 2013; Sanders et al., 2006), conflating newly-found monogamy with little-to-no STI risk (Kershaw et al., 2012; Warren et al., 2012), and seeing non-condom use as an expression of intimacy and trust (Agnew et al., 2017; Bolton et al., 2010; Manlove et al., 2011). Even if a new relationship is perceived as monogamous, the likelihood of an STI diagnosis only decreases about four to six months after the last sexual partner (Mercer et al., 2018). This counterintuitive finding highlights new, young couples as a sub-group that may benefit from interventions to encourage condom use during the initial stages of their relationship.

Couples as an Intervention Target Group

In contrast to other health domains, sexual health has a uniquely inherent dyadic focus which poses an additional layer of complexity for interventions that seek to promote safe sex practices. The practice of most health behaviors (e.g. doing more exercise, eating healthy food) is *intrapersonal*; that is, the behavior emerges from the individual. In contrast, sexual health behaviors usually take place within the context of two individuals and their *interpersonal* dynamic (Mitchell, 2015). Therefore, the practice of such behaviors (e.g. the decision to use condoms) does not lie with a single individual but is the product of the interpersonal processes that occur between *both* individuals in the relationship (Karney et al., 2010; Mustanski et al., 2014; Vasilenko, 2022). Consistent with this, a recent review suggests that in-person-delivered safe sex interventions that target couples together can be more effective than those targeting individuals alone (Fu et al., 2023). Unfortunately, in-person-delivered interventions face limitations such as inaccessibility to at-risk groups, delayed care, low/inconsistent adherence to protocol and costs borne by patients (WHO, 2019), as well as couples-related challenges e.g. relational conflict, disagreements about goals, and balancing multiple perspectives (Gouin & Dymarski, 2024; Starks et al., 2018). Therefore, while we can agree that taking a couples-focused approach to sexual health promotion may be beneficial, the approach requires careful consideration. We begin by turning our attention to the potential of digital health interventions for sexual health for this purpose.

Digital Sexual Health Interventions…

Advantages of DHIs for Sexual Health

Digital health interventions (DHIs) are considered a promising solution to promote sexual health for at-risk groups, including young adults. DHIs refer to the use of digital technologies, such as smartphone applications, websites, conversational agents, and virtual reality, to improve health outcomes, and may be either fully-automated or include partial human intervention (Berendes et al., 2021; McCoy & Packel, 2020). DHIs can be designed to support health in several ways, for example, by using strategies to encourage healthy behaviors, delivering education and increasing awareness, providing reminders, supporting self-monitoring, and enabling remote consultations (Murray et al., 2016). They have several significant advantages that make them an attractive solution for addressing sexual health concerns in young people.

1. DHIs overcome the barriers commonly associated with human-delivered interventions, such as facilitator training, material costs, and inconsistency during intervention delivery. DHIs are a scalable, cost-effective solution that can more readily reach the wider population, including at-risk and marginalized groups, who may not seek sexual health care, or find it difficult to do so (McCoy & Packel, 2020).
2. Most young people have internet access and own at least one mobile device (Silver, 2019), and technology is deeply intertwined with their daily lives. DHIs are therefore able to leverage the convenience, accessibility and comfort afforded by platforms that are already in extensive use by this group, such as text messaging, websites and smartphone applications (Wadham et al., 2019).
3. The sensitive nature of sexual health is supported by the non-judgment afforded by digital platforms. Social stigma remains a significant barrier to young people seeking help from sexual and reproductive health services, and it is important for these

services to be delivered in a friendly, non-judgmental manner (Ambresin et al., 2013; Braeken & Rondinelli, 2012).

4. DHIs support a host of health-supportive design features that can implemented efficiently at a large scale. Examples include offering content that is tailored to specific target groups and personalized to the individual, providing asynchronous and immediate feedback, and leveraging technical capabilities, such as offering structured information from reliable sources, querying answers to questions from carefully-curated databases, and providing reminders (Morrison et al., 2012).
5. Digital technologies can mediate communication between humans, which may be a particularly important functionality for couples-based interventions. Studies show that individuals experience reduced (public) self-awareness and increased comfort when communicating with another human through a digital medium (e.g. chat rooms) (Caplan & Turner, 2007; Joinson, 2001; Reynolds et al., 2016). This may be beneficial in addressing concerns surrounding the potential awkwardness and sensitivity of traditional couples-based interventions that require individuals to be physically present together.

Current Limitations of DHIs for Sexual Health

A number of systematic reviews have been published concerning the use and effects of digital technologies for sexual health promotion (e.g. Bailey et al., 2015; Burns et al., 2016; DeSmet et al., 2014; Wadham et al., 2019; Sewak et al., 2023). The findings from these reviews provide evidence in favour of their effectiveness across several sexual health-related behaviors and target groups, although the authors note several gaps that require attention from further research.

First, DHIs for sexual health have an extensive focus on HIV treatment and prevention in individuals that are HIV-positive or at risk for HIV; markedly fewer interventions addressed general STI prevention and condom use. **Second**, DHIs for sexual health use older and potentially less-engaging platforms such as text-messaging and websites – this is in stark contrast to other health domains that leverage more novel technologies such as conversational agents (Aggarwal et al., 2022), social robots (Robinson et al., 2019), and virtual reality (Pira et al., 2023). **Third**, DHIs for sexual health, as in other health domains, are associated with declining user engagement over time, defined either experientially or behaviorally. This is problematic, as research has indicated that user engagement is crucial in determining intervention effectiveness as it drives users to interact with the technology, and therefore with the intervention itself (Cole-Lewis et al., 2019; Perski & Short, 2021). Indeed, several studies have found that participants who experienced the highest engagement with the DHI (i.e. highest intervention exposure) also saw greater health benefits (Delaney et al., 2021; Eaton et al., 2024; Edney et al., 2019). **Fourth**, there is a distinct lack of DHIs for sexual health that target couples despite the dyadic nature of sexual health behaviors. The few examples that can be found in the literature are eHealth toolkits that explicitly focus on HIV prevention and rely on either websites or desktop applications (Leblanc et al., 2022; McMahon et al., 2021; Mitchell et al., 2020; Pettifor et al., 2014). In their review, Mitchell (2015) confirms this trend, and additionally points out that technology has primarily been used with couples for recruitment, data collection and intervention development (i.e. telehealth) rather than intervention delivery itself.

In sum, it is important to investigate how we can address STI prevention (through condom use) among new, young couples in a way that leverages newer technologies, supports user engagement, and most importantly, takes into account the dyadic nature of sexual health behaviors. To this end, we describe below how conversational agents, or chatbots, can be a potential solution to address this gap.

…And Why Conversational Agents?

Advantages of CAs for Delivering DHIs

Conversational agents (CAs) are computer programs that are able to simulate multi-modal (e.g. text, voice, gestures) natural language conversations with humans (de Bruijn et al., 2025). In this dissertation, we specifically focus on text-based chatbots, and refer to these agents interchangeably as conversational agents or chatbots.

In the health domain, CAs have been increasingly studied for their capacity to deliver digital health interventions (Bin Sawad et al., 2022; Car et al., 2020a; Gabarron & Wynn, 2016; Milne-Ives et al., 2020; Montenegro et al., 2019; Wilson & Marasoiu, 2022; Xue et al., 2023; Laranjo et al., 2018). They share all of the advantageous characteristics associated with digital health interventions (DHIs); however, they are unique in their capacity to engage with users through natural language, and this makes them particularly suited to our context:

1. They can hold natural conversations, which can be a more engaging way to receive health information (Skjuve & Brandtzæg, 2018)
2. They mimic the interactions that young people have through instant messaging with other people, which is second-nature to them and deeply entrenched in their daily lives (Skjuve & Brandtzæg, 2018b)
3. Their dialogical nature allows complex information to be broken down and presented in ‘chunks’, while checking in with the user at one or more points during the conversation

– this can be an effective and authentic way to ensure that the information is relevant and easily understood by users (Mills et al., 2023)

4. They enable the use of effective language- or conversation-based strategies (e.g. backchanneling (Cho et al., 2022), active listening (Xiao et al., 2020)) and behavior change approaches (e.g. motivational interviewing (Miller & Rollnick, 2012)), which are challenging to implement through non-conversation-based interfaces.

In light of the above-mentioned characteristics, conversational agents may be in an excellent position to address sexual health in new, young couples. Through natural language and its resemblance to day-to-day interactions, chatbots are able to act as a communication partner, moreso than graphical interfaces such as smartphone apps and websites. Extending this notion, chatbots can be an *additional* communication partner in a couples context; that is, the chatbot does not merely mediate human-human conversations (e.g. enabling couples to talk to each other), but is able to actively facilitate dyadic interactions between the two individuals as a third communicative entity. Chatbots can therefore address the dyadic nature of sexual health by creating a *triadic* communication context. In this way, they can support couples' sexual health by facilitating open dialogue and communication, which is important for dyadic functioning and positive sexual health outcomes (Newcomb, 2020; Newcomb et al., 2021; Widman et al., 2006, 2014, 2022), and can even mimic effective person-delivered couples-based sexual health interventions (Jiwatram-Negrón & El-Bassel, 2014; LaCroix et al., 2013).

Towards Exploring CAs for Sexual Health Promotion

Conversational agents have gained popularity for delivering sexual health interventions over the last decade, and several recent reviews have explored their potential for promoting sexual health outcomes (Fetrati et al., 2024; Mills et al., 2023; J. Park et al., 2023; J. K. Park et al., 2024). From a sexual health point of view, these CA-based interventions face the same limitations we previously discussed for sexual health DHIs; that is, they focus on HIV in lieu of other STIs in general, utilise older digital platforms (such as SMS), and do not take a couples-focused approach to sexual health promotion i.e. through triadic chatbot interactions.

In order to explore how users respond to these CAs for sexual health promotion, the above reviews looked at both quantitative (i.e. surveys) and qualitative (i.e. interviews and open-ended responses) user evaluation outcomes with CAs for sexual health such as *acceptability* i.e. intent to adopt the system, *user engagement* i.e. actual system usage, *usability* e.g. ease of use, and any other perceived benefits and shortcomings (Fetrati et al., 2024). Survey data indicates that sexual health CAs are associated with strengths such as their ease of use, accessibility, anonymity, confidentiality, comfort, non-judgment, as well as their interactive and engaging nature (Fetrati et al., 2024; J. K. Park et al., 2024). However, according to Fetrati and colleagues (2024), participants in less than half of the studies expressed an interest in continuing to use the chatbots after study completion, and/or would recommend the chatbot to someone else. Based on limited qualitative data, the reviews identified barriers to user engagement with CAs included (1) technical limitations such as understanding user input and error handling, (2) limited responses and content lacking context and depth, (3) limited *naturalness* of the conversation (3) the lack of humanlike traits (i.e. empathic-sounding responses), and limited belief in their capacity to (4) provide truly useful and personalized recommendations and judgments, and (5) address the emotional aspects of sexual health (Nadarzynski et al., 2021a; J. Park et al., 2023).

In short, the above reviews suggest that people perceive chatbots positively in many ways but are not inclined to continue using these chatbots in the future, hinting at the need to address barriers to user engagement. However, we lack the necessary qualitative data to bolster our understanding of *why* participants experience low engagement and usage intentions, which makes it challenging to take appropriate steps to address these concerns in our own chatbot designs.

The lack of sufficient qualitative data to inform design is particularly pronounced for a couples chatbot, given the scarcity of couples-based digital sexual health interventions in the literature. Participatory design may be one useful approach to address this issue. Park and colleagues (2024) propose that highly engaging, acceptable and beneficial sexual health CAs require engaging with young people early on in the design process, as this can ensure that their needs are met, and barriers to user engagement are addressed. Participatory methods, such as user-centered design and co-creation, have successfully been used to design engaging mental health chatbots (Bendotti et al., 2024; Easton et al., 2019; Grové, 2021; Potts et al., 2021). The capacity for participatory methods to drive innovation makes it particularly valuable for us considering the novelty of couples-based chatbots and triadic interactions.

Overall, we have now (1) illustrated the need for improved conversational agents that can engage new, young couples through interactions about condom use towards STI prevention, (2) emphasised the importance of ensuring adequate user engagement, (3) underscored the need for qualitative research that increases our understanding of user engagement with chatbots, and (4) advocated for the use of participatory design methods to increase user acceptance of novel technologies such as couples-based chatbots.

This dissertation approaches the above through the design and evaluation of two chatbots: Mish[1], which interacts with individual users, and MishSync, which interacts with couples as users. In chatbot Mish, we follow the predominant approach taken by current sexual health CAs i.e. addressing individuals as users, with the goal of exploring how a chatbot may be better able to deliver a sexual health intervention by increasing engagement and supporting a positive user experience that encourages use. Then, through MishSync, we additionally address the lack of couples-focus in previous sexual health CAs through a novel couples-based chatbot to explore the potential of CAs to deliver engaging sexual health interventions that address *both* individuals in a couple instead of just one. With the proposition of these two chatbots that we will design in this dissertation, it naturally follows that the designed agents should be evaluated, and we do so through user acceptance.

User Acceptance

The success of any technology hinges on whether people use it. This is more so the case for digital (sexual) health interventions, where if people do not interact often enough with the technology itself, they do not interact with the intervention components that have been so carefully designed, leading to reduced intervention effectiveness (Cole-Lewis et al., 2019; Yardley et al., 2016). Our goal is therefore to not only design but also *evaluate* the two conversational agents (Mish and MishSync) by researching through qualitative means how users perceive their interactions with them and, their inclination towards continued use.

User acceptance of technology (known interchangeably as “technology acceptance”) relates to the usage of the technology, or the intention to use it, and is considered the “pivotal factor determining the success or failure of a [technology]” (Davis, 1993, p. 475). User acceptance models include a set of factors that are said to predict the user’s attitude and intention towards using the technology, and use itself. Users’ perceptions along these factors (e.g. assessed through surveys) can shed light on which aspects of the interaction contribute to technology acceptance. Davis (1989) proposes that user acceptance models help researchers and designers understand if users would use a given technology and, if not, how it could be improved so that users engage with the technology more.

1 “Mish” stands for “Motivational Interviewing for Sexual Health”, whereas MishSync refers to a variant of Mish that has been designed to encourage couples to be in “sync” with each other. The chatbots’ names and their relevance will be further clarified later in this dissertation.

However, the user acceptance factors present in these models (e.g. ease of use) are typically assessed through quantitative surveys, and the questions are often broadly worded Likert-scale items (e.g. I find the technology easy to use”). In turn, participants’ responses capture only broad notions related to user acceptance (“e.g. I found the technology difficult to use”) and lack additional details about *why* they perceived it in this way, leaving it unclear how to address this perception through design to increase acceptance. On the other hand, exploring the underlying reasons for participants’ perceptions through qualitative methods (e.g. interviews) can highlight *why* users perceived the technology in a certain manner (e.g. “I found the technology difficult to use *because* I didn’t know what to do next), which can inform mindful and specific design choices. Based on the above, we adopt a qualitative approach to researching the user acceptance of Mish and MishSync.

That said, user acceptance models can still be used as tools to support the qualitative study of users’ perceptions and their acceptance towards a specific technology. The factors present in these models have been included because researchers have hypothesized, identified and/or confirmed them as being relevant for predicting user acceptance; using a user acceptance model allows us to focus on factors that are already known to be important from quantitative approaches. Therefore, the factors present in user acceptance models can guide the specific questions asked during interviews, while the interviewer is additionally able to probe the participant about the reason underlying their responses. A few studies illustrate the approach of selecting a user acceptance model to guide the interviews within the context of an mHealth app for diabetes management (Schretzlmaier et al., 2022), as well as health chatbots for disease diagnosis (Laumer et al., 2019) and vaccination uptake (Kim et al., 2021). However, this approach has not yet been taken for chatbots for sexual health purposes.

There are several user acceptance models, and they differ somewhat in the factors that are thought to predict technology use, begging the question of which model may be best suited for guiding the qualitative evaluations of our two chatbots. Popular user acceptance models, namely TAM and its extensions, tend to explain relatively low variance in the intention to use health chatbots (Iancu & Iancu, 2023; Kim et al., 2021; Liew et al., 2023; Pang et al., 2024; A. Wang et al., 2024). This may stem from their domain-agnostic nature; while this can be an advantage, such models run the risk of ignoring highly contextualized factors that can significantly contribute to user acceptance. Researchers are increasingly supportive of the idea that user acceptance is domain-specific, and have taken to expanding the above-mentioned models to include context-specific factors. Studies focusing on user acceptance for health technologies, for example, have included factors such as trust (Laumer et al., 2019; Pang et al., 2024; Schretzlmaier et al., 2022), privacy

& compatibility (Laumer et al., 2019), and self-actualization (S. Yu & Chen, 2024). The context-specific nature of user acceptance therefore leads us to not embrace a single model to guide our research. Taking a similar approach to the above-mentioned studies, we instead adopt the DeLone and McLean Information System Success model (DeLone & McLean, 1992) as a starting point for our research under the premise that chatbots can be categorized as a novel type of information system enabling interactive, two-way exchanges through natural language. Specifically, we use this model as a lens to view the user acceptance literature surrounding conversational agents for sexual health promotion (Chapter 2), and by doing so, we identify a set of factors, which may or may not be present in the original model, that are specific to our context which will guide the remainder of the studies in this dissertation.

Aim

In light of all that has been discussed above, the main aim of this dissertation is to design, and assess the user acceptance of, two conversational agents that target condom use in new, young couples for (1) individual use, and (2) couple use.

Research Questions

As mentioned, the aim is to design and evaluate two chatbots: one for individual use (Mish), and one for couple use (MishSync). Given the novelty of this field, this dissertation takes a progressive approach by allowing each study to build on the previous (see Figure 1). Through this research, we answer the following research questions:

RQ1: What are the characteristics of conversational agents used for sexual health promotion, and what evidence exists regarding their effectiveness and acceptability?

RQ2: How do new, young couples perceive Mish, a chatbot for individual sexual health counselling that has been designed to promote condom use?

RQ3a: How can we design a couples-based chatbot to promote condom use in new, young couples?

RQ3b: How do new, young couples perceive MishSync, a chatbot for triadic interactions that has been designed to promote condom use?

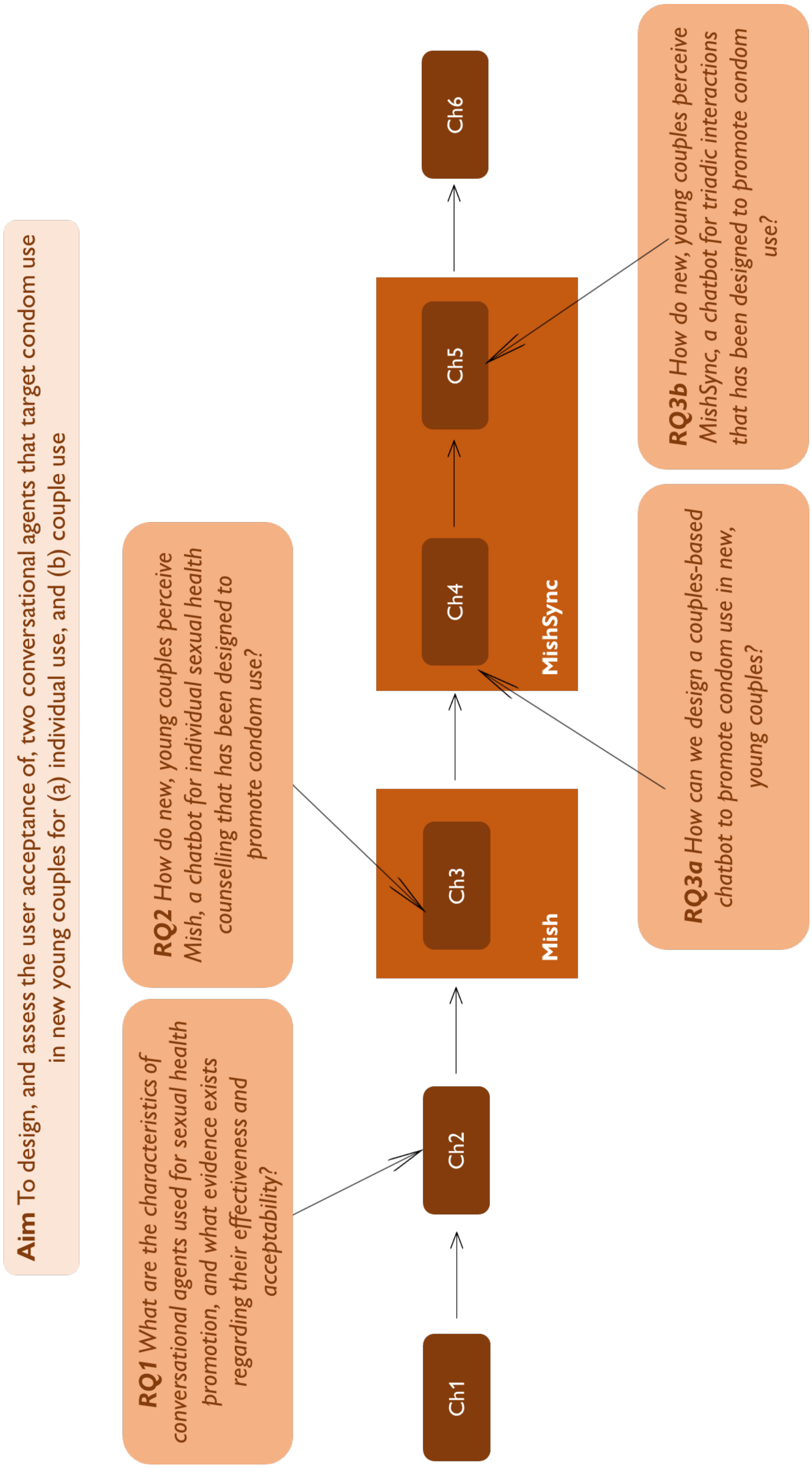


Figure 1. Dissertation Overview

Dissertation Outline

In line with the studies described below, a summary of the two chatbots (Mish and MishSync) can be found in Table 1.

Chapter 2 Before any efforts to develop conversational agents of our own, we wanted to understand the previous work done in this area. To that end, we answered **RQ1** with the help of a systematic review and meta-analysis of existing conversational agents in the literature that address sexual health promotion. The aim of this study was three-fold: (1) provide an overview of chatbot- and intervention- characteristics of sexual health CAs, (2) summarize how effective these CAs are for different sexual health behaviors using a meta-analysis, and (3) determine the extent to which users found these CAs acceptable, with the intent of identifying a set of user acceptance factors that can guide the development and evaluation of the subsequent chatbots.

Through the lens of the DeLone and McLean Information System Success model (DeLone & McLean, 1992), we identified a set of factors that were likely to inform the user acceptance of conversational agents for sexual health promotion; these could be broadly thought of as being domain-agnostic (system quality, information quality, user satisfaction, usage intentions, privacy, trust), or domain-specific to sensitive healthcare contexts such as sexual health (social presence, comfort, emotional support). These factors formed the user acceptance model that was used to guide the evaluation of Mish and MishSync in the subsequent chapters.

Interlude We describe how exactly the findings of Chapter 2 informed the subsequent studies, specifically the design of Mish, and the evaluation of Mish and MishSync.

Chapter 3 As the name suggests, we designed Mish (Motivational Interviewing for Sexual Health) to use motivational interviewing (MI) principles and techniques to counsel young individuals to use condoms in a new, exclusive relationship. We used a top-down approach to design Mish; utilizing the manual by Miller and Rollnick (2012), we structured the interaction based on the four stages of MI, and operationalized the basic MI techniques into concrete dialogue flows.

To address **RQ2**, Chapter 3 describes a qualitative study in which individual participants (N=23) interacted with a fully-functional Mish, after which they were interviewed about their experience; the interview guide was developed on the basis of the factors identified in Chapter 2.

MI has the potential to be an engaging, interactive and autonomy-supportive approach to behavior change. However, prior research has highlighted the challenges of translating the “human” element of MI into a digital context, albeit using non—conversational platforms. In this study, we address how MI can leverage natural language and be successfully translated to conversational agents within the realm of sexual health. The aim was therefore to focus how participants experienced this interaction in terms of the MI implementation and relevant therapeutic outcomes: comfort, therapeutic alliance, and self-disclosure.

Chapter 4 Through this chapter, we address **RQ3a** by describing how we designed MishSync for the same target group and behavior (i.e. condom use in new, exclusive relationships), instead addressing couples as users (rather than individuals as users). In light of the limited research in this area, there was a lack of literature available to guide the design of a couples-based CA for sexual health promotion. Based on the above background, it was decided to approach the design of MishSync in a bottom-up manner through the three-step user-centered design approach described in this chapter.

First, we piggybacked off the study conducted in Chapter 3 by adding a formative question about how users envisioned a couples-focused chatbot designed for the same purpose. Second, we conducted a one-day design thinking workshop with sexual health counselors, and used the findings from users as additional input for the workshop tasks. The activities resulted in two sets of design guidelines, as well as a paper-and-pen prototype of a chatbot interaction. Finally, the design guidelines were used to adapt the prototype into concrete dialogue flows.

Chapter 5 Building off Chapter 4, we finally address **RQ3b** by evaluating MishSync with young couples that are in new, exclusive relationships.

Largely consistent with the methodology outlined in Chapter 3, Chapter 5 describes a qualitative study in which couples (N=10) interacted with MishSync, after which they were interviewed about their experience. The interview guide was once again developed on the basis of the factors identified in Chapter 2 but was modified based on our learnings from Chapter 3. We implemented the chatbot through the wizard-of-oz paradigm, in which a human pretends to be the chatbot without revealing their identity to the participant during the study. The methodology was adapted for the couples context; specifically, couples took part and interacted with the chatbot together at the same time but were interviewed separately one after another, and the interview transcripts were coded both on an individual- and couple-level to gain additional insights.

Chapter 6 The final chapter provides a general discussion and conclusion based on the findings of the empirical chapters, and addresses the theoretical, methodological, and practical implications, along with limitations and directions for future research.

Table 1. Overview of Chatbots: Mish and MishSync

	Mish	MishSync
Intervention Characteristics		
Target Group	New, young couples in exclusive relationships	New, young couples in exclusive relationships
Target Users	Young individuals in new, exclusive relationships	New, young couples in exclusive relationships
Target Behavior	Condom use	Education & awareness, Intra-couple communication
Theoretical Framework	Motivational Interviewing	-
Design		
Design Approach	Top-down	Bottom-up (user-centered design)
Chatbot Components	The chatbot guided users through the following motivational interviewing stages: • Engage • Focus • Evoke • Plan	The chatbot interacted with couples via triadic (i.e. group chat) and guided them through the following activities: • Icebreakers • Text adventure • Quiz
Technical Implementation	Fully-automated	Wizard-of-Oz
Evaluation		
Sample	Heterosexual, sexually-active individuals between 18 and 25 years old	Heterosexual couples in a new relationship (6 months or less) between 16 and 20 years old
Method	Individual, semi-structured interviews	Individual, semi-structured interviews
Constructs of Interest	• User Experience • Information Quality • Comfort and Self-Disclosure • Therapeutic Alliance • Motivational Interviewing • Usage Intentions	• User Experience • Information Quality • Therapeutic Alliance • Usage Intentions • Interaction Activities
Analysis	Hybrid thematic analysis on the individual-level	Hybrid thematic analysis on the individual- and couple-level

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