

ARTICLE

What is hiding behind the rainbow plot? The gender ideology and LGBTQ+ lobby conspiracies (GILC) scale

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Funding information

'2022 Sapienza Research Calls'

Abstract

Previous literature on conspiracy beliefs has an important gap, as it has almost completely excluded conspiracy beliefs relating to LGBTQ+ people. The purpose of the present research was to develop and validate a specific tool to measure the Gender Ideology and LGBTQ+ Lobby Conspiracies Beliefs: the GILC scale. Two independent data collections ($N_{\text{tot}} = 1.908$) were run involving both heterosexual and gay, lesbian and bisexual people. We expected a mono-factorial structure of the tool, with high levels of internal reliability, invariant by respondents' gender, sexual orientation and previous knowledge or hearsay of gender ideology. Furthermore, we expected that GILC scale manages to measure a differentiated construct: (a) compared to other specific and general conspiracy contents; (b) compared to a generic disposition to engage in conspiratorial mentality; (c) compared to existing measures of sexual prejudice, stereotypes and negative attitudes towards sexual minority people. In relation to criterion validity, we expected that several psychosocial and socio-political ideology variables (i.e. RWA and SDO), would associate with high levels in GILC scale. The results confirmed our expectations, showing that GILC scale is a short tool which include nine items with a mono-factorial structure and with excellent psychometric properties. Limitations and further research directions are discussed.

KEYWORDS

conspiracy theories, internalized sexual stigma, LGBTQ+ people, scale development, sexual prejudice

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BACKGROUND

Even though the studies on conspiracy theories (CTs) are growing considerably, this literature has an important gap, as it has almost completely excluded conspiracy beliefs relating to LGBTQ+ people: the idea that a 'gay lobby' exists and that it wants to spread homosexuality through the indoctrination of minors, the disruption of the natural/moral order and the foundation of a dictatorial ideology grounded on 'gender theory' (a void expression without any scientific foundation; Bettinsoli et al., 2022). Such CTs are often used as arguments in political debate in Italy and Europe to hinder the passing of laws and negatively affect popular consensus regarding the fight against discrimination towards LGBTQ+ people, the promotion of anti-discrimination policies in school and work contexts and the advancement of civil rights (i.e. the egalitarian marriage, the access to the different forms of parenthood and so on). Contrary to the Gender Equality Strategy 2020–2025 of European Commission, in many countries there is a stalemate or even a retreat of the rights for LGBTQ+ people, to which the spread of CTs also contributes. Just a few examples: in Italy the 'Law Zan' for the fight against homophobia has been rejected by the Parliament; in Hungary, a recently adopted law prohibits access to content that promotes or portrays homosexuality for minors; in Poland, LGBTQ-free zones are arising to ban equality marches and other LGBTQ+ events.

The purpose of the present research was to develop and validate a specific tool to measure the Gender Ideology and LGBTQ+ Lobby Conspiracy Beliefs: the GILC scale. Developing a new scale to measure specific LGBTQ+ CTs would be useful for several reasons. On the one hand, existing general conspiracy or sexual prejudice tools may not capture the unique beliefs and experiences of individuals who hold specific LGBTQ+ CTs. These beliefs often involve the idea that there is a deliberate and coordinated effort by powerful LGBTQ+ lobbies to gain further power over the general population, which may not be fully captured by more general conspiracy or prejudice measures. On the other hand, a new tool specifically designed to measure LGBTQ+ CTs would allow researchers to better understand the prevalence and impact of these beliefs. This could provide important insights into the factors that contribute to the development and maintenance of these beliefs, as well as the potential consequences for individuals who hold them. Indeed, such a tool could be used to explore the relationship between specific LGBTQ+ CTs and other variables of interest, such as political ideology, religiosity or exposure to anti-LGBTQ messages. In summary, a new scale to measure specific LGBTQ CTs would be a useful research tool because it would provide a more nuanced understanding of the unique beliefs and experiences of individuals who hold these beliefs and could help to identify potential targets for interventions aimed at reducing their prevalence and impact.

In addition, to date, the few psychological studies that have mentioned the CTs related to LGBTQ+ issues, did it scratching the surface of the phenomenon only. Bettinsoli et al. (2022) found that the stereotypical idea that LGBTQ+ people are very rich and well-off was related to higher denial of discrimination against them, and that the belief in the existence of a 'gay agenda' designed and disseminated by a powerful lobby mediated such relationship. However, the measure used in that study consisted in two items only, which mainly referred to the economic power of an alleged homosexual agenda (i.e. 'There is a lot of money behind the homosexual agenda'), and which did not take into account all the characteristics that contribute to define a CT. Thus, considering the lack of studies that have directly investigated LGBTQ+ CTs, this current research could constitute a first concrete attempt to contribute to filling this gap, and provide a novel tool compared to previous measures of general and specific CTs.

Conspiracy theories

Conspiracy theories (CTs) are beliefs according to which at least two persons have secretly organized to reach a scope which is not known to the public, even though it is of public interest (Douglas & Sutton, 2023). There are several themes that characterize CTs such as the oppositional nature, in the sense that they counter the publicly accepted explanation of an event, the description of a malevolent

act, the attribution of agency to powerful persons and groups rather than to systemic effects, the tendency to falsity and the potential to interpret and to shape social events (Biddlestone, Green, et al., 2022; Douglas et al., 2019, 2022; Douglas & Sutton, 2011, 2018; Imhoff et al., 2022; Jolley et al., 2020; Liekefett et al., 2021; Wood & Douglas, 2013). To date, CTs are many and they touch a great number of phenomena and aspects of reality, ranging from health (Giacomantonio et al., 2022) to the environment and climate (Biddlestone, Azevedo, & van der Linden, 2022), from migratory phenomena (Plenta, 2020) to terrorist attacks (Kruglanski et al., 2022), including all the eccentric ones related to aliens, famous deaths, flat earth, the denial of moon landing and so on (Salvati et al., 2022).

People would endorse CTs to satisfy epistemic needs (i.e. reducing uncertainty and finding meaning), existential needs (i.e. feeling safe, secure and autonomous) and social needs (i.e. desiring to safeguard a positive self or group image; Douglas & Sutton, 2023). In line with this, on the one hand existing literature has highlighted numerous antecedents that would make people more prone to endorse CTs: paranoia, lower analytic thinking, higher need for cognitive closure, anxious attachment style, lack of control, feelings of powerlessness, high need of uniqueness, high collective narcissism, belonging to low status groups, lower educational and income levels, male gender, single status, jobless condition, having weaker social relationships and so on (for a review see Douglas & Sutton, 2023). On the other hand, previous studies found that endorsing CTs strikes both individual citizens and the society as a whole (Einstein & Glick, 2015), leading a wide multitude of social and health troubles (Jolley et al., 2022; Jolley & Douglas, 2014; Lo Vecchio et al., 2019): distrust towards scientists (Chayinska et al., 2021) and political institutions (Sutton & Douglas, 2020); social disengagement (Maftai & Holman, 2022); hostile intergroup relations (Van Prooijen et al., 2022); and hampering individual and public health (Kroke & Ruthig, 2022; Pellegrini et al., 2021; Pummerer et al., 2022). Also, existing studies tested predictor models showing that believing in CTs about a specific social group is correlated with more negative attitudes and discriminations against that particular outgroup, and other social groups (Jolley et al., 2020).

The current research

The purpose of the present research was to develop and validate a specific tool to measure the Gender Ideology and LGBTQ+ Lobby Conspiracy Beliefs: the GILC scale. Thus, the first step consisted in constructing the measurement scale, defining the construct and developing the potential items. We expected a mono-factorial structure of the tool, with high levels of internal reliability (Cronbach's $\alpha > .70$), invariant by respondents' gender, sexual orientation and previous knowledge or hearsay of gender ideology. Our expectation about the mono-factorial structure of the tool was based on the evidence that almost all scales investigating specific conspiracy contents show a mono-factor structure, such as the Conspiracy Beliefs about COVID-19 (Giacomantonio et al., 2022), the Conspiracy Beliefs About HIV Scale (Bogart & Thorburn, 2005) and the Vaccine Conspiracy Beliefs Scale (Shapiro et al., 2016). Furthermore, even previous validated scales measuring different conspiracy beliefs failed in finding multifactorial structures, such as the General Conspiracy Contents (Brotherton et al., 2013) or the Belief in Conspiracy Theories Inventory (Swami et al., 2010). Similarly, previous research confirmed gender invariance of several tools measuring conspiracy contents (Drinkwater et al., 2020; Jovanović et al., 2023), suggesting that underlying psychological processes or cognitive biases associated with conspiracy beliefs may operate independent of participants' gender. Furthermore, since our tool assesses conspiracy beliefs directly related to LGBTQ+ topics, it is possible that the GILC scale may show metric and configural invariance, but not scalar invariance across groups with different sexual orientations, and therefore scores would differ slightly in terms of baseline levels and average score between such groups.

At the same time, we paid attention that all the main themes that should characterize the CTs (see Douglas & Sutton, 2023) were represented by the items of the GILC scale (i.e. the presence of an elite 'against' the heterosexual people; the secrecy feature; the aspect of the power; the malevolent aims such as the spread of gender ideology, etc.). These characteristics, although they constitute specific aspects, contribute as a whole to determine a CT without claiming that they determine a multifactorial structure.

Based on these themes and a review of literature, five experts in the fields of CTs and/or attitudes towards LGBTQ+ people (a full professor, an associate professor and three post-doc research fellows) participated in a series of online focus groups. During the meetings, articles from Italian newspapers were also shared in which there were statements by politicians who cited or explicitly expressed statements concerning LGBTQ+ CTs. For example, in Italy there had been a very heated political debate on the bill against discriminations based on genders and sexual orientations—DDL Zan, subsequently rejected by parliament—and several politicians from right-wing parties used the conspiratorial rhetoric of Gay lobbies to counter that bill. Such statements offered several insights to construct the items of the GILC scale. A total of 39 items was generated for the initial pool by consensus of all the five experts, after that revisions were made to the items to improve the clarity.

Furthermore, we want to verify that GILC scale manages to measure the specificity of the construct, which should constitute a differentiated dimension: (a) compared to other specific and general conspiracy contents, that scientific literature showed often to constitute a monolithic set of beliefs, highly correlated among them (i.e. conspiracies on vaccines, migrants, etc); (b) compared to a generic disposition to engage in conspiratorial mentality, susceptible to beliefs and explanations based on CTs; (c) compared to existing measures of sexual prejudice, stereotypes and negative attitudes towards sexual minority people. In this regard, we expect correlations of GILC scale with such variables with low or moderate effect size, showing a good construct validity.

In relation to criterion validity, previous literature found that several socio-demographics (i.e. male gender, older people, low education), high religiosity, right-wing political orientation, populist ideologies, right-wing authoritarianism (RWA), high levels of social dominance orientation (SDO), dangerous world beliefs (DWBs), and competitive jungle beliefs (CJBs) predicted high levels of conspirative beliefs (Adam-Troian et al., 2022; Douglas & Sutton, 2023; Pellegrini et al., 2019; Salvati et al., 2022) and sexual prejudice in heterosexual people (Adelman et al., 2021; Lingiardi et al., 2005; Piumatti & Salvati, 2020) and high levels of internalized sexual stigma in LGB people (Lingiardi et al., 2012; Salvati et al., 2019; Salvati & Chiorri, 2023; Salvati, Pistella, & Baiocco, 2018; Salvati, Pistella, Giacomantonio, & Baiocco, 2018). Thus, similarly, we expect that such predictors would associate with high levels in GILC scale, testifying a very good criterion validity.

METHOD

Data collection 1

Participants and procedures

A first data collection was conducted to run exploratory factor analysis of the GILC scale. Given the lack of specific power analyses for EFAs, the sample size was established following the recommendations of numerous papers (Howard, 2016) that suggest using at least a 5-to-1 participant-to-variable ratio. We therefore administered an initial pool of 39 items to 500 participants, resulting in a ratio of 12.8 which was higher than the one commonly used.

The sample consists of 500 Italian heterosexual participants ($N_{\text{males}} = 307$; 61.4%), with 18–54 years ($M = 27.95$; $SD = 8.47$). Participants were recruited via Prolific and received monetary compensation to participate in the research (£5.00/h) and the average completion time was around 10–15 min. Inclusion criteria consisted in the following characteristics: (a) heterosexual sexual orientation; (b) Italian nationality; and (c) at least 18 years old. Individuals who met these criteria were asked via Prolific to take part to the research, presented as an online survey to assess some general political opinions about social and gender issues.

All the participants read the informed consent before proceeding with the online questionnaire by Qualtrics, which adhered to the revised Declaration of Helsinki and approved by the Research Ethics Committee of the Department of Human Science, University of Verona, Italy. Subsequently, participants

provided socio-demographic data (see [Table S1](#) for statistics). Finally, the 39 items of GILC scale were administered and the questionnaire. The questionnaire ended by thanking the participants, who were sent back to the Prolific site for the compensation.

Measures

Although Prolific allowed in advance to contact only participants who met the inclusion criteria, we preferred to ask for confirmation for all the required characteristics. Participants were invited to indicate their gender, age, sexual orientation, current residency, educational level, working status and socio-economic status, using the depicted 10-step ladder (Adler et al., 2000), where 1 corresponds to the level of Italians who are worst off in terms of income, and 10 corresponds to the level of Italians who are best off. Participants selected their gender choosing one of the three options (male, female, other), and in case of 'other' they were invited to write their gender. Similarly, participants expressed their sexual orientation by selecting one of the six alternatives (1 = exclusively heterosexual, 2 = mostly heterosexual, 3 = bisexual, 4 = mostly homosexual, 5 = exclusively homosexual and 6 = other), and in case of 'other' option they were invited to specify their sexual orientation (Salvati et al., 2019, 2021; Salvati & Chiorri, 2023).

Furthermore, participants indicated their religion, whereas their level of religiosity was measured through a five-item scale (Pellegrini et al., 2019) where participants had to report on a 5-point Likert scale (from 1 = *not at all* to 5 = *completely*) the levels of attendance at religious rites, the importance of religion for them, having received a religious education, considering oneself a religious individual and adhering to the precepts of religion (Cronbach's alpha = .86). Participants indicated their political orientation through one single item on a 7-point scale ranging from 1 = *extreme left* to 7 = *extreme right*.

Finally, GILC scale was administered. Before the 39 items of the GILC scale, participants answered to a single item on a 5-point Likert scale, investigating the previous knowledge/hearsay about 'gender ideology': *To what extent do you know (you have heard of, you are informed about, you know what is meant by 'gender ideology?')* Likert scale ranged from 1 = *not at all* to 5 = *completely*. Subsequently, the 39 items of the GILC scale were presented in a randomized order and people indicated their degree of agreement on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. For the full list of items see Appendix ([Table S2](#)).

Results

Exploratory factor analysis (EFA)

Analyses were run with the *RStudio* graphical interface (R Core Team, 2022) and its *psych* (Revelle & Revelle, 2015) and *paran* (Dinno & Dinno, 2018) packages. Before proceeding with examination of GILC factorial structure, the normality of distribution for the original pool of 39 items of the GILC was tested. Skewness and kurtosis limits were ± 2.00 and ± 7 respectively (Curran et al., 1996). Items that presented values higher than these parameters were excluded from the EFA (see [Table S2](#)). The remaining 24 items thus showed elevated but not extreme skewness and kurtosis (Curran et al., 1996). Given this normality statistics and the ordinal nature of GILC items, we chose a polychoric correlation matrix for the EFA (Bandalos & Gerstner, 2016; Fabrigar et al., 1999; Lloret et al., 2017). To assess whether the correlation matrix was factorable, we implemented the Bartlett's test of sphericity (Bartlett, 1950) and the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy (Dziuban & Shirkey, 1974; Kaiser, 1970). Bartlett's test showed that the correlation matrix was not random, $\chi^2(276) = 808.692$, $p < .001$, and the KMO statistic was .98, showing a good value much higher than the lowest standard for proceeding with analysis (Howard, 2016). Hence, the correlation matrix was appropriate for factor analysis.

Once we determined that the correlation matrix was factorable, we investigated the factor structure of the GILC by implementing an EFA with principal axis (PA) factoring extraction method. We opted for PA method as it proved to be robust than other extraction methods (Briggs & MacCallum, 2003; Curran et al., 1996; Norris & Lecavalier, 2010). Factor retention was operated by means of Kaiser criterion, visual scree test (Cattell, 1966) and parallel analysis (Glorfeld, 1995; Horn, 1965). The analyses revealed that only one factor presented an eigenvalue greater than 1. Specifically, the factor showed a high eigenvalue equal to 18.71 and explained a large portion of variance (i.e. 78.0%). These results provided a preliminary indication in support of our expectation of a one-dimensional structure of the GILC. This expectation was also corroborated by the analysis of the scree plot, where the eigenvalue curve flattened out after the first factor, and by the parallel analysis¹ where the line of the random eigenvalues intersected that of the estimated eigenvalues (both adjusted and unadjusted) again after the first factor (see Figure S1).

Once the one-dimensional structure of the GILC was established, we focused on item retention. We found the entire pool of 24 items to show high factor loadings: they ranged from 0.75 to 0.93 (see Table S3). Given the growing recommendations on the implementation of short measures that facilitate administration and do not burden participants, we decided to select and include in a new EFA only the items that showed the highest loading, since more representative of the factor. Considering the results of the EFA pertaining the entire pool of 24 items, the loading cutoff was arbitrarily identified in a high value ≥ 0.90 . Following this criterion, we thus selected a total of nine items and again performed the EFA to test the final one-dimensional solution of GILC. Analysis showed a single factor with an eigenvalue of 7.51, explaining 83.0% of variance, corroborated also by visual scree test and parallel analysis (see Figure S2). Items' factor loadings ranged from 0.90 to 0.93 (Table 1).

Finally, we also examined reliability of the final nine-item and one-dimensional solution of GILC. Given some recent criticism about the *alpha* coefficient (Deng & Chan, 2017), we assessed for reliability through both the *Cronbach's a* and the *McDonald's Ω* . Analyses revealed excellent values of .96 (95% CI = 0.944, 0.967) and .96, respectively, for *a* and Ω coefficients.

Data collection 2 with heterosexual and LGB participants

Participants and procedures

The second data collection focused on both heterosexual and LGB participants. Through this data collection we wanted to confirm the factorial structure of the scale, and to test its validity and invariance for several samples' characteristics. Specifically, participants were recruited by snowball sampling from university students of social psychology courses, who voluntarily accepted to contribute to data collection in exchange for credits. Specifically, each student had to recruit at least 10 participants, including three LGB participants at least. Before the data collection began, the questionnaire with general research hypotheses was explained and students were instructed on how to correctly conduct data collection.

Minimum sample size required for conducting confirmatory factor analysis (CFA) was established by means of an a priori power analyses particularly designed for structural equation models (Moshagen & Erdfelder, 2016), through the *semPower* package (Moshagen, 2020). Following the indication of Moshagen and Erdfelder (2016), we set a threshold of .05 for RMSEA, an *alpha* of .05, a conventional threshold of .80 for desired power and 27 model's degrees of freedom. Analysis indicated a minimum sample size of 352 individuals in order to achieve the desired power.

The administration was done online through a questionnaire on Qualtrics, and there were filters according to the sexual orientation of the participants for some specific scales of the questionnaire. No

¹The *paran* package allows to specify the number of simulated random datasets (i.e., iterations) and the value of percentile. Following Glorfeld's suggestions (1995), we opted for robust values of 5000 iterations and 95 centile for the presented parallel analysis.

TABLE 1 Loadings (λ) and communalities (h^2) of the items of the final nine-item and one-dimensional solution, and items' factor loadings of the CFA of the Gender Ideology and LGBTQ+ Lobby Conspiracies scale (GILC).

Item	Item content	λ	h^2	β	<i>SE</i>	<i>z</i>	<i>p</i>	95% CI lower	95% CI upper
1	An organized group of LGBT people works for more power, hiding behind the demand for more rights	0.93	0.87	.81	.020	40.3	<.001	0.770	0.848
2	There are very powerful LGBT people who manage to influence the decisions of the Parliament and the Government, to the detriment of other citizens	0.93	0.86	.83	.018	5.6	<.001	0.791	0.862
29	Some very powerful people want to spread 'gender ideology' in schools to indoctrinate children	0.92	0.85	.81	.019	2.8	<.001	0.771	0.845
9	A group of LGBT people has organized to infiltrate all major sectors of society to increase their influence on it	0.92	0.84	.80	.021	8.1	<.001	0.757	0.839
32	There are people who have organized themselves to subvert the natural order of things through 'gender ideology'	0.91	0.83	.81	.019	2.1	<.001	0.770	0.845
23	There is an organization of some very powerful people who take advantage of LGBT instances to establish a dictatorship of single thought	0.91	0.82	.80	.019	2.5	<.001	0.760	0.833
14	LGBT people want to use laws and courts to impose a precise political view of the world	0.90	0.82	.76	.022	5.4	<.001	0.720	0.804

(Continues)

TABLE 1 (Continued)

Item	Item content	λ	h^2	β	SE	z	p	95% CI lower	95% CI upper
35	There are concrete propaganda attempts in schools to plagiarize children and allow them to decide whether to be male or female as they wish	0.90	0.81	.72	.024	0.1	<.001	0.668	0.762
5	LGBT people want to enact laws to favour themselves economically, professionally, socially, to the detriment of heterosexual people	0.90	0.80	.77	.024	2.6	<.001	0.724	0.817

Note: Eigenvalue = 7.51; Explained Variance = 83%.

compensation was provided and the time for filling the whole questionnaire ranged between 20 and 30 min. Inclusion criteria were: (a) male or female gender (selecting 1 or 2 to the item on gender item); (b) having sexual orientation ranged between exclusively heterosexual to exclusively homosexual (selecting an option ranged from 1 to 5 on sexual orientation item); (c) being of legal age; and (d) Italian nationality. People who were not cisgender (selecting 3 = 'other' to the gender item, $N = 13$) and/or people with different sexual orientations from heterosexuality, bisexuality and homosexuality (selecting 6 = 'other' to the sexual orientation item, $N = 26$) were excluded for the difficulty of recruiting an adequate number of participants to carry out comparative analyses among the subsamples, but with the intention to dedicate a future study for a more representative sample.

Like for study 1, the research was presented as an online survey to assess some general political opinions about social and gender issues, and it required to read and accept the informed consent before proceeding with the questionnaire, which adhered to the revised Declaration of Helsinki and approved by the Research Ethics Committee of the Department of Human Science, University of Verona, Italy. The questionnaire ended by thanking the participants and giving them the contacts of the leading researcher in case of interest for research hypotheses and future results. Based on the inclusion criteria, 1081 participants who self-declared exclusively heterosexual or mostly heterosexual were categorized in the group 'heterosexual' ($N_{Men} = 384$, $N_{Women} = 697$), whereas 327 participants who self-declared bisexual, mostly homosexual or exclusively homosexual were categorized in the group 'LGB' ($N_{Men} = 211$, $N_{Women} = 116$). Participants were 18–86 years old ($M = 29.80$, $SD = 14.18$; see Table S4 for all descriptives).

Measures

The questionnaire contained numerous scales presented in randomized order after the initial section on socio-demographic variables and the nine-item version of the GILC scale (Cronbach's alpha = .96; see Table S5). All the socio-demographics, religion, religiosity (Cronbach's alpha = .87) and political orientation variables were the same used in Study 1.

In addition, the following measures were administered:

Conspirative Mentality Questionnaire (CMQ, Bruder et al., 2013): It assesses the generic tendency to engage in conspiratorial ideation through five items on which participants express the personal degree of probability, on an 11-point scale ranging from 0% = *Certainly not* to 100% = *Certainly yes*. Cronbach's alpha = .87;

General Conspiracy Contents (GCCs, Brotherton et al., 2013): It evaluates participants' adherence to several conspiracy contents about different topics such as migrants, terrorist attacks, public health and economic crises, through 16 items on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. Cronbach's alpha = .91;

COVID-19 Conspiracy Scale (Giacomantonio et al., 2022): This scale consists of eight items which evaluates people's conspiracy beliefs related to COVID-19 pandemic. The 5-point Likert scale was from 1 = *totally disagree* to 5 = *totally agree*. Cronbach's alpha = .77;

Populist Ideologies: We used two scales to measure populist ideologies which include the main aspects of populism: anti-elitism attitudes, the claim for people's sovereignty, and the idea of a uniform and virtuous people as opposed to a malevolent elite (Manichean point of view). The first scale (Akkerman et al., 2014) includes six items on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .83. The second tool (Wirth et al., 2016) includes nine items on a 7-point Likert scale, from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .79;

Right-Wing Authoritarianism (Altemeyer & Altemeyer, 1996): It evaluates people's tendencies to submit to the authorities, to be compliant with society's norms and conventions and to condemn individuals who do not adhere to them. The tool includes 10 items on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .83;

Social Dominance Orientation (Pratto et al., 1994): It assesses how people support the social hierarchy and believe that it is right that there are groups in the society superior to other ones. The scale includes eight items on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .83;

Dangerous World Beliefs (Duckitt, 2001): This social worldview belongs to participants who perceive the world as a threatening and dangerous place. The tool has 10 items on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .71;

Competitive Junge Beliefs (Duckitt, 2001): This social worldview is typical of people who think the world as characterized by a competitive and amoral fight for power and resources. The tool consists of 10 items on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .77;

Sexual Prejudice: We used the Modern Homophobia Scale (MHS, Lingiardi et al., 2005) to measure straight people's negative attitudes against gay men (MHS-G version) and lesbian women (MHS-L version). Both the instruments consist of 12 items on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. Cronbach's alpha for MHS-G = .89; Cronbach's alpha for MHS-L = .88. A final score of sexual prejudice was obtained by averaging the total scores obtained from the two versions. This scale was only administered to the heterosexual sample.

The Measure of Internalized Sexual Stigma (MISS, Lingiardi et al., 2012): This tool specific for LGB participants presented two versions for male (MISS-GB) and female individuals (MISS-LB) respectively. It consists of 17 items on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. The tool captures three aspects of internalized homonegativity, that are: the inclination to report a negative self-attitude as LGB person; the social discomfort in the social contexts; and the negative judgement in terms of quality and duration of the intimate same-sex relationships. Cronbach's alpha for MISS-GB = .89; Cronbach's alpha for MISS-LB = .92;

Denial of Discrimination (Massey, 2009): This is a subtle and modern form of prejudice against sexual minority people that consists in contending that discrimination against them is no longer an issue today. The original form includes four items on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. However, since the internal consistency of the tool was not adequate because of a very bad working item (Cronbach's alpha = .63; Item: 'It is easy to understand the anger of LGBT rights groups in this Country'), we proceeded to remove the malfunctioning item, thus the current Cronbach's alpha calculated on three items was .76;

Economic Myths regarding gay and lesbian people (Wilkinson, 2019): This tool consists of 10 items, which assess the economic stereotypical beliefs about gay and lesbian people. People with high levels in this

scale are convinced that sexual minority people are richer, more wealthy and well educated, compared to heterosexual people. Participants responded on a 5-point Likert scale ranging from 1 = *totally disagree* to 5 = *totally agree*. Cronbach's alpha = .78;

Support for LGBT civil rights (Brown & Henriquez, 2011): This scale has 20 items asking participants to rate their favour for a list of several civil rights for LGBT people. Participants responded on a 7-point Likert scale ranging from 1 = *totally disagree* to 7 = *totally agree*. Cronbach's alpha = .90; and

LGBT Collective Action Intention (Kosakowska-Berezecka et al., 2020): This tool presented 10 items asking participants how likely they would be to engage in several behaviours to support the rights of LGBT+ people. Participants expressed their rates on a 7-point Likert scale ranging from 1 = *totally unlikely* to 7 = *totally likely*. Cronbach's alpha = .95.

Results

Confirmatory factor analysis (CFA)

The CFA was conducted on lavaan R package (R Core Team, 2022; Rosseel, 2012) with the combined sample of heterosexuals and LGB participants. Before proceeding with the CFA, the normality of distribution for the nine items of the GILC was tested. Specifically, skewness and kurtosis values had to be between $[-2.00]$ and $[7.00]$ respectively (Curran et al., 1996). The nine items showed elevated but not extreme values of skewness (between 2.00 and 2.50) and kurtosis (between 3.50 and 6.30). Considering the normality statistics, analysis was conducted by the *robust maximum likelihood method* (MLR), with the Huber–White corrections for standard errors. *Chi-square* statistic (χ^2), comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA) with robust 90% confidence interval and standardized root mean square residual (SRMR) were used to assess the model fit (Hu & Bentler, 1999).

The CFA showed an optimal model fit of the hypothesized one-dimensional factorial structure. Specifically, the robust *Chi-square* statistic was non-significant ($\chi^2 = 34.344$, $df = 27$, $p = .16$), and the considered incremental fit indices were above the excellence threshold of .95 (CFI = .997; TLI = .996). The absolute fit indices were satisfactory, with a score of .016 for the SRMR and .014 for the RMSEA (90% CI = 0.003, 0.021). Such results indicated that the model's fit to the observed data was excellent. Moreover, items' factor loadings were high and significant, highlighting coefficients between .72 and .83 in their standardized version (Table 1).

As for reliability, we again examined the *Cronbach's a* and the *McDonald's Ω* . Analyses revealed excellent value of .94 (95% CI = 0.925, 0.944) and .94, respectively, for *a* and Ω coefficients.

Invariance for random split subsamples, gender, sexual orientation and previous knowledge/hearsay of gender ideology

To test the robustness of the GILC's confirmed structure and its potential generalization, a series of *multigroup CFAs* were conducted. Specifically, the measurement invariance was first tested on two subsamples obtained from a random split of the total sample. Then, we tested the invariance related to gender, sexual orientation and previous knowledge/hearsay of gender ideology. We examined the model's fit within each interested subsample, its configural invariance, the invariance of the factor loadings (i.e. metric or weak invariance), and the invariance of the intercepts and means (i.e. scalar or strict invariance) by performing hierarchically nested multigroup CFAs with a *robust estimator* (i.e. MLR). The invariance was assessed on $\Delta\chi^2$ computed with the Satorra–Bentler scaled chi-square difference test (Satorra & Bentler, 2010), that has been developed appositely for comparing robust χ^2 estimations. Nevertheless, considering the sensitivity of $\Delta\chi^2$ to sample size (Chen, 2007), we assessed invariance by also computing and mainly considering the criteria of Δ CFI and Δ RMSEA less than 0.01 and 0.015 respectively (Chen, 2007).

As mentioned above, the first invariance test was carried out on two subsamples obtained from a random split procedure of the total sample. This procedure yielded a first sample consisting of 681 observations and a second sample of 727. The CFA for each distinct subsample showed excellent models' goodness-of-fit statistics (Sample A: $N = 681$; $\chi^2 = 31.144$, $df = 27$, $p = .27$; CFI = 0.996; TLI = 0.994; SRMR = 0.022; RMSEA = 0.015, 90% CI = 0.000, 0.027; Sample B: $N = 727$; $\chi^2 = 26.928$, $df = 27$, $p = .47$; CFI = 0.999; TLI = 0.999; SRMR = 0.018; RMSEA = 0.001, 90% CI = 0.000, 0.020). Factor loadings of the items were all significant in both models, ranging from 0.71 to 0.82 and from 0.72 to 0.86 for Sample A and B respectively. Importantly, comparisons among nested *multigroup CFA* models showed configural, metric and scalar invariance (Table 2).

The second measurement invariance test pertained participants' gender. The CFA revealed excellent model's goodness-of-fit statistics both for males ($N = 595$; $\chi^2 = 33.438$, $df = 27$, $p = .18$; CFI = 0.993; TLI = 0.991; SRMR = 0.024; RMSEA = 0.020, 90% CI = 0.000, 0.031) and females ($N = 813$; $\chi^2 = 28.458$, $df = 27$, $p = .39$; CFI = 0.999; TLI = 0.999; SRMR = 0.015; RMSEA = 0.001, 90% CI = 0.000, 0.002). The factor loadings were between 0.74 and 0.84 for males and between 0.68 and 0.82 for females. They were also all significant across the two groups. Table 3 shows the goodness-of-statistics for nested multigroup CFA models for gender. Comparisons across nested models indicated that the GILC was invariant with respect to participants' gender in terms of configural, metric and scalar invariance. Specifically, although $\Delta\chi^2$ was significant, the more robust Δ CFI and Δ RMSEA resulted below the reference thresholds (Chen, 2007).

Then, we tested invariance as a function of participants' sexual orientation. Even in this case, we found that the GILC factorial structure excellently fitted the empirical data (heterosexual participants: $N = 1081$; $\chi^2 = 31.272$, $df = 27$, $p = .26$; CFI = 0.998; TLI = 0.997; SRMR = 0.017; RMSEA = 0.012, 90% CI = 0.000, 0.022; LGB participants $N = 327$; $\chi^2 = 32.722$, $df = 27$, $p = .21$; CFI = 0.986; TLI = 0.981; SRMR = 0.035; RMSEA = .025, 90% CI = 0.000, 0.041). Factor loadings of the items were all significant in CFA models for heterosexual and LGB participants and ranged from 0.72 to 0.83 and from 0.63 to 0.88 respectively. As for comparisons between multigroup nested models, analysis showed metric and configural invariance of the GILC, but not scalar invariance (Table 4). Specifically for scalar invariance, besides a wide and significant $\Delta\chi^2$, the analyses also revealed a Δ CFI equal to 0.014 and therefore barely above the threshold of 0.01. These values were also accompanied by a Δ RMSEA which was equal to 0.009 and therefore within the acceptability threshold of 0.015, showing a variability although not substantial. This means that the nine-item and one-dimensional structure of GILC and the related items' factor loadings were invariant across participants' sexual orientation. However, as might be expected, the GILC differed slightly in terms of baseline levels and average scores between the two groups. A potential reason for this barely significant variation could lie in the imbalance between the two groups in terms of sample size, which might imply a slight reduction in statistical power for the LGB group.

Finally, we were interested in testing the GILC's invariance with respect to prior knowledge/hearsay of conspiracies surrounding gender ideology and the LGBTQ+ lobby. Such previous knowledge/hearsay was measured with an item to which participants provided their answer on 5-point Likert scale. To obtain two distinct groups based on such measure, we divided the sample on the scale's median value of 3. Thus, we obtained a 'low-knowledge/hearsay' group consisting of 807 participants who scored a value ≤ 3 on the item and a 'high-knowledge/hearsay' group consisting of 601 participants who reported a value > 3 . The CFA model for these distinct subsamples again showed excellent fit statistics (low knowledge/hearsay: $N = 807$; $\chi^2 = 28.843$, $df = 27$, $p = .37$; CFI = 0.999; TLI = 0.998; SRMR = 0.018; RMSEA = 0.009, 90% CI = 0.000, 0.022; high knowledge/hearsay: $N = 601$; $\chi^2 = 33.966$, $df = 27$, $p = .17$; CFI = 0.991; TLI = 0.988; SRMR = 0.028; RMSEA = .021, 90% CI = 0.006, 0.031). Factor loadings were all high and significant across the two groups (i.e. between 0.71 and 0.83 for 'low knowledge/hearsay' and between 0.71 and 0.82 for 'high knowledge/hearsay'). Table 5 shows the goodness-of-statistics for nested *multigroup CFA* models about participants' previous knowledge/hearsay of gender ideology and lobby LGBTQ+ conspiracies. Comparisons across nested models indicated that the GILC was invariant with respect to participants' previous knowledge/hearsay in terms of configural and weak invariance. As for strict invariance, although analysis revealed a significant $\Delta\chi^2$, we found both Δ CFI and Δ RMSEA

TABLE 2 Goodness-of-fit statistics of nested multigroup CFA models for the random split subsamples.

Model	χ^2 (df)	χ^2/df	p	CFI	RMSEA (90% CI)	Model comparison	$\Delta\chi^2$	Δdf	p	ΔCFI	$\Delta RMSEA$
Model 1 configural invariance	58.129 (54)	1.08	.33	0.998	0.010 (0.000, 0.020)	–	–	–	–	–	–
Model 2 metric invariance	74.293 (62)	1.20	.14	0.995	0.017 (0.006, 0.024)	2 vs. 1	17.917	8	.02	0.003	0.007
Model 3 scalar invariance	86.101 (71)	1.21	.11	0.994	0.017 (0.007, 0.025)	3 vs. 2	13.759	9	.13	0.001	0.000

Note: Sample A: $N=681$; Sample B: $N=727$. The goodness-of-fit statistics and the related comparison are based on robust estimator. $\Delta\chi^2$ has been computed by means of the Satorra–Bentler scaled chi-square difference test. The Model 3 impose equality constraints on both intercepts and means.

TABLE 3 Goodness-of-fit statistics of nested multigroup CFA models for participants' gender.

Model	χ^2 (df)	χ^2/df	<i>p</i>	CFI	RMSEA (90%CI)	Model Comparison	$\Delta\chi^2$	Δdf	<i>p</i>	ΔCFI	$\Delta RMSEA$
Model 1 configural invariance	62.183 (54)	1.15	.21	0.996	0.015 (0.000, 0.023)	–	–	–	–	–	–
Model 2 metric invariance	67.806 (62)	1.09	.29	0.997	0.012 (0.000, 0.020)	2 vs. 1	4.837	8	.77	0.001	0.003
Model 3 scalar invariance	84.151 (71)	1.19	.14	0.994	0.016 (0.005, 0.024)	3 vs. 2	29.336	9	<.001	0.003	0.004

Note: Male: *N* = 595; Female: *N* = 813. The goodness-of-fit statistics and the related comparison are based on robust estimator. $\Delta\chi^2$ has been computed by means of the Satorra–Bentler scaled chi-square difference test. The Model 3 impose equality constraints on both intercepts and means.

TABLE 4 Goodness-of-fit statistics of nested multigroup CFA models for participants' sexual orientation.

Model	χ^2 (df)	χ^2/df	p	CFI	RMSEA (90%CI)	Model comparison	$\Delta\chi^2$	Δdf	p	ΔCFI	$\Delta RMSEA$
Model 1 configural invariance (54)	64.026	1.18	.17	0.995	0.016 (0.000, 0.024)	–	–	–	–	–	–
Model 2 metric invariance (62)	84.609	1.36	.03	0.989	0.023 (0.016, 0.029)	2 vs. 1	16.441	8	.07	0.006	0.007
Model 3 scalar invariance (71)	122.014	1.72	<.001	0.975	0.032 (0.026, 0.037)	3 vs. 2	63.794	9	<.001	0.014	0.009

Note: Heterosexuals: $N=1081$; LGB: $N=327$. The goodness-of-fit statistics and the related comparison are based on robust estimator. $\Delta\chi^2$ has been computed by means of the Satorra–Bentler scaled chi-square difference test. The Model 3 impose equality constraints on both intercepts and means.

TABLE 5 Goodness-of-fit statistics of nested multigroup CFA models for participants' previous knowledge/hearsay of gender ideology and lobby LGBTQ+ conspiracies.

Model	χ^2 (df)	χ^2/df	<i>p</i>	CFI	RMSEA (90% CI)	Model comparison	$\Delta\chi^2$	Δdf	<i>p</i>	ΔCFI	$\Delta RMSEA$
Model 1 configural invariance	63.703 (54)	1.18	.17	0.995	0.016 (0.002, 0.024)	–	–	–	–	–	–
Model 2 metric invariance	77.286 (62)	1.25	.09	0.993	0.019 (0.010, 0.026)	2 vs. 1	14.059	8	.08	0.002	0.003
Model 3 scalar invariance	96.859 (71)	1.36	.02	0.988	0.022 (0.016, 0.029)	3 vs. 2	34.615	9	<.001	0.005	0.003

Note: Low knowledge/hearsay: *N* = 807; High knowledge/hearsay: *N* = 601. The goodness-of-fit statistics and the related comparison are based on robust estimator. $\Delta\chi^2$ has been computed by means of the Satorra–Bentler scaled chi-square difference test. The Model 3 impose equality constraints on both intercepts and means.

to be well below the respective threshold of 0.01 and 0.015. Therefore, analysis corroborated also the GILC's scalar invariance.

Correlation analysis and construct validity

Correlation analyses confirmed our expectations about construct validity, showing that GILC scale measures a specific and differentiated dimension, non-overlapping to existing tool of conspiratorial contents, conspiracy mentality or sexual prejudice. The complete correlation tables with all the associations among the more than 20 measures collected are reported in [Tables 6](#) and [7](#) for heterosexual and LGB participants respectively. Specifically, correlations results related to construct validity indicate that: (a) correlations of GILC scale with general conspiracy contents (GCC), $r_{\text{Heterosexual}} = .50, p < .01$, $r_{\text{LGB}} = .38, p < .01$, and with a specific content such as COVID-19, $r_{\text{Heterosexual}} = .46, p < .01$, $r_{\text{LGB}} = .44, p < .01$ are positive and have moderate effect size; (b) GILC scale shows a positive association with conspiracy mentality (CMQ), $r = .21, p < .01$, $r_{\text{LGB}} = .13, p < .05$, whose effect size is low; and (c) although GILC scale shows a positive correlation with quite high effect size with sexual prejudice (MHS) against LGB people in heterosexual people, $r = .57, p < .01$, this value suggest that the two constructs are non-overlapping. Also, GILC scale shows a positive correlation with internalized sexual stigma (MISS) in LGB people, $r = .20, p < .01$, with low effect size.

In addition, both in the heterosexual and LGB sample, higher scores in GILC scale were associated with higher levels of denial of discrimination of LGBTQ people, and to higher levels of economic myths regarding gay and lesbian people, with moderate–low effect size ranging from .20 to .35. Finally, both in the heterosexual and LGB sample, higher scores in GILC scale were associated with lower support for LGBT civil rights, with high effect sizes ($r_{\text{Heterosexual}} = -.55, p < .01$, $r_{\text{LGB}} = .60, p < .01$), and lower LGBTQ+ collective action intention, with low effect sizes ($r_{\text{Heterosexual}} = -.25, p < .01$, $r_{\text{LGB}} = -.17, p < .01$).

Stepwise linear regression model for criterion validity

We expected that socio-demographics (i.e. male gender, heterosexual sexual orientation, older people, low education, high levels of right-wing political orientation, high religiosity), high populist ideologies, high right-wing authoritarianism (RWA), high social dominance orientation (SDO), high dangerous world beliefs (DWB) and high competitive jungle beliefs (CJB) would predict high levels of GILC scale. Stepwise linear regression model was carried out ([Table 8](#)). Socio-demographic variables were entered in the first step of the model; in the second step, populist ideology scales (AkPOP and WirPOP), and the variables of the dual-process motivational model of ideology and politics (Duckitt, 2001) were added (SDO, RWA, CJB, and DJB).

Each step added a significant proportion of variance. Specifically, results showed that in the first step of the model the predictors explained a significant proportion of variance, $R^2 = 14.3\%$, $F(6, 1401) = 39.00, p < .001$. As expected, older, heterosexual, lower educated, more religious and with right-wing political orientated people were more likely to report high levels of GILC scale than younger, LGB, higher educated, less religious and left-wing political oriented participants. Gender was not a significant predictor of GILC scale.

The findings showed that in the second step of the model, the predictors explained a significant proportion of added variance, $\Delta R^2 = 15.8\%$; $R^2 = 29.5\%$, $F(6, 1395) = 52.55, p < .001$. Although the previous socio-demographic variables were no longer significant, the results confirmed our expectations that, higher SDO, higher RWA and higher CJB were associated with higher scores of GILC scale. Contrary to our expectations, neither DJW nor the two measures of populist ideology were significant predictors of GILC scale.

TABLE 6 Correlations (data collection 2; $N = 1081$, heterosexual participants).

	GILC	Gender	Age	EDU	SES	PO	REL	CMQ	GCC	COV19	AkPop	WirPop	RWA	SDO	DWB	CJB	MHS	DEN	EMY	ACR	CoAc	
GILC	1																					
Gender	-.06	1																				
Age	.06	-.03	1																			
EDU	-.06	.02	.36**	1																		
SES	.02	.01	-.05	-.13**	1																	
PO	.32**	-.13**	-.04	-.12**	-.02	1																
REL	.17**	.07*	.23**	.11**	-.09**	.20**	1															
CMQ	.21**	.09**	.10**	-.05	.05	.13**	.13**	1														
GCC	.50**	.04	.17**	-.10**	.06*	.24**	.14**	.53**	1													
COV19	.46**	.06	.12**	-.12**	.09**	.22**	.15**	.47**	.72**	1												
AkPop	.11**	.11**	-.05	-.17**	.12**	.17**	.03	.36**	.32**	.34**	1											
WirPop	.14**	.01	.06	-.13**	.07**	.18**	.10**	.33**	.29**	.31**	.58**	1										
RWA	.48**	-.09**	.08**	-.11**	<.01	.49**	.27**	.27**	.44**	.41**	.27**	.35**	1									
SDO	.38**	-.18**	.01	-.03	-.04	.34**	.05	.08**	.28**	.23**	-.12**	-.04	.41**	1								
DWB	.12**	-.17**	-.19**	-.27**	.12**	.19**	.04	.30**	.22**	.27**	.37**	.27**	.28**	-.04	1							
CJB	.26**	-.19**	-.20**	-.16**	-.01	.23**	-.12**	.05	.18**	.13**	-.06	-.01	.26**	.53**	.03	1						
MHS	.56**	-.26**	.23**	.02	-.03	.49**	.25**	.20**	.41**	.38**	.07*	.16**	.60**	.52**	.05	.30**	1					
DEN	.35**	-.19**	.22**	.07*	<.01	.29**	.15**	.05	.27**	.23**	-.01	.09**	.31**	.35**	-.13**	.20**	.54**	1				
EMY	.34**	-.18**	.19**	.03	-.04	.21**	.13**	.20**	.30**	.26**	.08**	.19**	.35**	.27**	-.02	.20**	.43**	.30**	1			
ACR	-.55**	.22**	-.12**	<.01	.03	-.41**	-.25**	-.12**	-.43**	-.36**	-.03	-.08**	-.54**	-.52**	-.02	-.36**	-.72**	-.46**	-.35**	1		
CoAc	-.25**	.28**	-.26**	-.07*	.04	-.42**	-.21**	-.07*	-.17**	-.12**	.05	-.03	-.35**	-.37**	.02	-.20**	-.61**	-.37**	-.29**	.49**	1	
<i>M</i>	1.45	-	29.82	-	5.08	3.39	2.44	6.49	1.82	1.85	3.95	3.59	2.59	2.18	4.13	2.60	1.99	1.90	2.12	4.44	3.89	
<i>SD</i>	0.69	-	15.18	-	1.40	1.29	1.05	2.19	0.70	0.70	1.18	0.96	1.04	0.93	0.83	0.84	0.76	0.81	0.64	0.64	1.73	
<i>Skewness</i>	1.85	-	1.30	-	0.03	0.51	0.61	-0.20	0.96	0.95	0.30	0.27	0.77	0.85	0.21	0.62	0.91	0.97	0.54	-1.47	-0.02	
<i>Kurtosis</i>	3.13	-	0.43	-	0.18	-0.38	-0.60	-0.53	0.52	0.68	-0.17	0.23	0.30	0.75	0.29	0.74	0.34	0.68	0.14	1.67	-1.11	

Note: * $p < .05$; ** $p < .01$; GILC: Gender Ideology and LGBTQ+ Lobby Conspiracy Scale; Gender: 1 = Male; 2 = Female; SES: Socio-economic Status; PO: Political Orientation: from 1 = extreme left to 7 = extreme right; REL: Religiosity; CMQ: Conspiracy Mentality Questionnaire; GCC: General Conspiracy Contents; COV-19: COVID-19 Conspiracy Scale; AkPop: Populist Ideology Scale by Akkerman et al., 2014; WirPop: Populist Ideology Scale by Wirth et al., 2016; RWA: Right-Wing Authoritarianism; SDO: Social Dominance Orientation; DWB: Dangerous World Beliefs; CJB: Competitive Jungle Beliefs; MHS: Modern Homophobia Scale; DEN: Denial of discriminations of LGBT people; EMY: Economic Myths regarding gay and lesbian people; ACR: Support to LGBT civil rights; CoAc: LGBT Collective Action Intention.

TABLE 7 Correlations (data collection 3; N = 327, LGB participants).

	GILC	Gender	Age	EDU	SES	PO	REL	CMQ	GCC	COV19	AkPop	WirPop	RWA	SDO	DWB	CJB	MISS	DEN	EMY	ACR	CoAc	
GILC	1																					
Gender	.08	1																				
Age	-.04	-.33**	1																			
EDU	-.07	-.34**	.42**	1																		
SES	-.04	.24**	-.17**	-.24**	1																	
PO	.25**	.03	-.15**	-.10	-.03	1																
REL	.14*	-.01	.03	.06	-.05	.10	1															
CMQ	.13*	.17**	-.06	-.14*	.01	.06	.01	1														
GCC	.38**	.17**	.10	-.05	.01	.14*	.08	.56**	1													
COV19	.44**	.18**	.06	-.11*	.04	.19**	.13*	.43**	.68**	1												
AkPop	.12*	.09	.01	-.09	.02	-.07	.03	.42**	.30**	.29**	1											
WirPop	.12*	.08	.09	-.06	-.01	-.05	.02	.30**	.35**	.33**	.65**	1										
RWA	.45**	-.04	.04	-.10	-.03	.22**	.12*	.18**	.36**	.39**	.24**	.29**	1									
SDO	.31**	.04	-.09	-.07	-.03	.23**	.05	.09	.21**	.24**	-.14*	-.11	.39**	1								
DWB	.08	.26**	.21**	-.20**	.08	.12*	.01	.27**	.21**	.19**	.37**	.27**	.21**	-.03	1							
CJB	.29**	-.14*	-.13*	-.05	.02	.23**	-.03	.19**	.20**	.22**	.02	.04	.39**	.43**	.13*	1						
MISS	.20**	-.10	-.05	.06	-.06	.14*	.14*	.02	.09	.10	.07	.06	.12*	.14*	.06	.13*	1					
DEN	.28**	-.07	.10	-.03	-.02	.25**	.12*	.05	.14**	.14**	.05	.10	.38**	.22**	-.09	.23**	.08	1				
EMY	.20**	-.24**	.43**	.19**	-.17**	.07	.02	.07	.23**	.23**	.08	.13*	.27**	.17**	.11*	.18**	.11*	.28**	1			
ACR	-.60**	-.05	-.01	.07	-.01	.20**	-.12*	-.07	.30**	-.32**	-.05	-.05	-.51**	-.50**	.02	-.25**	-.19**	-.40**	-.23**	1		
CoAc	-.17**	.12*	-.11*	-.04	.11	.32**	-.12*	.09	-.03	-.06	.13*	.03	-.30**	-.30**	.13*	-.14**	-.18**	-.27**	-.19**	.27**	1	
<i>M</i>	1.16	-	29.71	-	5.12	2.56	1.92	5.95	1.62	1.64	4.08	3.54	1.98	1.78	4.04	2.60	1.58	1.60	2.19	4.75	5.17	
<i>SD</i>	0.45	-	10.23	-	1.39	0.91	0.76	2.31	0.58	0.64	1.23	1.01	0.78	0.85	0.90	0.88	0.63	0.70	0.68	0.42	1.29	
<i>Skewness</i>	4.26	-	1.08	-	-0.19	0.98	1.50	0.06	1.23	1.35	0.20	0.42	1.21	1.65	0.03	0.41	2.04	1.29	0.66	-2.82	-0.85	
<i>Kurtosis</i>	20.14	-	0.75	-	0.29	1.81	2.36	-0.59	1.18	1.41	-0.42	-0.16	1.44	4.72	0.37	-0.35	5.19	1.49	0.16	8.10	0.34	

Note: *p < .05; **p < .01; GILC: Gender Ideology and LGBTQ+ Lobby Conspiracy Scale; Gender: 1 = Male; 2 = Female; SO = 1 = Heterosexual; 2 = LGB; SES: Socio-economic Status; PO: Political Orientation: from 1 = extreme left to 7 = extreme right; REL: Religiosity; CMQ: Conspiracy Mentality Questionnaire; GCC: General Conspiracy Contents; COV-19: COVID-19 Conspiracy Scale; AkPop: Populist Ideology Scale by Akkerman et al., 2014; WirPop: Populist Ideology Scale by Wirth et al., 2016; RWA: Right-Wing Authoritarianism; SDO: Social Dominance Orientation; DWB: Dangerous World Beliefs; CJB: Competitive Jungle Beliefs; MISS: Measure of Internalized Sexual Stigma; DEN: Denial of discriminations of LGBT people; EMY: Economic Myths regarding gay and lesbian people; ACR: Support to LGBT civil rights; CoAc: LGBT Collective Action Intention.

TABLE 8 Stepwise linear regression model ($N = 1408$).

Model	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Step 1				
Constant	.98	.13	7.40	<.001
Gender	-.01	.04	-0.52	.600
Sexual orientation	-.07	.04	-2.41	.016
Age	.06	<.01	2.05	.041
Educational level	-.06	.02	-2.10	.036
Religiosity	.11	.02	4.19	<.001
Political orientation	.29	.01	10.90	<.001
Step 2				
Constant	.11	.16	0.72	.469
Gender	.03	.03	1.17	.241
Sexual orientation	-.03	.04	-1.08	.282
Age	.03	<.01	1.29	.197
Educational level	-.01	.02	-0.31	.755
Religiosity	.07	.02	2.69	.007
Political orientation	.08	.01	2.96	.003
AkPop	.05	.02	1.64	.100
WirPop	-.01	.02	-0.37	.712
RWA	.32	.02	10.48	<.001
SDO	.18	.02	6.21	<.001
DWB	-.01	.02	-0.10	.921
CJB	.07	.02	2.71	.007

Note: Gender: 1 = Male; 2 = Female; SO = 1 = Heterosexual; 2 = LGB; Political Orientation: from 1 = extreme left to 7 = extreme right.

Abbreviations: AkPop, Populist Ideology Scale by Akkerman et al. (2014); CJB, Competitive Jungle Beliefs; DWB, Dangerous World Beliefs; RWA, Right-Wing Authoritarianism; SDO, Social Dominance Orientation; WirPop, Populist Ideology Scale by Wirth et al. (2016).

DISCUSSION

In recent years, LGBTQ+ topics have occupied the heart of social movements, politics and human rights discussions, and they have undergone a major transformation over the past half-century across the world. As the CTs have recently captured the world's attention (e.g. CTs about COVID-19), the serious and undesirable social consequences of conspiracies have acquired greater recognition. However, the research on CTs has almost completely excluded the ones relating to LGBTQ+ people. Thus, we wanted to contribute to fill this gap by firstly developing and validating the GILC scale. Exploratory and confirmatory factor findings showed that the tool present a mono-factorial structure with excellent psychometric properties. Indeed, the GILC scale showed very high levels of internal reliability and it was invariant with respect to participants' gender, sexual orientation and previous knowledge/hearsay of gender ideology, suggesting that it can be used in research involving participants with different characteristics, although, as might be expected, the GILC scores might differ slightly in terms of baseline levels and average scores between the heterosexual and LGB participants.

The final nine-item version of the GILC scale covers all the main themes that characterize conspiracy beliefs such as the presence of an elite 'against' the majority of people (i.e. the heterosexual individuals), the secrecy dimension; the aspect of the power, and the malevolent scope such as the spread of gender ideology, etc. (Douglas et al., 2019, 2022; Douglas & Sutton, 2011, 2018, 2023). Also, the results of construct validity confirmed that GILC scale do not overlap neither to other specific and general conspiracy contents, nor to a disposition to engage in conspiratorial mentality, nor to existing

measures of sexual prejudice and negative attitudes against LGBTQ+ individuals. In addition, the results confirmed the criterion validity of the GILC scale, by showing that high GILC score are predicted by several variables which previous literature found to be associated with conspiracy beliefs (Douglas & Sutton, 2023; Pellegrini et al., 2019; Salvati et al., 2022) and sexual prejudice (Adelman et al., 2021; Lingardi et al., 2005; Piumatti & Salvati, 2020). Specifically, higher religiosity, right-wing political orientation, higher right-wing authoritarianism, higher social dominance orientation and higher competitive jungle beliefs, were associated with higher scores of GILC scale.

Correlational results also showed that both heterosexual and LGB people with high levels in GILC scale are more likely to report high levels of denial of discriminations of LGBTQ+ people, and high levels of economic myths about gay and lesbian people. On the contrary, both heterosexual and LGB people with high LGBTQ+ CTs are less likely to support LGBTQ+ civil rights and lower LGBTQ+ collective action intentions. Although such results do not allow to infer causal-effect relationships, they seem to provide a first support to some potential negative associations of LGBTQ+ CTs with stereotypes, prejudice and actions towards LGBTQ+ people and rights. Future research might corroborate such relationships through experimental research design, which may clarify if the LGBTQ+ CTs have negative effects on such variables of whether these reinforce and perpetuate the LGBTQ CTs.

Regarding LGB sample, the positive association between internalized sexual stigma (ISS) and LGBTQ+ CTs is noteworthy, and in our opinion it provides an interesting insight to be explored in future research. Engaging in LGBTQ+ CTs might help LGBTQ+ people to maintain a sense of group identity, providing a sense of belonging and empowerment. Also, adhering to LGBTQ+ CTs could serve as a coping strategy for LGBTQ+ people, providing them a sense of control and agency and allowing to attribute their challenges to external forces, thus reducing stress. Similarly, LGBTQ+ CTs might be used by LGBTQ+ people with high ISS as a way to explain the perceived threats and injustices faced, providing an alternative narrative that places blame on powerful LGBTQ+ entities or groups. However, we highlight that these are just speculation which should be investigated in future studies.

The research has some limitations. First, our results do not have high generalizability because participants were all cisgender individuals from Italy. Future research might be conducted through cross-national studies to validate the GILC scale in international contexts, and including trans* participants. Specifically, future data collections might involve people from several European countries, which rank top (i.e. the United Kingdom, Netherlands, Spain) and low (i.e. Italy, Poland, Hungary) in the 2022 LGBTQ rights ranking drawn up by the ILGA-Europe. A second limitation that serves as an inspiration for future research is the low presence of individuals with high levels of conspiracy beliefs. This is not surprising, because scales asking for specific conspiracy beliefs often deliver very low scores in general population samples. Thus, the relationships of LGBTQ+ CTs scores with potential predictors antecedents (i.e. motives, individual differences, situational or social factors) and outcomes (i.e. behavioural outcomes based on decision-making paradigms, related to educational, consumption or linguistic choices) should be interpreted with caution. Future research might consider experimental or quasi-experimental design to manipulate LGBTQ+ conspiracy, for instance by using fictitious newspaper articles.

CONCLUSION

In conclusion, the current research sheds light on several processes related to LGBTQ+ CTs and contributes to describing the next coming threats to a more inclusive and tolerant reality for sexual and gender minority people. Through the analysis of the relationships among LGBTQ+ CTs and collective action intentions, stereotypes and prejudice against LGBTQ+ people, internalized sexual stigma, we would collect key topics concentrating on societal research to change and improve the actual debate in political, scientific and cultural domains, contributing to produce new policies which might increase the self-determination for all LGBTQ+ people. Through the present research, we would like to concur to weaken the widespread culture of mandatory cisgenderism and heterosexism, and we believe that

this project could contribute to a more fine-grained in LGBTQ+ social–psychological research. In the future, other researchers who desire to give their contribution to this line of research might look at this project to build on research hypotheses and intervention applications, to increase gender equality and make our societies more inclusive (Salvati & Koc, 2022).

AUTHOR CONTRIBUTIONS

Marco Salvati: Conceptualization; formal analysis; funding acquisition; project administration; resources; writing – original draft; writing – review and editing. **Valerio Pellegrini:** Data curation; formal analysis; methodology; software; writing – original draft. **Valeria De Cristofaro:** Conceptualization; writing – original draft. **Mauro Giacomantonio:** Conceptualization; supervision; writing – review and editing.

FUNDING INFORMATION

This study was funded by ‘2022 Sapienza Research Calls’, won by Marco Salvati (PI of the project: Gender Ideology and LGBT Lobby Conspiracies (GILC) Scale: Antecedents, Processes and Consequences of the Conspiracy Beliefs about LGBT people; Resolution of the Academic Senate n. 269/21 of 12/10/2021).

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Salvati, M., Pellegrini, V., De Cristofaro, V., & Giacomantonio, M. (2023). What is hiding behind the rainbow plot? The gender ideology and LGBTQ+ lobby conspiracies (GILC) scale. *British Journal of Social Psychology*, 00, 1–24. <https://doi.org/10.1111/bjso.12678>