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Contributions of young people in dialogue with scientific evidence on sexual consent

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Scientific research increasingly underlines the importance of a community science focus in research. It explains the importance of engaging young people in scientific research and the consequences of this in improving science. However, there is less literature addressing how this dialogue with scientific evidence also influences research participants' empowerment in seeking concrete solutions and even proposing and/or transforming current interactions they have in different environments. This research aims to shed light on the theory and methodology procedure that enables young people aged 18–25 to be engaged in a scientific dialogue on sexual consent that challenges their own realities. In the framework of the CONSENT project (PID2019-110466RB-I00), a questionnaire script was co-created by the researchers, young people, and the project advisory committee, and later 50 daily life stories and 7 focus groups were conducted. Results show how, as the dialogue and access to scientific evidence progressed, ideas that influence the concrete understanding of consent arise, which is a previous requirement to promote spaces free of coercion and favour their freedom and that of the people with whom they relate. The implications of these results are twofold; on the one hand, the results generate a social impact on the lives of these young people and the people they meet, while on the other hand, their participation implies improved information that should be incorporated into sexual consent awareness campaigns.

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Introduction

Citizen participation in science is increasingly viewed as a benefit for both science and citizens, with citizens increasingly asserting their right to access scientific knowledge and its benefits to society (Atias et al., 2023; Cabré-Olivé et al., 2017). Article 27 of the Universal Declaration of Human Rights (UN General Assembly, 1948) recognizes this right and emphasizes that access to scientific progress and advancement is essential for human development and well-being. This promotion of citizen engagement in science for social impact by institutions has become increasingly relevant (European Commission, 2018).

Citizen participation denotes the active involvement of citizens in public decision-making processes, but its interpretation varies depending on the constituents of “citizens” and the extent of “participation” (Baum, 2015). This emphasis on broader participation extends beyond political contexts, with contemporary democracies recognizing the importance of involving citizens in scientific research as well. Various terms, such as “citizen science,” “public participation,” or “social participation in scientific research,” are used to describe similar approaches that explore the relationship between science and society (Llorente et al., 2021). While the precise implications of “citizen” and “science” may vary due to different factors and circumstances, citizen science serves as a broad indication of the interplay between science and society within a particular country (Roche et al., 2021). These diverse contributions have sparked discussions on how this participation should be approached and understood.

While growing citizen participation in science has taken place in recent years, some scientific disciplines, especially in biology, conservation and ecology, have been long incorporating citizen participation, particularly in processes such as data collection (Kullenberg and Kasperowski, 2016; Phillips et al., 2019; Pocock et al., 2017). However, it is also known that the level of citizen participation in science is relevant as deeper levels of participation trigger more engagement than shallower ones. Theoretical contributions such as Co-creation and Social Impact led by CREA (Soler-Gallart and Flecha, 2022), allow us to understand the greatest potential impact for the people involved in these processes. A prominent example demonstrating the impact of co-creation is the European Commission’s acknowledgment of the Roma community as a distinct ethnic minority in 2005, achieved through FP5 Workaló (CREA, 2004), a groundbreaking project that led the way in co-creation implementation (Munté et al., 2011). The evolving role of research participants from being mere “subjects” or “participants” to active “co-creators” in scientific research reflects the changing landscape of science participation (Flecha, 2020).

Co-creation and communicative research methodology: pioneering science participation for social transformation. The social transformation has also taken place in social sciences, where the recognition of the importance of involving participants as active collaborators has gained prominence. In fields like sociology, psychology, and anthropology, researchers now strive to engage with participants as partners in the research process, valuing their insights and contributions to foster a deeper understanding of complex social phenomena. This shift towards co-creation has opened new avenues for producing more inclusive and impactful scientific knowledge across various disciplines.

While science participation and co-creation have gained significant popularity in recent years, it’s crucial to recognize that certain research methodologies have long been dedicated to fostering dialogue between science and society for the purpose of social transformation. The Communicative Methodology (Gómez et al., 2006) stands out as a pioneer in embracing dialogic

principles and incorporating co-creation and social impact criteria in many different areas, with recognition from the European Commission (Redondo-Sama et al., 2020; Roca et al., 2022). Since its inception, this approach has been purposefully designed to facilitate meaningful interaction between researchers and citizens, enabling collaborative efforts toward generating research outcomes that have a positive and transformative effect on society (Gómez et al., 2011).

The Communicative Methodology has demonstrated its effectiveness in incorporating participants’ voices through an intersubjective dialogue and yielding positive social impacts even among vulnerable populations like victims of sexual violence (Gómez et al., 2019). The communicative paradigm inherent in this approach emphasizes the importance of generating valuable scientific knowledge through interactive exchanges with the researched groups (Sorde-Marti and Mertens, 2014). This is why this methodology was considered the most suitable to engage in an egalitarian dialogue about the scientific evidence on sexual consent with young people in order to enhance a community science focus. Despite growing research on citizen participation and its role in scientific progress, there is less research on specific groups, such as young people, and the benefits that accrue from their participation and engagement in different scientific processes (Del Bianco et al., 2021; Jacob et al., 2022) which is the gap that this article aims to fill.

Citizen science with youth. This evolution of science, in which citizen participation is being incorporated as a matter of course, is already including the participation of groups that have traditionally been excluded from science such as: women, youth, immigrants or ethnic and cultural minorities, producing benefits both for scientific advancement and for the participating communities themselves (*ALLINTERACT*, European Commission, H2020, SwafS-20-2018-2019). According to the European Union and the United Nations, young people are considered a vulnerable group for a number of reasons, including the fact that one-third of Europe’s youth population is at risk of social exclusion as for their reduced access to social values and institutions (European Union, 2018; Puigvert et al., 2022). Access to science education is presented as one of the elements with the greatest potential to reduce this vulnerability (Xiao and Sandoval, 2017; Ennes et al., 2022).

Some of the activities taking place to bring science closer to young people are being carried out by some informal science learning institutions such as museums of all kinds of other extracurricular science education programmes that have been concerned with fostering a scientific spirit in young people (Ghadiri Khanaposhtani et al., 2022; Gairal-Casadó et al., 2019). Other types of citizen participation, such as *BioBlitzes* are known to involve citizens, more specifically the youth population, in this case for a day, in projects mainly consisting of data collection and conservation tasks (Lorke et al., 2021). Most of these citizen participation initiatives have demonstrated a positive impact on citizen engagement in science. However, there is little research on promoting participation at deeper levels of the scientific process, such as co-creation, in the youth population. With a focus on young people aged 18–25, this research seeks to shed light on the theory and methodological procedure facilitating their active involvement in a scientific dialogue on sexual consent, effectively challenging their individual realities.

Methods

The methodology utilized in this research, Communicative Methodology, highlights two key elements, both rooted in intersubjective dialogue. Firstly, the data collection instrument, the

Table 1 Members and profiles of the project's Advisory Committee.

Profile	Participation	Description
Professional working with youth	Entity level	Head of department of a youth leisure and recreation foundation
Professional working with youth	Entity level	Manager of programmes for the inclusion of women in the labour market in a youth leisure and recreation foundation.
Professional working with youth	Entity level	Director of the Technical Team of a platform against gender violence.
Professional working with youth	Entity level	Coordinator of the men's group and teacher in upper primary education (10-12 years)
Young	Individual level	Chemical engineer and early childhood teacher. Student with a predoctoral grant.
Young	Individual level	Student—Conservatory of Music and primary school teacher. Participant of orchestras and bands
Professional working with youth	Individual level	Associate Professor of Political Science. Experience in nightlife environments

questionnaire-script, was collaboratively designed and co-created by the researchers and the project's advisory committee. Secondly, the researchers engaged in data collection with 77 young people (18–25 years old) using the previously designed questionnaire-script, promoting an interactive dialogue on sexual consent issues that were raised through the scientific knowledge presented.

In the present research, the term “scientific” or “scientific evidence” encompasses the published findings, theories, and research studies conducted within the scientific community. This information and concepts presented may challenge or contradict previous beliefs or findings that are still being disseminated as “scientific”. As scientific knowledge evolves, new research emerges that may offer alternative perspectives or challenge existing paradigms. This research contributes to this ongoing scientific discourse by incorporating the most current information available, aiming to provide a comprehensive understanding of sexual consent that aligns with the latest scientific advancements in the field.

Design and co-creation of the instrument: the questionnaire-script. To ensure that the latest findings brought from the analysis of the 153 articles of the scientific literature review were included in the dialogues around sexual consent with youth, an instrument for data collection was designed. This instrument, a *questionnaire-script*, served two purposes: firstly, to inform participants about the latest findings on sexual consent, ensuring that they are well-informed about the current scientific understanding and best practices in the field; and secondly, to discuss situations experienced by themselves or third parties in relation to the elements provided by the scientific literature on sexual consent and coercion.

To ensure the questionnaire's relevance and effectiveness, the instrument was co-created among researchers and the Advisory Committee of the CONSENT project comprised of young individuals and experts engaged in youth-related fields such as education and leisure (see Table 1). The researchers involved in this study specialize in gender violence and sexual harassment prevention with extensive research experience in examining various aspects of sexual consent, including communicative acts. A first draft of the instrument was reviewed by the members of the Advisory Committee who made improvements that were considered and included in the final version. Thus, the *questionnaire-script* consisted of items identified by the scientific literature on consent or coercion that incorporated examples, explanations and questions by the Advisory Committee that were secured at all times by the researchers to ensure that the information was accurate and did not deviate from the original meaning.

During the fieldwork, not all concepts were introduced to all participants, as the sense of egalitarian dialogue was prioritized and many of the topics were introduced on the basis of the young people's input. However, all the concepts presented in the *questionnaire-script* were agreed upon on the basis of a scientific egalitarian dialogue. Some of the key concepts pointed out were:

Table 2 Research instruments and participants by gender.

N	Research Instrument	Male	Female	Total
50	Communicative daily life stories	18	32	50
7	Communicative discussion-groups	8	19	28
Total		26	51	77

Table 3 Participants level of education.

Educational level	Male	Female	Total
Postgraduate	3	5	8
University students	15	37	52
High School (Bachelor studies)	8	2	10
Other—Education	0	1	1
Other—Employment	0	6	6
Total	26	51	77

communicative acts, (with an emphasis beyond speech acts); institutional and interactive power (from the Theory of Dialogic Society) (Flecha, 2022); coercive discourse, as consented but unwanted; models of masculinity; pre-consent situations; and lack of information (informed consent) (Vidu and Tomás-Martínez, 2019; Orchowski et al., 2020). All of them jointly with concrete examples and questions or remarks to approach the meaning during the dialogues.

Data collection with young participants using the questionnaire-script. The data collection instruments, selected from the communicative methodology, were communicative daily life stories and communicative discussion groups (see Table 2). The sample of participants consisted of 77 young people between the ages of 18 and 25 who participated in 50 individual communicative daily life stories and 7 communicative focus groups.

Selection of participants. Participants were young adults over 18 years of age and under 25. Despite only incorporating people over 18 years of age, participants were asked about their previous trajectories and whether they identified changes in situations of coercion or consent with respect to the situations they were currently experiencing or had experienced in the past. In this way, it was also possible to enquire into the life trajectories reported by the participants, which often referred to their first affective-sexual relationships, whether sporadic or stable.

The first participants were contacted through the researchers themselves and after these, the rest were contacted through snowballing from the initial contacts. As a result of this recruitment approach, the majority of participants self-identified as “students”, more specifically as university students, also encompassing individuals from various educational levels (see Table 3). To avoid conflicts of interest in participation, for

the contacts initiated by the researchers, it was ensured that the first participants would not have the researchers as professors nor would they be evaluated in their academic activities at the university even in later years of their training.

The diversity of the participants in terms of context, educational level and geographic location in Spain was attempted, combining urban and more rural localities as the place of residence of the participants. A total of six regions of the Spanish territory were covered: Catalonia, Valencian Community, Galicia, Madrid, Basque Country, and Andalusia. All participants filled out an informed consent form prior to participating in the research where they were informed of the objectives of the research as well as their right to participate voluntarily or to withdraw from the research without giving explanations or suffering any type of consequence for doing so.

Fieldwork was conducted between the months of June and October 2021 through *Microsoft Teams* video calls that were recorded with prior consent and subsequently transcribed for analysis. All participants were anonymized so that interviewers only had access to their region and sex. It was the researchers themselves who conducted the fieldwork with young people. During the communicative life stories and the discussion groups, the researchers made use of the questionnaire-script to guide their interactions with the young participants while ensuring the accuracy of the information discussed and focusing the dialogue on evidence related to sexual consent instead of mere opinions.

The composition of the focus groups varied between 2 and 7 persons because the priority was given to the composition of natural (friendship) groups rather than a fixed number of participants. The formation of natural groups encouraged diverse perspectives within the groups and minimized the risk of conformity or group bias. Additionally, using the questionnaire-script helped ensure rigour in the research and prevented groupthink. The structured questionnaire-script facilitated a balanced and evidence-driven dialogue, mitigating the potential influence of groupthink on the discussions.

Communicative data analysis. After completing the data collection phase, the interventions were transcribed and systematically categorized. The scientific evidence on which the research is based consists of the key concepts (1) *Coercive Discourse* and (2) *Interactive Power*, which are established as the two main categories (see Table 4). As the research participants identify the coercive discourse present in many interactions, they gain insight into the significance and impact of interactive power in situations of consent or coercion.

1. Coercive discourse: refers to a communication pattern that emerges from an unequal power imbalance within relationships, promoting a socialization process that associates attractiveness with individuals displaying violent attitudes and behaviours. Simultaneously, non-violent individuals and relationships are, under the influence of this coercive dominant discourse, often perceived as convenient but lacking excitement (Puigvert et al., 2019).
2. Interactive power: refers to the influence and authority that arises from the interactions and dynamics between individuals, transcending the boundaries of institutional

power typically associated with hierarchical positions in academic or workplace settings. This form of power is context-dependent and may grant certain individuals greater influence and control in social situations, while others may have less agency in the same context. It emphasizes the significance of interpersonal relationships and communication in shaping power imbalance among people. (Rodríguez-Navarro et al., 2014).

Within both categories, other contributions and concepts have been found in dialogue with participants, as they have been directly extracted from the scientific literature and incorporated into the questionnaire-script. However, these other concepts are subsumed within the two main ones, 1 and 2. Examples of these are: consented but unwanted, informed consent, and pre-consent.

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Results

The results demonstrate how a community science focus based on the egalitarian dialogue between researchers and participants, built upon scientific evidence on sexual consent, facilitated the identification of coercion and consent elements beyond speech acts through the specific situations shared by youngsters. These narratives allowed them to contribute to redefine or deepen the concepts and also to better understand and identify what consent was about.

With the progression of dialogue and increased access to scientific evidence on sexual consent, a shift in ideas that significantly impact the concrete understanding of consent started to arise. This change is considered a crucial prerequisite for creating spaces that promote freedom, free from coercion, and foster healthier relationships. The following results show some excerpts from the interactions between the researchers and the young participants based on the *questionnaire-script*, which we have classified into identification of “coercive discourse” and “interactive power”, and acknowledgement of the impact that science-based dialogue on sexual consent can have on them.

These results stem from the selected research methodology, which has previously showcased the effectiveness of the communicative approach in yielding more candid outcomes. Throughout the research journey, a strong emphasis was placed on co-creating knowledge and fostering mutual understanding. Participants were well-informed that their contributions held immense value, and their unique experiences and viewpoints played a pivotal role in the research. This approach has been substantiated to encourage a more sincere and authentic understanding, as participants feel empowered to openly share their thoughts, reflections, and experiences.

Identification of situations of consent or coercion resulting from dialogue with researchers based on scientific evidence. These results refer to the identification and reflection around elements of coercion or freedom of sexual consent beyond speech acts, specifically, situations linked to “coercive discourse” and “interactive power”.

Table 4 Research categories and dimensions.

Categories/dimensions	Transformative dimension	Exclusionary dimension
Coercive discourse (1) Interactive power (2)	Foster and support free consent and discourage coercion	Promote and normalize coercion and prevent free consent

In the first example, around the minute of communicative life history, the researcher and the young woman discuss situations of *interactive power*, where agreeing to certain actions may be misconstrued as consent, even when the individual does not explicitly give consent, making it difficult to withdraw afterward. The situation described aligns with what the scientific literature refers to as “situations of pre-consent,” arising from interactive power dynamics. Specifically, the young woman describes how certain advances can lead to a challenging scenario where, despite not intending to engage in sexual activity, the other person assumes consent, making it difficult to refuse later on. Once in that situation, even if one doesn’t want to, it becomes challenging to say “no” due to indirect pressure. She adds that she had never contemplated this perspective until the conversation with the researcher:

24:35

Researcher: So, you go, and then he’s also supposed to know what it’s about. I mean, it’s like you’re both playing the same game. Okay, you go up to the second floor or you go outside... or wherever, and there, I understand that there’s more closeness. Or it’s already taken for granted... and then you go for it... and things get heated... Or it could be that the other person says: “Hey, wait” Or does that cost?

25:01

PC29: No, that’s completely tough. I think that if you already get into it, it’s like, if you already put yourself in the lion’s den, then I guess you just go along, right? But because you already know it’s going to go that way, you know? And you don’t really give in. Because you already know what’s coming. But yeah, when you’re already there, I mean, even in the car... It’s really hard to say no. Yes, it’s true. At some point, you feel indirectly pressured, you know, but it’s like... I don’t know, I’m already here, right?

25:34

Researcher: Very interesting because that’s also important when we talk about prevention campaigns, right? At what moment it’s harder or more difficult, even though, in the campaigns or public discourse, the message is: you can say no at any time and you have the right to say no, and that’s true, but we also need to acknowledge that there’s a risk, and we need to be aware of that risk to address it. I don’t know, what do you think?

26:00

PC29: Yes, yes, I think that’s what it is, that when you give in to something like going to the car or going upstairs... you know that 90% is going to be for... for that and I think you are already a bit aware that you know what you are getting into. That obviously you can say NO at any time and that’s fine because you decide what you do, right? But really indirectly it’s like: wow, I’m already in here, right? Yeah... So that costs a lot. I had never thought about it... Yeah, yeah. (...) It’s true that... it’s true, you feel a bit of social pressure to say: “well, since I’m here”... Or really when it’s time to have the first relationships: yes... well... I’ll have it... And that’s it. Even though I’m not very interested in that person either. But it is true that there is also indirectly a social pressure to say: well... I do it and that’s it.

Communicative daily life story. Young woman, aged 20.

In the following example, the researcher and the participant discuss the distinction between colleagues and friends. The researcher enquires if she has ever experienced a situation where an acquaintance, taking advantage of their closeness, attempted to take advantage of a sexual situation. The young woman shares that such an incident has never occurred with friends, but it did happen with an acquaintance, causing her to feel very uncomfortable. During this situation, she also reveals that she

sought help from her friend through eye contact, though she doesn’t recall if her friend intervened or if she managed to handle the situation on her own. This excerpt highlights how young people employ strategies or mechanisms based on communicative acts (beyond speech acts) to navigate situations of coercion.

20:48

Researcher: (...) *We have also found in literature... they [youth interviewed] explain to us a little bit that sometimes... what you were saying before: we were friends... and so on. So sometimes literature tells us: sometimes you can get confused, can’t you? We are colleagues, friends... there is trust... With the consent thing and then when you have a story, it can be a fling, I’m not talking about a stable relationship... As there is a buddy thing or if you get groped... as we are colleagues, nothing happens, right? Then you say: hey, one thing is that we are colleagues and another thing is that... I don’t want this. I mean, has that kind of confusion ever happened? Or do you know... or do you know of any example...*

21:32

MC20: *Not with a friend of mine. But with some...well, an acquaintance with whom I get on well, I remember we were sitting outside a place we have where we meet friends and... I knew him maybe for... now I’ve known him for longer but at that time I knew him for nothing... for a week... two weeks. And well, we got on well and there was a good vibe. And I remember I was sitting at the door and he sat next to me. And well, because I liked him, he didn’t... not this... And he put his hand on my leg. And then... that made me uncomfortable because I thought: we don’t trust each other enough to be like that. Then... I remember I looked at another friend of mine... I made a face and then... I don’t remember if I stood up or she saved me from it and said: come here... But yes. But I remember being a bit uncomfortable in that situation.*

22:30

Researcher: *Well, this example is great, because notice that what you tell us is that... the way you had to express your non-consent... was not by telling him directly, which is what we also find, but in this case, by seeking the support of a friend, which is great... right? (...) That helps us a lot also to see what strategies are used. (...)*

Communicative daily life story. Young woman, aged 22.

In line with the previous example, in this instance, during a communicative discussion group with 25-year-old young women, a conversation revolves around communicative acts in situations of consent or lack thereof. The first young woman describes a situation of *interactive power* in which, because the girl had touched a boy’s hair, the boy understood that with this action she had given him signs of consent. Subsequently, another participant explains how they often use communicative acts to imply that, although they might feel comfortable in a situation, they do not want anything.

1:27:08

Researcher: (...) *there are interactions and actions that are used to interpret that there has been consent. And that once there has been consent there is no going back ...(...).*

1:29:05

EL96: *Yes. Like that, very social things that we know are considered pre-consent. (...) I remember once a guy told me that he had thrown himself at a girl and the girl had slapped him and I asked him what the situation was like and he told me that for him the sign of pre-consent we are talking about was that she had touched his hair. So since she had touched him... how could she not want something... (...)*

1:30:24

EC29: *We do a lot of negative pre-consent things. That is to say, it happens to me when I’m talking to guys and I do things to make*

him see that I don't want anything with him. I mean, even if I'm super comfortable talking to that person and I do something like: look, I put my hands far away so that you know that I don't... And this has happened to me with very interesting guys with whom I was very comfortable and I thought they were amazing, but to say: ok, I'm going to do things so that he sees that I don't want anything with him and that we're just talking.

Communicative Focus Group 3. Young women aged 25.

During a communicative life story dialogue between the researcher and the young woman, the latter discloses her experiences once she understood what is about *coercive discourse*. The researcher had introduced this concept, and the young woman showed a clear understanding of it, relating it to her own life experiences and the resulting consequences. This coercion pushed her into engaging in relationships or sexual actions not driven by personal desire but rather by the pressure induced by such coercive discourse. She felt compelled to participate in conversations where she couldn't contribute before due to her lack of sexual experience. This interaction provides insights into the real-life impact of coercive discourse on young individuals' decision-making processes regarding sexual consent.

27:17

Researcher: *And then let's put that situation: you are with a person and they say: you haven't done this yet? Then that has... can provoke a situation in which you are with that person and you say... well, it's not that I want to do it but if I don't do it, it's going to look like I'm... I don't know how... And there is something that in research is called "coercive discourse" which is that social pressure that exists for us to do those things (...)*

28:31

JB02: *I think it does happen. Yes...and I think it's that if you see that your whole environment, or even they tell you or... there are conversations that revolve around that topic and you don't know what they are talking about and you are silent...well, it's a bit of a way to integrate. There are times when it is: well, so that I can also talk about this, I'm going to do this or I'm going to go to that guy to see if I can also tell them what I do... or when I meet him.*

Communicative daily life story. Young woman, aged 25.

Both young men and women experience this coercive discourse. When the concept of coercive discourse was presented in dialogue to this 21-year-old, he replied: "Right, now that you mention it" "I hadn't noticed these comments." He goes on to share how this has led him to have unwanted relationships because of that peer pressure: "I don't feel like it, but I'm already here..."

33:22

Researcher: *Some girls, for various reasons, might say: "I'll just go for it or hook up to get them off my back... or so I can tell the story later, but deep down, it's not like I really want to." Or, like the example you mentioned of that girl who came and grabbed you out of nowhere, and your friends say: "Hey, take advantage, she seems really drunk..."*

34:10

CA29: *True, true, now that you mention it... maybe I'd tell someone else, "Dude, this happened to me..." "But dude, take advantage!" Yeah, now that you bring it up, I hadn't noticed these comments. [...] Uh... well... you've started... It's not like it's terrible... I could be watching some game... or having a drink... or whatever it may be... but here I am, doing something else. I don't think it has to come to a point of saying: "I'm doing it just out of obligation," right? (...) So, uh... there have been times when it was like, "Well, I'm doing it, and I don't feel like it, but I'm already*

here..." and... and... she took the train here... she came to my place... and all that... so, let's finish this quickly and be done. That has happened to me too.

Communicative daily life story. Young man, aged 21.

A second male participant in a different communicative daily life story revealed a common experience of coercive discourse in his life. The young man recognized how external pressure had influenced his sexual decisions, leading him to engage in actions he didn't genuinely desire to avoid judgement.

13:01

Researcher: *(...) we're investigating something that happens more in the case of girls, but it also happens in guys... I mean, it happens many times that girls can consent to do things for many reasons, including pressure, and you can end up doing things and say, "But what am I doing? I don't even like this... It doesn't excite me..." Does that also happen? It's like you end up doing things... or saying things you haven't done... or that you've done but without wanting to... because that group of friends is waiting to hear what you'll tell them.*

4:10

AB19: *Yes, exactly. I mean, I think the most critical moment might be the first time, when you lose your virginity. In that sense, I believe it's the most critical because you feel more pressure (...) So, you're right at that moment, and suddenly you feel that the stable relationship you might have, maybe it's only been a month... (...) You feel that pressure from your friends asking you... like, when are you going to do this and that... when did you do this... They want you to tell them everything... because it happened to me the first time... (...) Yes. And if nothing happens, it's like... I don't know how to express it... It's like you're a shame! It's either a shame for you or wow... she rejected you... I don't know... (...) And yes, I did feel that pressure of saying, oh, she said no, this and that... and then, after 2 s, it's like: "Come on, now try with her!" (...) And yes, the group would say, "Well... you should have taken advantage... since you were with her, you could have done something... enjoyed yourself, and that's it..." Yes.*

Communicative daily life story. Young man, aged 21.

Another example of identifying this *coercive discourse* and reflecting on it arises when the researcher explains it to the participant. This explanation helps her grasp why individuals may find themselves doing things they do not want to do. The young woman contemplates how coercive discourse can mask actions as "sexual freedom" and draws a comparison to past times of sexual repression. The pressure to conform still exists but with a shift towards engaging in certain acts rather than refraining from them: "it's not your sexuality freely either because you don't decide when you're going to do things".

Upon acknowledging that she had experienced this situation, she not only expresses how she felt labelled for not engaging in sexual relationships but also recounts the negative repercussions of repulsion she experienced after forcing herself to do things she did not want to do. In addition, she adds that during these experiences, she recalls that the other person involved was fully aware of her lack of desire. This led her to resolve never to engage in anything that wasn't genuinely born from her own desires, and she emphasized that such pressure didn't solely come from sexual partners but frequently from the environment itself. This reflection reinforces the importance of empowering her sexual freedom, not measured by the number of relationships she engages in, but by the fact that each relationship is genuinely chosen by her.

9:40

CL29: *In the end, because of many stereotypes and prejudices, you end up living less freedom in your own sexuality than you*

think you are living. It's not like in the time of... 50 years ago when you didn't live the... It was like the opposite... it was much more repression in sexuality of not doing... Now it's like you do... but you're also doing it because of other people's prejudices. So it's not your sexuality freely either because you don't decide when you're going to do things...

11:45

CL29: (...) *That person knew perfectly well that what I was doing I didn't want to do and it wasn't a... I don't know how to call it, maybe a trauma between quotation marks to say: I have done things I didn't want to do and then I was repulsed to think about the things I had done that I didn't want to do. I realized much later to say: what has happened to you is that you have done things you did not want to do ... and I said to myself: I am not going to do it anymore. (...) But maybe they say: no, but why are you taking so long ... The people around you. It doesn't have to be your sexual partner at that moment. [...] And of course, I can't give you any explanation as to why yes or why no. I just don't feel like it and I don't feel like it at all. I just don't feel like it, period. Or because it will be when I want it to be. But also the fact of saying at that moment of well, well, now I am going to live my sexual freedom as I want...*

14:00

Researcher: *And when you say that they used that... was it to remove a label from you, was it more of a label related to what you mentioned before, like being called "easy" or was it more of a label of being "prudish"?*

14:30

CL29: *Yes, but I have been told everything from "you're a tease" to "you're a repressed Catholic" ... and I'm not even Catholic, but anyway... "You're a repressed Catholic" because you don't want to... And you're like... okay.*

Communicative daily life story. Young woman, aged 21.

As the dialogue progresses, the researcher continues to introduce concepts drawn from the scientific literature on sexual consent in this case related to *interactive power* situations (as informed consent). Interactive power provides a more comprehensive explanation of situations involving deception than informed consent does, as it is closely linked to the dynamics of power within relationships. The young woman's response makes it clear how she got an idea from the researcher's presentation. Based on the memory evoked by the researcher's explanation, the participant presents two different situations: "Look, yes. Now that you mention it...two situations came to my mind".

53:34

MC20: *Look, yes. Now that you mention it... two situations have come to my mind. One of my friends... she became infatuated with a guy and until she didn't get it, she didn't stop... And the guy hid his girlfriend on social networks and told her that he didn't have a girlfriend... What... later it could be proved that he had a girlfriend ... I don't know, but my thought is that he had a girlfriend for all that time. I mean, because he fit the profile of a guy who didn't care about anything. And the other situation that was pretty tough... One of my best friends... had sex with a guy who was also a friend of hers from a long time ago... And... and well, they did it wrong from the beginning because they didn't use any contraceptive method... no condom or anything... And it turned out that the guy instead of backing out... didn't back out... And he didn't warn her...*

Communicative daily life story. Young woman, aged 22.

Recognizing the influence of science-based dialogue on sexual consent. The second part of the results explicitly demonstrates the impact of this dialogue on scientific evidence concerning

consent and coercion, which the participants themselves frequently identified. One of the examples is evidenced when one of the participants, after the end of the individual communicative daily life story, got in touch again indicating that the interview had reminded her of things she had not explained and asking again to participate to explain them.

0:14

LD16: *Yes, I wanted to add some situations that I recently experienced because yesterday I don't know why they didn't come to my mind. Well, not long ago, I was on Tinder, you know, meeting people and all that. At first, I was going to meet a guy. And, well, at one point, he asked me if I... had done it from behind. And I told him no, and that it wasn't something I wanted to do at that moment... I didn't feel like it. And he replied, 'Well, we'll see.' It's like... you can say whatever you want, but we'll see what happens in person, right? At that moment, I didn't see it as something too serious... But now, after reflecting on it with a friend, it's like... wait, "we'll see?" You know? It's like, if I said no, then it means no.*

[...]

3:57

LD16: *And another thing that happened to me... About a month ago, I went out with a guy, and well, there was... well, there was sex. So, of course, I agreed to have sex with... a condom. But there was a moment when he didn't use it. But... But... I was a little drunk, but I was still conscious and I did want to have sex, but I wanted to have sex with a condom. So, there was a moment when he didn't use it (...)*

Communicative daily life story. Young woman, aged 22.

Upon concluding the communicative life story, a participant contemplates the topics explored regarding consent, emphasizing the understanding of consent based on communicative acts (beyond speech acts). When asked by the researcher if there's anything else to add, the participant mentions that he now comprehends that consent does not solely rely on verbal affirmation by saying "Yes."

41:12

Researcher. *And now to finish. If you want to add something for the courts because we have to talk to prosecutors... of everything we have talked about that has made you think something different from what you thought or the importance or not of incorporating it... that you say: this is important (...)*

41:57

MPYone: (...) *No... in the end... you have to think a little bit that... you don't need the other person to say "yes" or "no" in order to have a sexual relationship.*

Communicative daily life story. Young man, aged 23.

In a similar vein another young participant emphasizes the significance of recognizing and understanding the nature of coercive discourse, as doing so is vital in dismantling its influence: "What happened to me has a name" "I did not know this existed":

40:59

GZ14: *Maybe at the beginning it generates an enormous mental conflict that even makes you angry... you deny it. Because at the end they are breaking your mental schemes, but as you deconstruct yourself, you become aware and you say: Wow, what happened to me has a name... Or what I experienced... is this... I did not know this existed... And then, of course, at that age I did not know what was happening to me, I was not aware of it. It was normal and I participated like anyone else. Once you become aware... you don't martyr yourself or say: how did I do that... nor is it normal... You say: I was blind, I was really ignorant that I had many things stuck*

in my head that get stuck in your head and stay there and that in the end, as long as you don't break them, they stay there. In the end, there are a lot of people my age who are still involved in those power games and in that world.

Communicative daily life story. Young woman, aged 20.

Other participants also expressed the relevance of the topic and explained how they had reached some conclusions for the first time as a result of the dialogue revealing the impact on the lives of these young people: *"This is so much for both of us because without you I wouldn't have reached any conclusions" "It has made us at least more aware of the things that we have to pay attention to"*:

53:35

Researcher: *I thank you for all the reflections you have made. I don't know if you want to say anything, if you want to add something...*

RG03: (...) *I hope that the conclusions we have both reached, because this is so much for both of us, because without you I wouldn't have reached any conclusions, no? It will be of some use to us (...)*

Communicative daily life story. Young woman, aged 21.

1:31:23

G2.1 *Thank you very much, it has made us at least more aware of the things that we have to pay attention to and so on... I personally loved it, it was very good.*

1:31:39

G2.2: *I think it is a very good and necessary work*

Communicative Focus Group 2. Young women aged 25.

Discussion

This study investigates sexual consent among young individuals, specifically focusing on Communicative Acts as the foundation. Our aim is to empower participants and prevent victimization by engaging young participants in co-creation processes, gaining insight into their perspectives and comprehensively understanding sexual consent through communicative acts. Through this research, we strive to drive positive change and promote safer environments for young people.

Specifically, this research showcases the power of co-creation with young people in two different processes: firstly, in developing a fieldwork tool, a questionnaire script based on evidence-based sexual consent beyond speech acts; and secondly, in engaging in a dialogue with researchers to further explore this perspective of sexual consent. Throughout the entire research process, this study actively engaged in intersubjective dialogue with young participants, fostering a collaborative approach to co-create new knowledge. By collaborative creating the questionnaire script, valuable insights were obtained both in the process of developing the tool and later during fieldwork bridging the gap in understanding sexual consent among the young participants, which researchers alone would not have been able to achieve.

The research demonstrates that young individuals' perspectives offer valuable contributions to analysing the theories presented by researchers during fieldwork. By incorporating these perspectives, a more comprehensive understanding of the complexities surrounding sexual consent emerges. The participatory approach adopted in this study fosters greater engagement from the young participants, empowering them to actively shape the scientific process. This exemplifies how scientific knowledge can improve through dialogue with the public, in this case, young people discussing sexual consent. Findings, theories and research on

sexual consent are refined and improved contributing to the continuous scientific advancement enabled by these dialogues.

While the present research delves into an important and relevant topic, it is essential to acknowledge some limitations that may impact the interpretation and generalizability of the findings. One notable limitation lies in the use of the co-creation approach with a specific group of young people aged 18–25. This narrow focus may restrict the transferability of our results to other age groups or cultural environments. While these methods provide valuable insights into participants' perspectives and experiences, they might not be fully generalizable to the wider population. Despite these challenges, our study's in-depth exploration of communicative acts and sexual consent among young people offers significant contributions to the field and serves as a foundation for further research in diverse cultural settings.

By facilitating an equal dialogue around the factors that influence free sexual consent, this research has the potential to empower young individuals to recognize and avoid coercive situations in the future. The scientific evidence presented in these dialogues highlights the value of community science and communicative methodology as resources that facilitate the dissemination of science for debate while capturing the invaluable voices of participants. The key aspect to effectively communicate the results lies in amplifying the voices of the young participants, enabling their perspectives to be the driving force behind the dissemination of findings. This insight is particularly crucial for sexual consent awareness campaigns that, according to young people, currently fail to resonate with their lived experiences.

By centring the results around the voices of the participants, this research has the potential to bring about transformative changes in the understanding of sexual consent and its implications for young people. Moving beyond mere identification of concepts, the study delves deeper into participants' insights and reflections, underscoring the power of active engagement and dialogue in cultivating a more profound and comprehensive grasp of sexual consent among young individuals.

In this way, future research could investigate the long-term social impact of these dialogues between young people and researchers on participants' ability to identify elements of coercion and consent, with the goal of promoting relationships based on free and equal choice. Moreover, as the communicative discussion groups were naturally formed among friends, as is required by the communicative methodology, our research has enabled groups of friends to engage in scientific discussions about sexual consent at least once. This newfound dialogue could help to foster ongoing conversations within the participant groups, which is a proven protective factor also enabling the dialogical reconstruction of memory (Ugalde et al., 2022; López de Aguilera et al., 2021; Salceda et al., 2020; Puigvert, 2016).

As scientific evidence suggests that young people often avoid conversations about sexual consent, participating in this research may have prompted crucial reflections on the subject that might not have otherwise occurred. By breaking the silence and discussing these sensitive topics, this research has the potential to prevent harm and promote healthy relationships. It would be valuable to monitor whether participants can detect changes in their relationships or discussions regarding sexual consent, both within the participating group and compared to other groups of friends who did not take part in this research or who took part individually.

Data availability

Anonymized data and materials such as the questionnaire will be available upon request after the completion of the project.

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References

- Atias O, Baram-Tsabari A, Kali Y et al (2023) In pursuit of mutual benefits in school-based citizen science: who wins what in a win-win situation? *Instr Sci* <https://doi.org/10.1007/s11251-022-09608-2>
- Baum HS (2015) Citizen participation. *Int Encycl Soc Behav Sci* 625–630 <https://doi.org/10.1016/B978-0-08-097086-8.74005-0>
- Cabr -Oliv  J, Flecha-Garc a R, Ionescu V, Pulido C, Sord -Mart  T (2017) Identifying the relevance of research goals through collecting citizens' voices on social media. *Int Multidiscipl J Soc Sci* 6:70. <https://doi.org/10.17583/rimcis.2017.2652>
- CREA (2004) Community of Researchers on Excellence for All [Research project]. WORKAL  (2001–2004). The creation of new occupational patterns for cultural minorities: the gypsy case. RTD. FP5. DG XII. Improving the socio-economic knowledge base. European Commission, Brussels, Belgium
- Del Bianco V, Cater M, Fox J (2021) 4-H youth volunteer retention in science projects. *Youth Dev* 16, 134–148. <https://doi.org/10.5195/jyd.2021.1004>
- Ennes ME, Jones MG, Childers GM et al (2022) Children and parents' perceptions of access to science tools at home and their role in science self-efficacy. *Res Sci Educ* 1–17. <https://doi.org/10.1007/s11165-022-10077-3>
- European Commission (2018) Directorate-General for Research and Innovation, Flecha R, Radauer A, Besselaar P Monitoring the impact of EU framework programmes: expert report. Publications Office. <https://data.europa.eu/doi/10.2777/518781>
- European Union (2018) The European Union youth strategy 2019–2027; Official Journal of the European Union, Maastricht, The Netherlands. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2018:456:FULL&from=ES>
- Flecha R (2022) The dialogic society. Hipatia Press
- Flecha R (2020) Contributions from social theory to sustainability for all. *Sustainability* 12:9949. <https://doi.org/10.3390/su12239949>
- Gairal-Casad  R, Garcia-Yeste C, Novo-Molinero MT, Salvad -Belarta Z (2019) Out of school learning scientific workshops: stimulating institutionalized adolescents' educational aspirations. *Children Youth Serv Rev* 103:116–126. <https://doi.org/10.1016/j.childyouth.2019.05.037>
- Ghadiri Khanaposhtani M, Ballard HL, Lorke J, Miller AE, Pratt-Taweh S, Jennewein J, Benavides Lahnstein AI (2022) Examining youth participation in ongoing community and citizen science programs in 3 different out-of-school settings. *Environ Educ Res* 28(12):1730–1754. <https://doi.org/10.1080/13504622.2022.2078480>
- G mez A, Padr s M, R os O, Mara L-C, Pukepuke T (2019) Reaching social impact through communicative methodology. researching with rather than on vulnerable populations: the Roma case. *Front Educ* 4. <https://doi.org/10.3389/feeduc.2019.00009>
- G mez A, Puigvert L, Flecha R (2011) Critical communicative methodology: informing real social transformation through research. *Qual Inq* 17(3):235–245. <https://doi.org/10.1177/1077800410397802>
- G mez J, Latorre A, S nchez M, Flecha R (2006) Metodolog a Comunicativa cr tica. El Roure
- Jacob C, Bourke S, Heuss S (2022) From testers to cocreators—the value of and approaches to successful patient engagement in the development of eHealth solutions: qualitative expert interview study. *JMIR Hum Factors* 9(4):e41481. <https://humanfactors.jmir.org/2022/4/e41481>
- Kullenberg C, Kasperowski D (2016) What is citizen science?—A scientometric meta-analysis. *PLoS ONE* 11. <https://doi.org/10.1371/journal.pone.0147152>
- Llorente C, Revuelta G, Carri  M (2021) Characteristics of Spanish citizen participation practices in science. *J Sci Commun* 20(4):A05. <https://doi.org/10.22323/2.20040205>
- L pez de Aguilera G, Torras-G mez E, Padr s M, Oliver E (2021) Dialogic reconstruction of memory: a methodological contribution aimed at social impact on youth's sexual-affective relationships. *Int J Qual Methods* 20. <https://doi.org/10.1177/16094069211034596>
- Lorke J, Ballard HL, Miller AE, Swanson RD, Pratt-Taweh S, Jennewein JN, Higgins L, Johnson RF, Young AN, Khanaposhtani MG, Robinson LD (2021) Step by step towards citizen science—deconstructing youth participation in BioBlitzes. *J Sci Commun* 20(4):A03. <https://doi.org/10.22323/2.20040203>
- Munt  A, Serradell O, Sord  T (2011) From research to policy: Roma participation through communicative organization. *Qual Inq* 17(3):256–266. <https://doi.org/10.1177/1077800410397804>
- Orchowski LM, Oesterle DW, Moreno O, Yusuf M, Berkowitz A, Abbey A, Barnett NP, Borsari B (2020) A qualitative analysis of sexual consent among heavy-drinking college men. *J Interpers Violence* 37(7–8):NP5566–NP5593. <https://doi.org/10.1177/0886260520958658>
- Phillips TB, Ballard HL, Lewenstein BV, Bonney R (2019) Engagement in science through citizen science: moving beyond data collection. *Sci Educ* 103:665–690. <https://doi.org/10.1002/scs.21501>
- Pocock MJ, Tweddle JC, Savage J, Robinson LD, Roy HE (2017) The diversity and evolution of ecological and environmental citizen science. *PLoS ONE* 12(4):e0172579. <https://doi.org/10.1371/journal.pone.0172579>
- Puigvert L, Villarejo-Carballido B, Gairal-Casad  R, G mez A, Ca naveras P, Mart  TS (2022) An Instagram hashtag fostering science education of vulnerable groups during the pandemic. *Int J Environ Res Public Health* 19(4):1974. <https://doi.org/10.3390/ijerph19041974>
- Puigvert L, Gelsthorpe L, Soler-Gallart M et al. (2019) Girls' perceptions of boys with violent attitudes and behaviours, and of sexual attraction. *Palgrave Commun* 5:56. <https://doi.org/10.1057/s41599-019-0262-5>
- Puigvert L (2016) Female university students respond to gender violence through dialogic feminist gatherings RIMCIS-Int Multidiscipl J Soc Sci 5(2):183–203
- Redondo-Sama G, D ez-Palomar J, Campdepadr s R, Morl -Folch T (2020) Communicative methodology: contributions to social impact assessment in psychological research. *Front Psychol* 11:286. <https://doi.org/10.3389/fpsyg.2020.00286>
- Roca E, Merodio G, Gomez A, Rodriguez-Oramas A (2022) Egalitarian dialogue enriches both social impact and research methodologies. *Int J Qual Methods* 21. <https://doi.org/10.1177/16094069221074442>
- Roche J, Ni Shuilleabhain A, Mooney P, Barber GL, Bell L, Ryan C (2021) Citizen science in Ireland. *Front Commun* 6:19. <https://doi.org/10.3389/fcomm.2021.629065>
- Rodr guez-Navarro H, R os-Gonz lez O, Racionero S, Mac as F (2014) New methodological insights into communicative acts that promote new alternative masculinities. *Qual Inq* 20(7):870–875. <https://doi.org/10.1177/1077800414537209>
- Salceda M, Vidu A, Aubert A, Roca E (2020) Dialogic feminist gatherings: Impact of the preventive socialization of gender-based violence on adolescent girls in out-of-home care. *Soc Sci* 9(8):138. <https://doi.org/10.3390/socsci9080138>
- Soler-Gallart M, Flecha R (2022) Researchers' perceptions about methodological innovations in research oriented to social impact: citizen evaluation of social impact. *Int J Qual Methods* 21. <https://doi.org/10.1177/16094069211067654>
- Sorde-Marti T, Mertens DM (2014) Mixed methods research with groups at risk: new developments and key debates. *J Mixed Methods Res* 8(3):207–211. <https://doi.org/10.1177/1558689814527916>
- Ugalde L, Racionero-Plaza S, Munte A, Tellado I (2022) Dialogic reconstruction of memories of violent sexual-affective relationships via dialogic gatherings of “Radical Love”. *Child Youth Serv Rev* 139:106548. <https://doi.org/10.1016/j.childyouth.2022.106548>
- UN General Assembly (1948) Universal declaration of human rights (217 [III] A). UN General Assembly, Paris. <http://www.un.org/en/universal-declaration-human-rights/>
- Vidu A, Tom s-Mart nez G (2019) The affirmative “yes”. Sexual offense based on consent. *Masculinities Soc Change* 8(1):91–112. <https://doi.org/10.17583/mcs.2019.3779>
- Xiao S, Sandoval WA (2017) Associations between attitudes towards science and children's evaluation of information about socioscientific issues. *Sci Educ* 26:247–269. <https://doi.org/10.1007/s11191-017-9888-0>

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Author contributions

ED and SR contributed to the study conceptualization. ED, SR and PC contributed to the study design. Material preparation and data collection were performed by ED, PC and BO. Analysis was performed by ED, PC, SR and BO. Draft preparation was written by ED and PC. Supervision by SR.

Competing interests

The authors declare no competing interests.

Ethical approval

The present study has passed through the research group CREA ethics committee reference number 20230328.

Informed consent

All participants filled out an informed consent form prior to participating in the research where they were informed of the objectives of the research as well as their right to participate voluntarily or to withdraw from the research without giving explanations or suffering any type of consequence for doing so.

Additional information

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